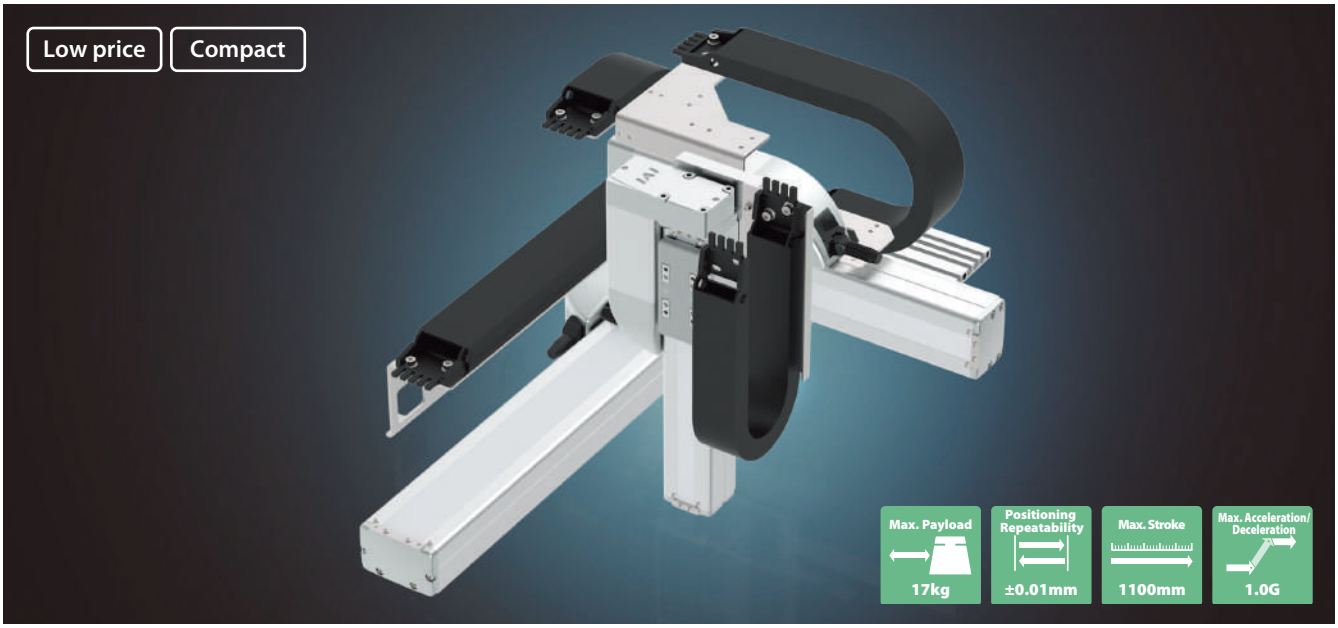
IAI
Quality and Innovation

ROBO Cylinder® Configurations
Cartesian Robot IK Series

www.intelligentactuator.com

Cartesian Robots have never been more affordable.

The ROBO Cylinder® equipped as standard with a Battery-less Absolute Encoder has been added to the "IK Series". It helps reduce the design and assembly steps.
The ROBO Cylinder® RCP6 Series has been adopted to achieve even higher speeds compared with conventional models.



1 Diverse Configurations

The available configurations have been greatly expanded from the conventional models, allowing the ideal selection to suit your needs from 516 options.
New configurations include a table type (TA) with the Z-axis and a model with ZR unit (vertical/rotation).

2-axis configurations (X-axis/Y-axis)

- SA8 + SA7
- SA7 + SA6
- SA6 + SA4
- WSA16 + SA8
- WSA14 + SA7

2-axis configurations (Y-axis/Z-axis)

- SA8 + SA7
- SA7 + SA6
- SA6 + SA4
- NEW SA8 + TA7
- NEW SA7 + TA6
- NEW SA6 + TA4

3-axis configurations (X-axis/Y-axis/Z-axis)

- SA8 + SA7 + SA6
- SA7 + SA6 + SA4
- WSA16 + SA8 + SA7
- WSA14 + SA7 + SA6
- NEW SA8 + SA7 + TA6
- NEW SA7 + SA6+ TA4

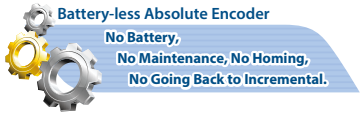
4-axis configurations (X-axis/Y-axis/ZR unit)

- NEW SA8 + SA7 + ZR
- NEW WSA14 + SA7 + ZR

NEW · · · Newly added size combinations

2 Equipped with high resolution Battery-less Absolute Encoder as standard.

Equipped as standard with Battery-less Absolute Encoder for all configuration axes.
No battery maintenance is required since there is no battery.
Homing operation is not required at startup or after emergency stop or malfunction.
This reduces your operation time, resulting in reduced production costs.



The advantages of using an absolute encoder.

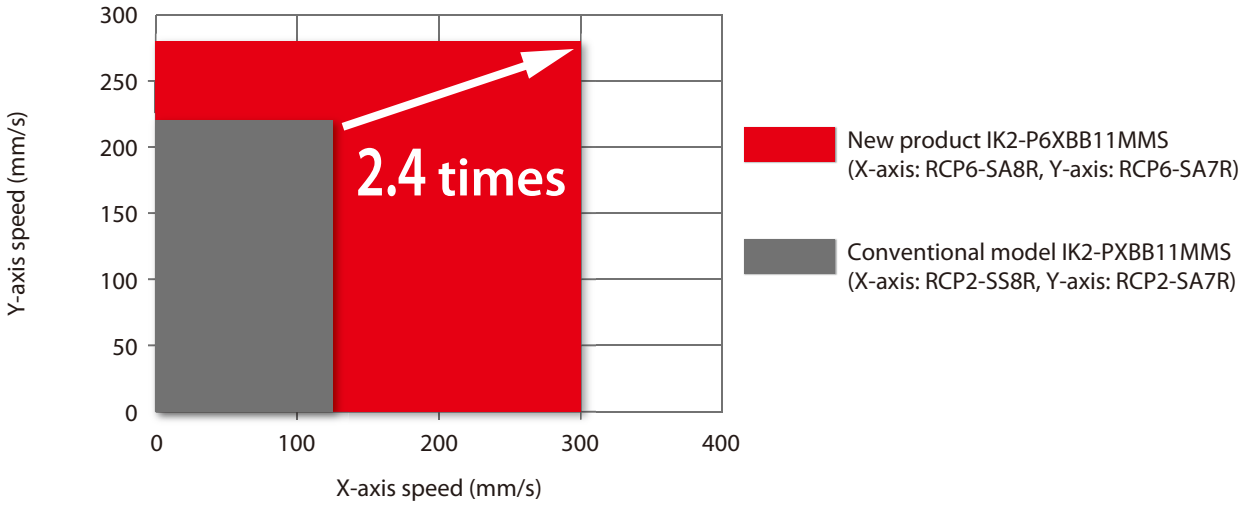
(1) With an absolute encoder, home return is not required.
(2) No external home sensor is required since home return is not necessary.
(3) Removal of workpieces is not necessary, even after an emergency stop.
(4) The troublesome creation of home-return programs is not necessary even when stopping inside of a complex machine.

The advantages of battery-less.

(1) No battery maintenance required.
(2) No installation space for battery required.

3 Higher Speed

Compatible with PowerCON® which is equipped with a high-output driver.
The maximum speed has been increased with the use of PowerCON®.
This can reduce cycle time and help improve productivity.

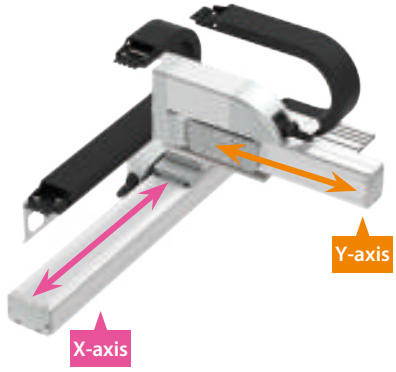


Robot Type Descriptions

Each configuration pattern is available with an extensive range of sizes from light load to heavy load and short stroke to long stroke. Select the optimal model for your application.

XYB (Y-axis base mount) type

→ 2-axis configurations IK2-P6XB: p5~34



A basic configuration type in which the base of the Y-axis is fixed to the X-axis slider. It is operated by fixing equipment or a Z-axis on the Y-axis slider.

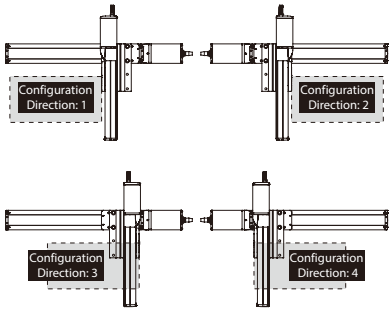
Point 1

Select from 4 patterns of Y-axis configuration directions. (See the figure at right)

Point 2

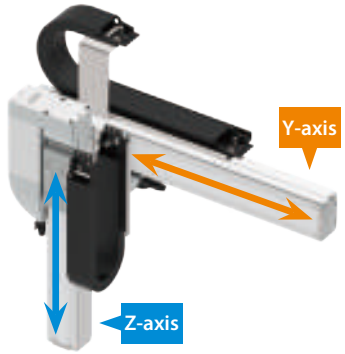
A cable track can be selected for Y-axis wiring. Select the cable track size from a maximum of 4 different sizes. You can also select a cable track for wiring by the user.

Configuration Direction



YZB (Z-axis base mount) type

→ 2-axis configurations IK2-P6YB: p35~70



For this type, the base of the Z-axis (vertical axis) is fixed to the Y-axis slider with the Y-axis side-mounted. The Z-axis slider moves vertically, allowing mounting of jigs or chucks for transport, raising, or lowering of workpieces.

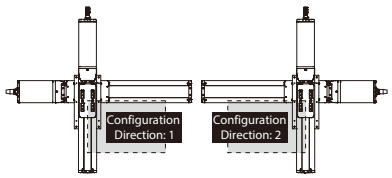
Point 1

Select from 2 patterns of Z-axis configuration directions. (See the figure at right)

Point 2

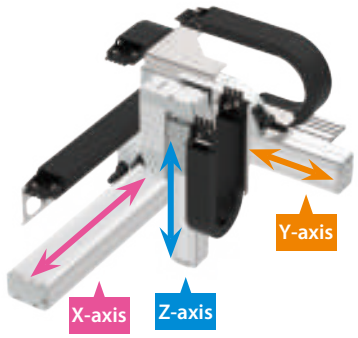
A cable track can be selected for Z-axis wiring. Select the cable track size from a maximum of 4 different sizes. You can also select a cable track for wiring by the user.

Configuration Direction



XYB (Y-axis base mount) + Z-axis base mount type

→ 3-axis configurations IK3-P6BB: p71~118



For this type, the base surface of the Z-axis is fixed to the Y-axis slider of XYB type (Y-axis base is fixed to X-axis slider).

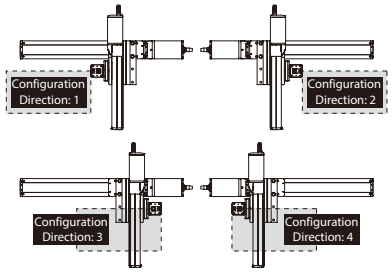
Point 1

The Z-axis body is fixed and the slider moves vertically.

Point 2

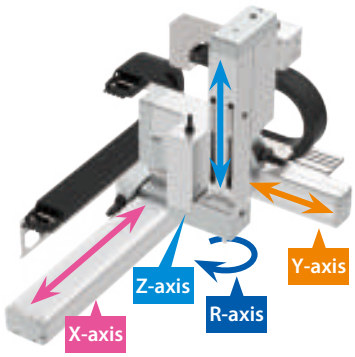
Cable tracks can be selected for Y-axis and Z-axis wiring. Select the cable track size from a maximum of 4 different sizes. You can also select a cable track for wiring by the user.

Configuration Direction



XYB (Y-axis base mount) + ZR (vertical/rotation) unit type

→ 4-axis configurations IK4-P6BB: p119~133



This is an XYB (Y-axis base mount) type Y-axis slider equipped with a ZR unit that enables both vertical and rotational operation.

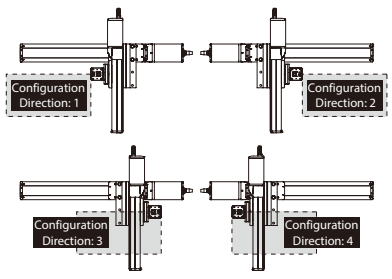
Point 1

More compact with the integrated Z-axis and rotational axis.

Point 2

Cable tracks can be selected for Y-axis and Z-axis wiring. Select the cable track size from a maximum of 4 different sizes.

Configuration direction



Cartesian Robot

ROBO Cylinder 2-axis Configurations

IK2
Stepper Motor

ROBO Cylinder 3-axis Configurations

IK3
Stepper Motor

ROBO Cylinder 4-axis Configurations

IK4
Stepper motor

Controller

IK2-P6XBD1□□S

RCP6 2-axis configurations

X-axis: SA6R (side-mounted)
Y-axis: SA4R (side-mounted)

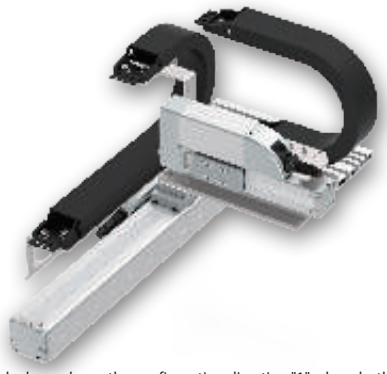
Model Specification Items

IK2 — P6XBD1□□S — WA — □□ — □□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBD1□□S	WA	□□	□□	□	□	□	□

- Type — Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3. / Speed Type: SS: X Ultra High Speed/ Y Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- First Axis (X-axis) — Stroke: 5: 50mm ~ (Every 50mm)
- Second Axis (Y-axis) — Options: Refer to Options table below.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring: Refer to Cable Track table below.
- Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SS type: X ultra high speed/Y ultra high speed (Unit: kg)

Acceleration/ deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200~300 (Every 50mm)
0.1	3	
0.3	3	
0.5	2	
0.7	1	–

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA6R Y-axis : SA4R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis
Axis configuration	RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)	50~800mm	50~300mm
Max. speed *	640mm/s	560mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	16mm
Drive system	Ball screw Φ10mm rolled C10	Ball screw Φ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

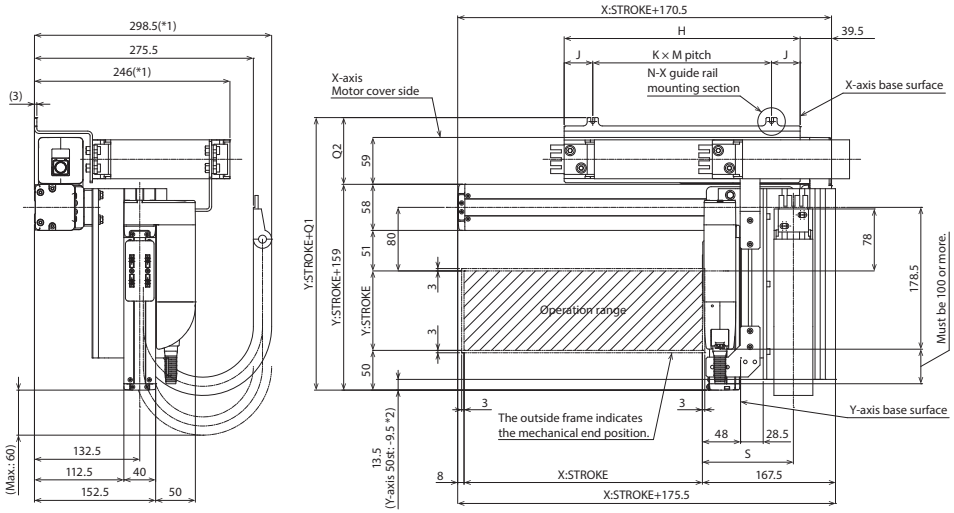
* Please check the Options reference pages to confirm each option.

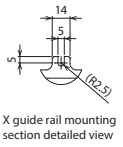
Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

Dimensions

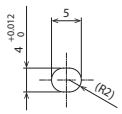
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



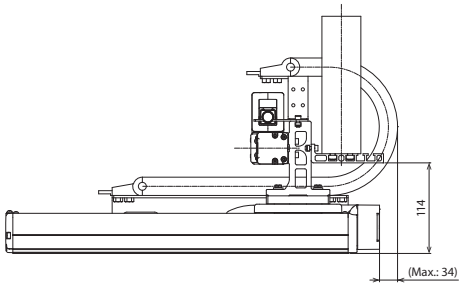


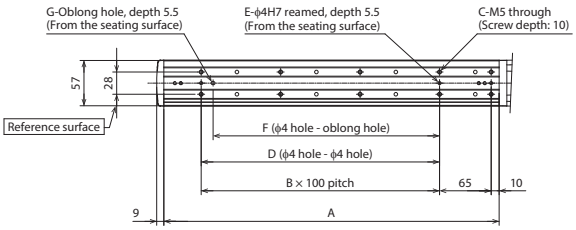
X guide rail mounting section detailed view



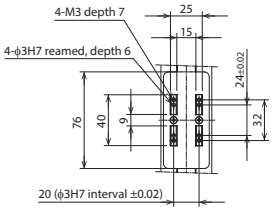
X-axis base oblong hole detailed view

*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: When the Y-axis is 50st, the Y guide rail overhangs the actuator tip.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	172	197	222	247	272	297	322	347	372	397	422	447	472	497	522	547
J	23.5	36	23.5	36	23.5	36	61	23.5	36	48.5	26	23.5	36	48.5	61	48.5
K	1	1	1	1	1	1	1	3	3	2	2	2	2	2	2	3
M	125	125	175	175	225	225	200	100	100	150	185	200	200	200	200	150
N	2	2	2	2	2	2	2	4	4	3	3	3	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	243	256	269	286
Q2	84	97	110	127
S	114.5	121	127.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

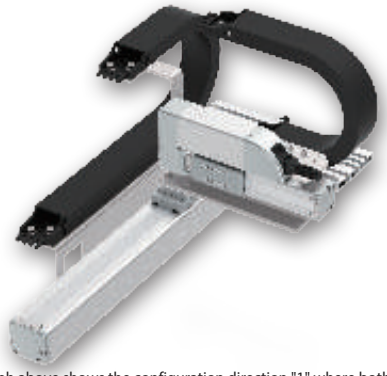
IK2-P6XBD2□□S

RCP6 2-axis configurations

X-axis: SA6C (straight)
Y-axis: SA4R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBD2□ □S	WA	□ □	□ □	□	□	□	□	□
	Speed Type		Stroke	Options	Controller	Cable Length	First Wiring	Second Wiring	Options
Configuration Direction	SS: X Ultra High Speed/ Y Ultra High Speed	Encoder Type	5: 50mm ~ (Every 50mm)	Refer to Options table (1) below.	PM1 PM2 Refer to Applicable Controllers table below.	1L : 1m 3L : 3m 5L : 5m □L : □m	Refer to Cable Track table below.		Refer to Options table (2) below.
1 to 4 Refer to Robot Type Descriptions on page 3		WA: Battery-less Absolute							



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SS type: X ultra high speed/Y ultra high speed (Unit: kg)

Acceleration/ deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200~300 (Every 50mm)
0.1	3	
0.3	3	
0.5	2	
0.7	1	–

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA6C Y-axis : SA4R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm) *	**CTXL**		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis
Axis configuration	RCP6-SA6C	RCP6-SA4R
Stroke (Every 50mm)	50~800mm	50~300mm
Max. speed *	640mm/s	560mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	16mm
Drive system	Ball screw Φ10mm rolled C10	Ball screw Φ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake *	**B**	See P.134	○	○
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected
Cable exit direction (Right)	**CJR**	See P.134	○	
Cable exit direction (Left)	**CJL**	See P.134	○	
Cable exit direction (Bottom)	**CJB**	See P.134	○	
Non-motor end specification	**NM**	See P.135	○	○
Slider section roller specification	**SR**	See P.135	○	○

* Brake option for X-axis increases the length of the motor unit.
Please contact IAI for more information.

Options (2)

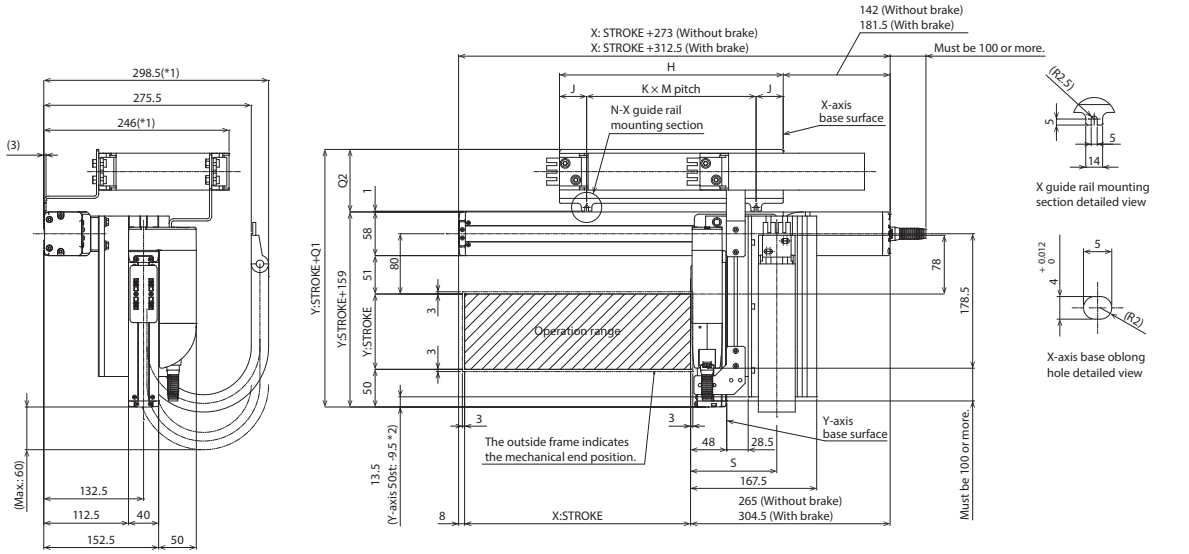
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

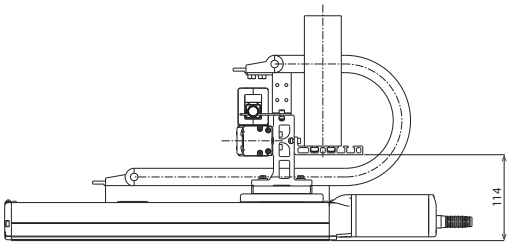
Dimensions

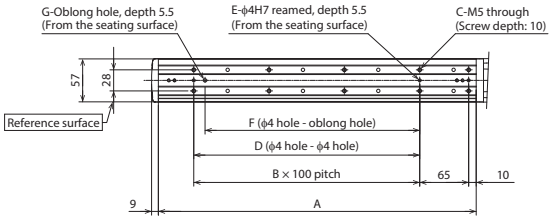
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

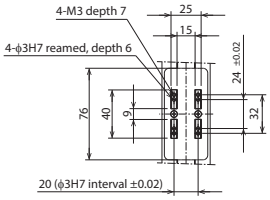


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: When the Y-axis is 50st, the Y guide rail overhangs the actuator tip.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	172	197	222	247	272	297	322	347	372	397	422	447	472	497	522	547
J	23.5	36	23.5	36	23.5	36	61	23.5	36	48.5	26	23.5	36	48.5	61	48.5
K	1	1	1	1	1	1	1	3	3	2	2	2	2	2	2	3
M	125	125	175	175	225	225	200	100	100	150	185	200	200	200	200	150
N	2	2	2	2	2	2	2	4	4	3	3	3	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	242	255	268	285
Q2	83	96	109	126
S	114.5	121	127.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBD3□□S

RCP6 2-axis configurations

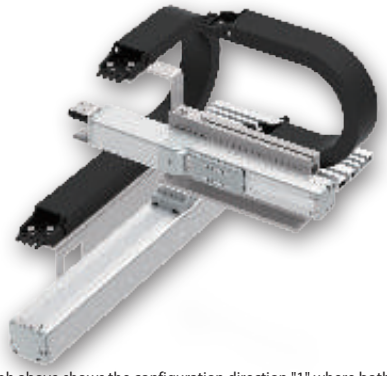
X-axis: SA6C (straight)
Y-axis: SA4C (straight)

■ Model Specification Items

IK2 — P6XBD3□ □S — WA — □ □ — □ □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBD3□ □S	WA	□ □	□ □	□	□	□	□	□
	Configuration Direction: 1 to 4, Refer to Robot Type Descriptions on page 3	Speed Type: SS: X Ultra High Speed/ Y Ultra High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Options: Refer to Options table (1) below.	Controller: PM1 PM2 Refer to Applicable Controllers table below.	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring	Options: Refer to Options table (2) below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SS type: X ultra high speed/Y ultra high speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200~300 (Every 50mm)
0.1	3	
0.3	3	
0.5	2	
0.7	1	–

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA6C Y-axis : SA4C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis
Axis configuration	RCP6-SA6C	RCP6-SA4C
Stroke (Every 50mm)	50~800mm	50~300mm
Max. speed *	640mm/s	560mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	16mm
Drive system	Ball screw Φ10mm rolled C10	Ball screw Φ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

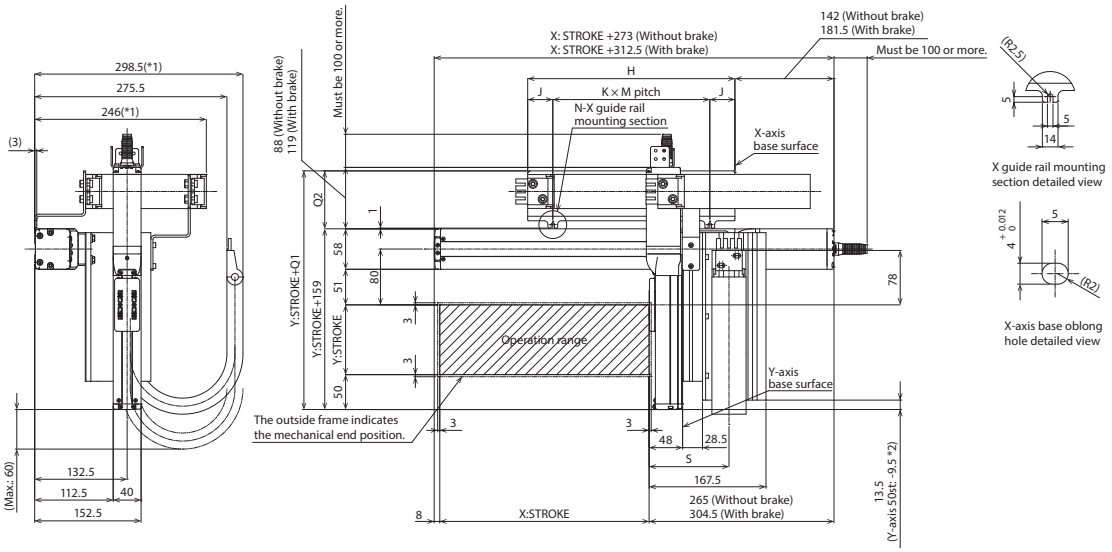
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	FTP	See P.134

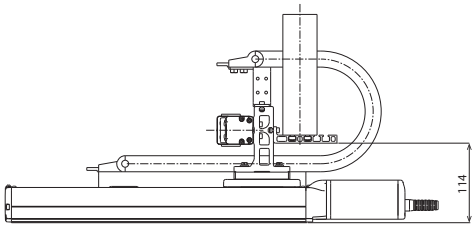
Dimensions

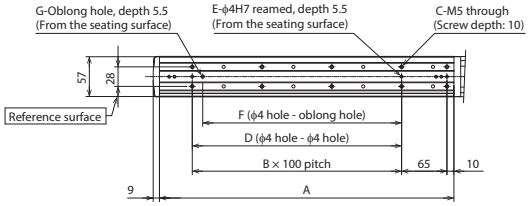
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

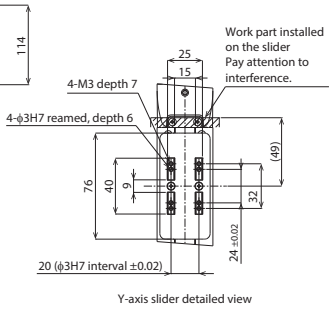


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: When the Y-axis is 50st, the Y guide rail overhangs the actuator tip.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	172	197	222	247	272	297	322	347	372	397	422	447	472	497	522	547
J	23.5	36	23.5	36	23.5	36	61	23.5	36	48.5	26	23.5	36	48.5	61	48.5
K	1	1	1	1	1	1	1	3	3	2	2	2	2	2	2	3
M	125	125	175	175	225	225	200	100	100	150	185	200	200	200	200	150
N	2	2	2	2	2	2	2	4	4	3	3	3	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	242	255	268	285
Q2	83	96	109	126
S	114.5	121	127.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBC1□□S

RCP6 2-axis configurations

X-axis: SA7R (side-mounted)
Y-axis: SA6R (side-mounted)

Model Specification Items

IK2 — P6XBC1□□S — WA — □□ — □□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBC1□□S	WA	□□	□□	□	□	□	□

- **Type**
  - Configuration Direction: 1 to 4 (Refer to Robot Type Descriptions on page 3)
  - Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **First Axis (X-axis)**: Stroke — 5: 50mm; ~ (Every 50mm)
- **Second Axis (Y-axis)**: Options — Refer to Options table below.
- **Controller**: PM1, PM2 (Refer to Applicable Controllers table below.)
- **Cable**: Cable Length — 1L: 1m, 3L: 3m, 5L: 5m, □L: □m; First Wiring; Second Wiring (Refer to Cable Track table below.)

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250~400 (Every 50mm)
0.1	9	8	6	
0.3	9	8	6	
0.5	7		6	
0.7	6			–
1	4			–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	5	
0.3	5	
0.5	4	
0.7	2	–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50	100~200 (Every 50mm)	250~400 (Every 50mm)
0.1	4		
0.3	4		
0.5	3	2.5	
0.7	2	1.5	–
1	1		–

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA7R Y-axis : SA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	280mm/s	400mm/s
	HH	560mm/s	680mm/s
	SS	640mm/s	800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	MM	8mm	6mm
	HH	16mm	12mm
	SS	24mm	20mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

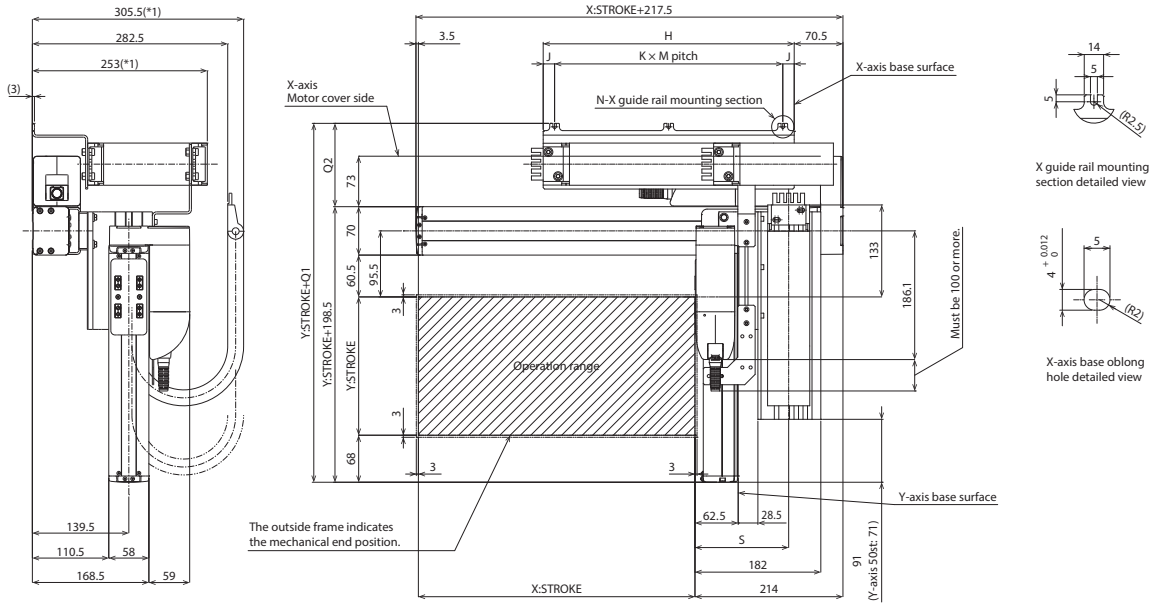
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

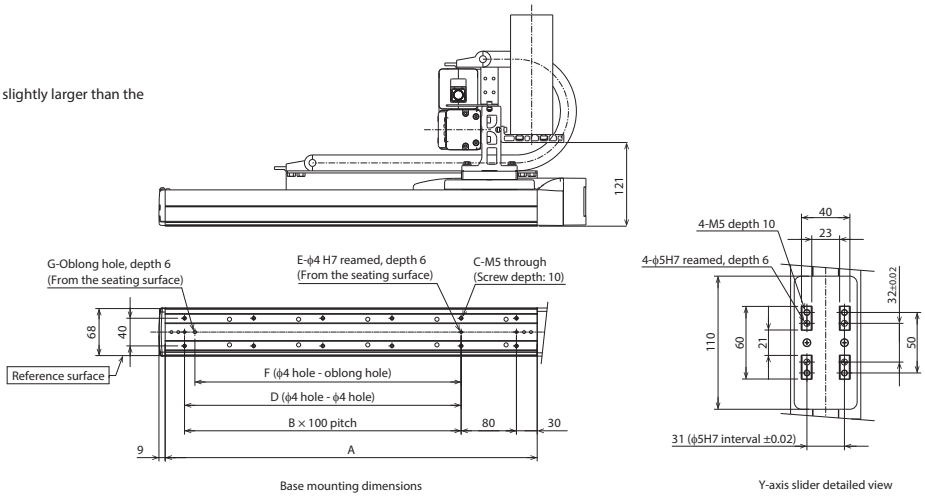
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	306	319	332	349
Q2	107.5	120.5	133.5	150.5
S	129	135.5	142	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBC2□□S

RCP6 2-axis configurations

X-axis: SA7C (straight)
Y-axis: SA6R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBC2□ □S	WA	□ □	□ □	□	□	□	□	□

- Series: IK2
- Type: P6XBC2□ □S
  - Configuration Direction: 1 to 4 (Refer to Robot Type Descriptions on page 3)
  - Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- Encoder Type: WA (Encoder Type: WA: Battery-less Absolute)
- First Axis (X-axis) □ □ — Stroke: 5: 50mm ~ (Every 50mm)
- Second Axis (Y-axis) □ □ — Options: Refer to Options table (1) below.
- Controller □: Controller PM1, PM2 (Refer to Applicable Controllers table below.)
- Cable □ — Cable Length: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- Cable □ — First Wiring: Refer to Cable Track table below.
- Cable □ — Second Wiring
- Options □: Options: Refer to Options table (2) below.

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250~400 (Every 50mm)
0.1	9	8	6	
0.3	9	8	6	
0.5	7		6	
0.7	6			–
1	4			–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	5	
0.3	5	
0.5	4	
0.7	2	–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50	100~200 (Every 50mm)	250~400 (Every 50mm)
0.1	4		
0.3	4		
0.5	3	2.5	
0.7	2	1.5	–
1	1		–

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA7C Y-axis : SA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA7C	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	280mm/s	400mm/s
	HH	560mm/s	680mm/s
	SS	640mm/s	800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	MM	8mm	6mm
	HH	16mm	12mm
	SS	24mm	20mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

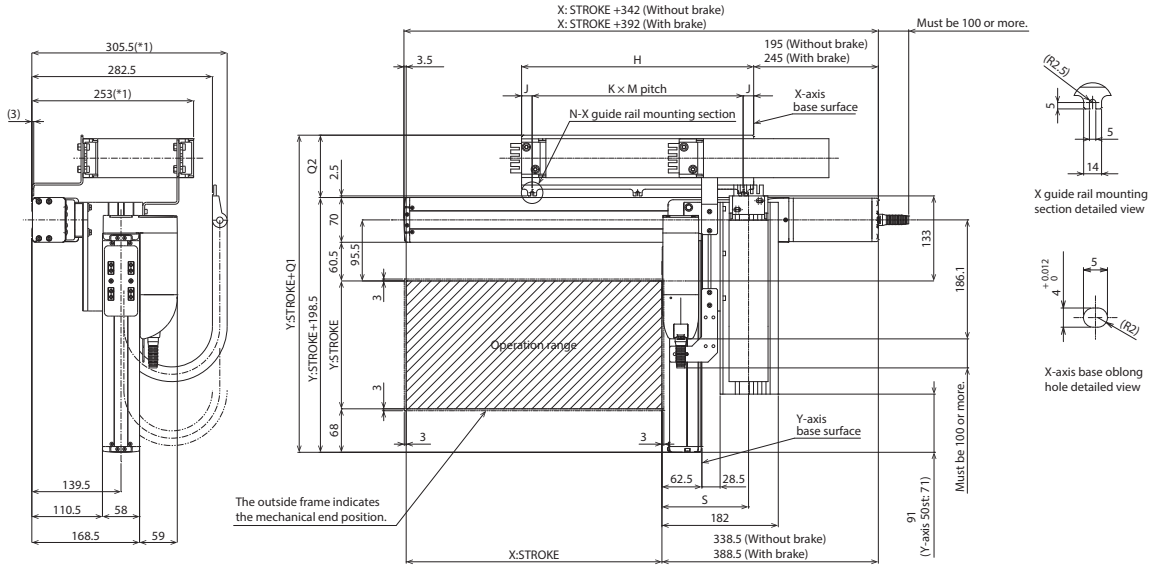
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	FTP	See P.134

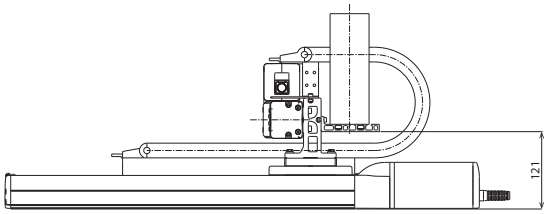
Dimensions

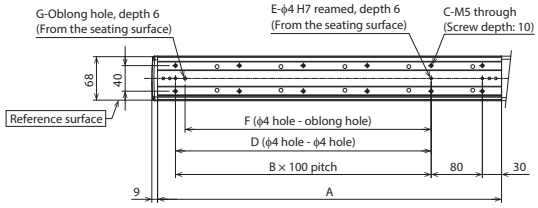
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

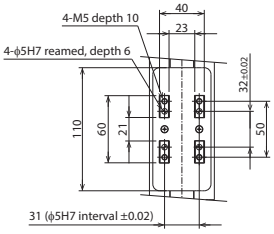


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S	129	135.5	142	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBC3□□S

RCP6 2-axis configurations

X-axis: SA7C (straight)
Y-axis: SA6C (straight)

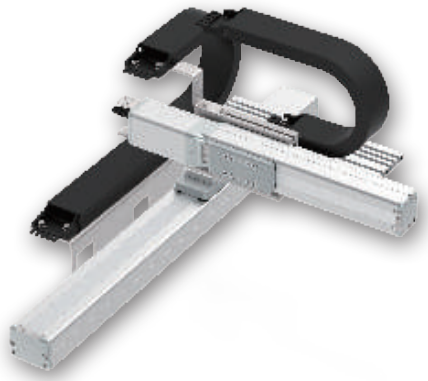
■ Model Specification Items

IK2 — P6XBC3□ □S — WA — □ □ — □ □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBC3□ □S	WA	□ □	□ □	□	□	□	□	□

- Type — Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3. Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- First Axis (X-axis) / Second Axis (Y-axis) — Stroke: 5: 50mm ~ (Every 50mm)
- Second Axis (Y-axis) — Options: Refer to Options table (1) below.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- Cable — First Wiring / Second Wiring: Refer to Cable Track table below.
- Options: Refer to Options table (2) below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250~400 (Every 50mm)
0.1	9	8	6	
0.3	9	8	6	
0.5	7		6	
0.7	6			–
1	4			–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	5	
0.3	5	
0.5	4	
0.7	2	–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50	100~200 (Every 50mm)	250~400 (Every 50mm)
0.1	4		
0.3	4		
0.5	3	2.5	
0.7	2	1.5	–
1	1		–

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA7C Y-axis : SA6C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA7C	RCP6-SA6C
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	280mm/s	400mm/s
	HH	560mm/s	680mm/s
	SS	640mm/s	800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	MM	8mm	6mm
	HH	16mm	12mm
	SS	24mm	20mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

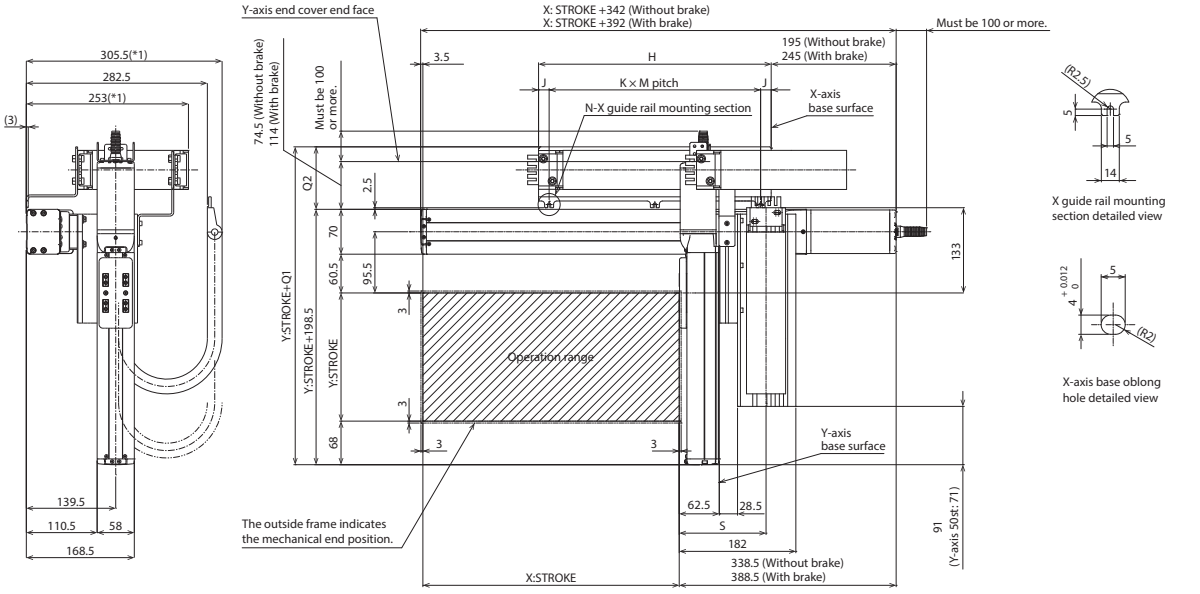
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	FTP	See P.134

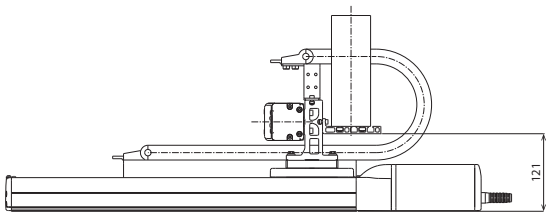
Dimensions

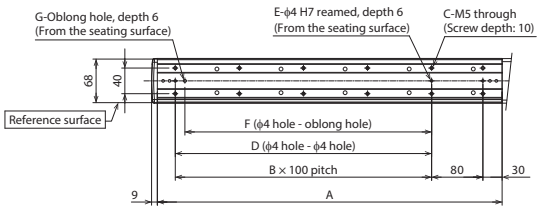
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

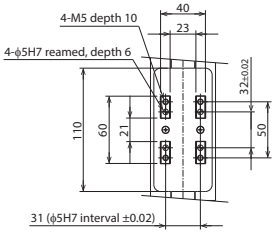


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S	129	135.5	142	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBB1□□S

RCP6 2-axis configurations

X-axis: SA8R (side-mounted)
Y-axis: SA7R (side-mounted)

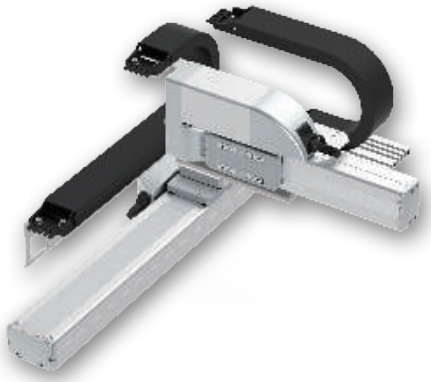
■ Model Specification Items

IK2 — P6XBB1□□S — WA — □□ — □□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBB1□□S	WA	□□	□□	□	□	□	□

- Type — Configuration Direction: 1 to 4 (Refer to Robot Type Descriptions on page 3); Speed Type: MM: X Medium Speed/Y Medium Speed, HH: X High Speed/Y High Speed, SS: X Ultra High Speed/Y Ultra High Speed
- Encoder Type — WA: Battery-less Absolute
- First Axis (X-axis) / Second Axis (Y-axis) — Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table below.
- Controller: PM1, PM2 (Refer to Applicable Controllers table below.)
- Cable — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m; First Wiring: Refer to Cable Track table below.; Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250	300~400 (Every 50mm)
0.1	16	15	12.5	9	8
0.3	16	15	12.5	9	8
0.5	10			9	8
0.7	6		5.5		–
1	6		5.5		–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200	250	300~400 (Every 50mm)
0.1	11	10.5	9	8
0.3	8			
0.5	5			
0.7	4			–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~400 (Every 50mm)
0.1	3
0.3	1.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8R	RCON-PCF	P-159
	Y-axis : SA7R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA8R	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~400mm
Max. speed *	MM	300mm/s	280mm/s
	HH	400mm/s	560mm/s
	SS	650mm/s	640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MM	10mm	8mm
	HH	20mm	16mm
	SS	30mm	24mm
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

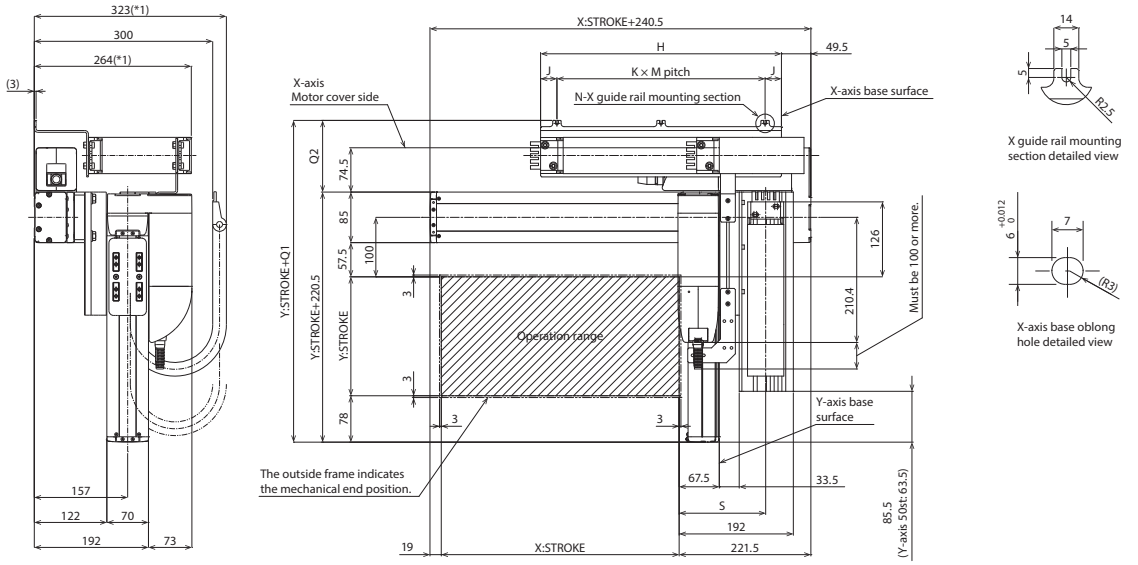
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

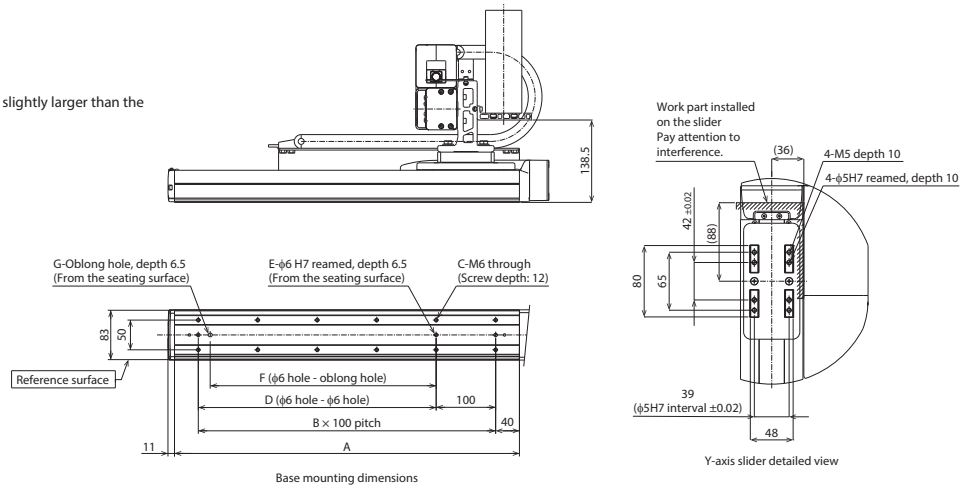
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	328	341	354	371
Q2	107.5	120.5	133.5	150.5
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBB2□□S

RCP6 2-axis configurations

X-axis: SA8C (straight)
Y-axis: SA7R (side-mounted)

■ Model Specification Items

IK2 — P6XBB2□ □S — WA — □ □ — □ □ — □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBB2□ □S	WA	□ □	□ □	□	□	□	□	□

- Type — Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3. Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- Encoder Type — Encoder Type: WA: Battery-less Absolute
- First Axis (X-axis) / Second Axis (Y-axis) — Stroke: 5: 50mm, ↓ (Every 50mm)
- Second Axis (Y-axis) — Options: Refer to Options table (1) below.
- Controller — Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m. First Wiring: Refer to Cable Track table below. Second Wiring
- Options — Options: Refer to Options table (2) below.

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250	300~400 (Every 50mm)
0.1	16	15	12.5	9	8
0.3	16	15	12.5	9	8
0.5	10			9	8
0.7	6		5.5		–
1	6		5.5		–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200	250	300~400 (Every 50mm)
0.1	11	10.5	9	8
0.3	8			
0.5	5			
0.7	4			–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~400 (Every 50mm)
0.1	3
0.3	1.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8C	RCON-PCF	P-159
	Y-axis : SA7R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA8C	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~400mm
Max. speed *	MM	300mm/s	280mm/s
	HH	400mm/s	560mm/s
	SS	650mm/s	640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MM	10mm	8mm
	HH	20mm	16mm
	SS	30mm	24mm
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

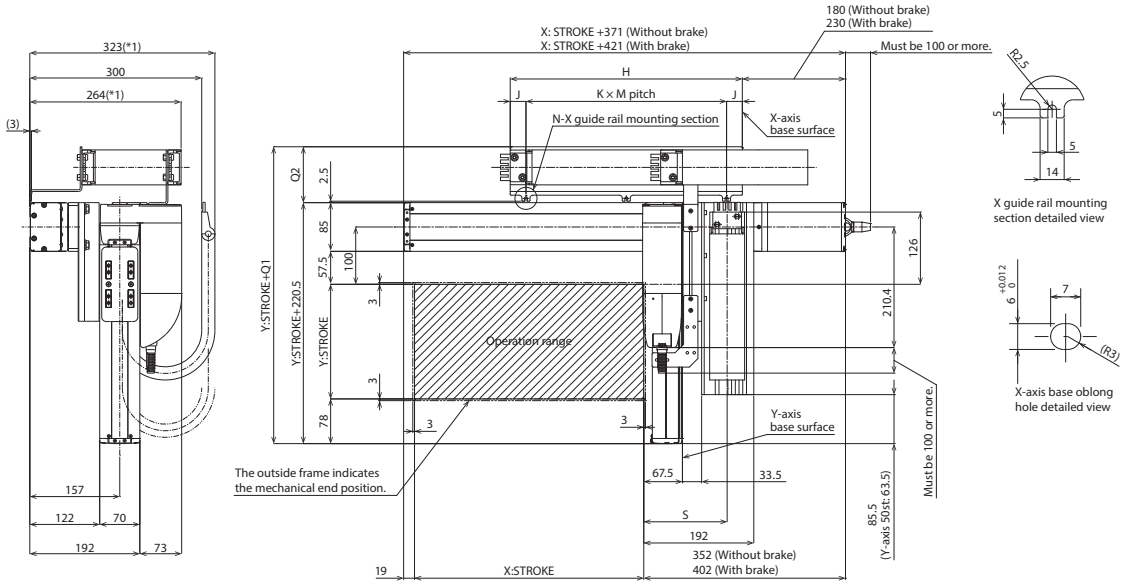
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	FTP	See P.134

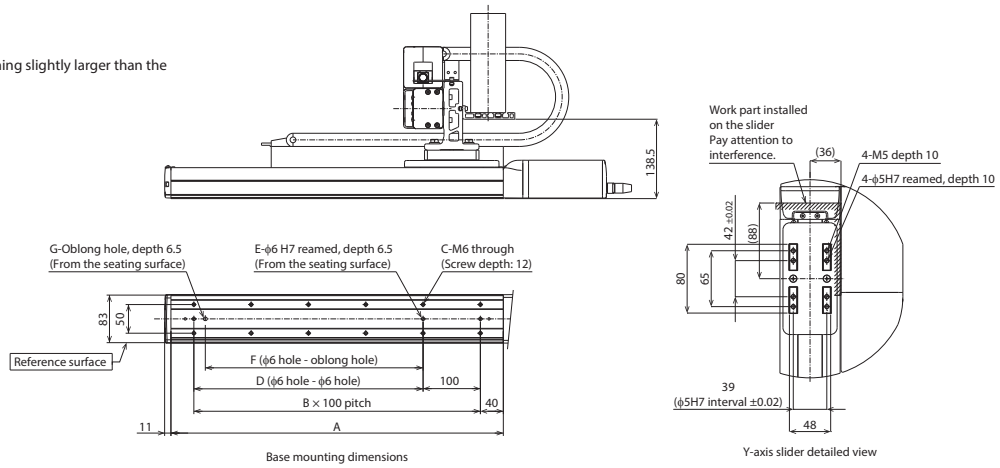
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBB3□□S

RCP6 2-axis configurations

X-axis: SA8C (straight)
Y-axis: SA7C (straight)

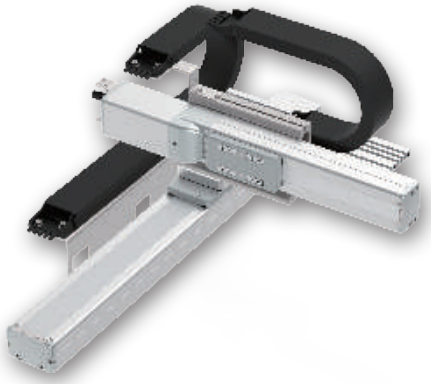
■ Model Specification Items

IK2 — P6XBB3□ □S — WA — □ □ — □ □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable			Options
IK2	P6XBB3□ □S	WA	□ □	□ □	□	□	□	□	□

- Type — Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3. Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- Encoder Type — WA: Battery-less Absolute
- First Axis (X-axis) / Second Axis (Y-axis) — Stroke: 5: 50mm, ↓ (Every 50mm)
- Second Axis (Y-axis) — Options: Refer to Options table (1) below.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- Cable — First Wiring: Refer to Cable Track table below.
- Cable — Second Wiring
- Options: Refer to Options table (2) below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150	200	250	300~400 (Every 50mm)
0.1	16	15	12.5	9	8
0.3	16	15	12.5	9	8
0.5	10			9	8
0.7	6		5.5		–
1	6		5.5		–

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~150 (Every 50mm)	200	250	300~400 (Every 50mm)
0.1	11	10.5	9	8
0.3	8			
0.5	5			
0.7	4			–

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~400 (Every 50mm)
0.1	3
0.3	1.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8C	RCON-PCF	P-159
	Y-axis : SA7C	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-SA8C	RCP6-SA7C
Stroke (Every 50mm)		50~1100mm	50~400mm
Max. speed *	MM	300mm/s	280mm/s
	HH	400mm/s	560mm/s
	SS	650mm/s	640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MM	10mm	8mm
	HH	20mm	16mm
	SS	30mm	24mm
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

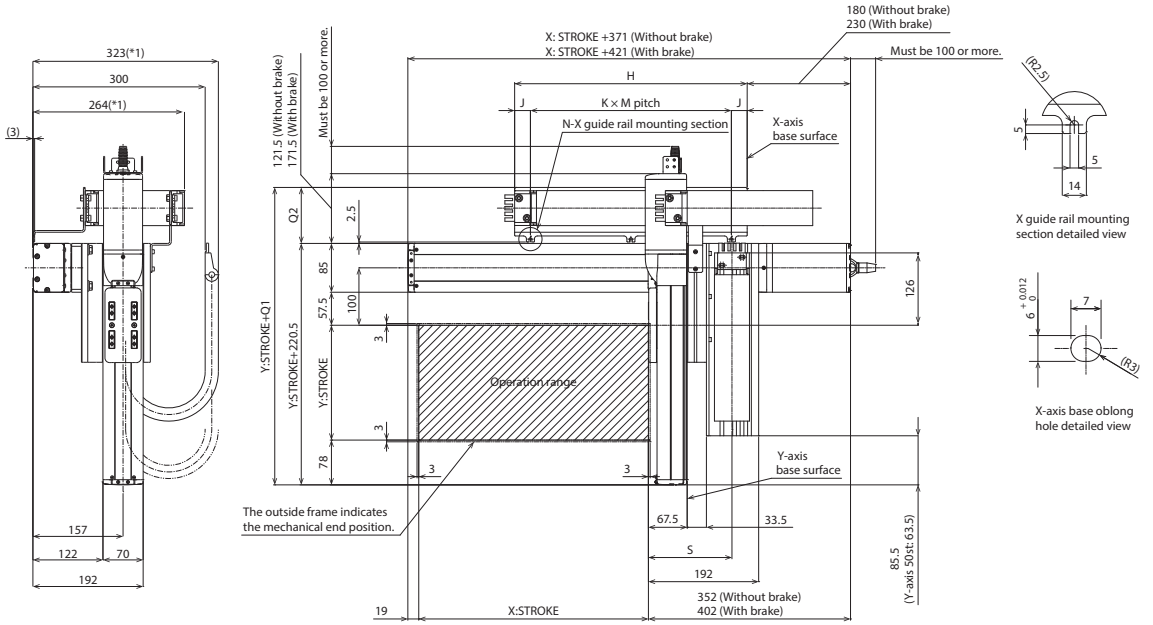
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	FTP	See P.134

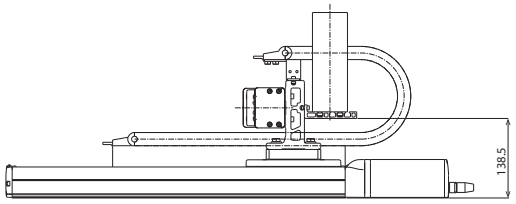
Dimensions

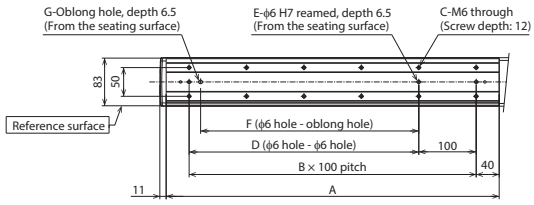
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

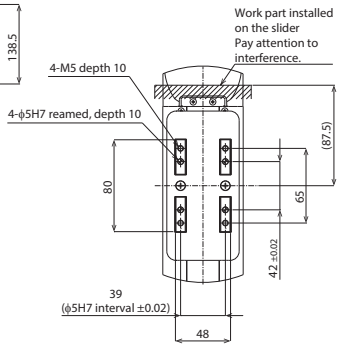


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBF1□□S

RCP6 2-axis configurations

X-axis: WSA14R (side-mounted)
Y-axis: SA7R (side-mounted)

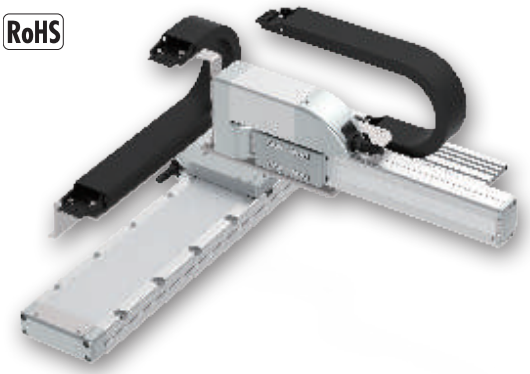
■ Model Specification Items

IK2 — P6XBF1□□S — WA — □□ — □□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBF1□□S	WA	□□	□□	□	□	□	□

- Type — Configuration Direction: 1 to 4 (Refer to Robot Type Descriptions on page 3); Speed Type: MM: X Medium Speed/Y Medium Speed, HH: X High Speed/Y High Speed, SS: X Ultra High Speed/Y Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- First Axis (X-axis) / Second Axis (Y-axis) — Stroke: 5: 50mm ~ (Every 50mm); Options: Refer to Options table below.
- Controller: PM1, PM2 (Refer to Applicable Controllers table below.)
- Cable — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m; First Wiring: Refer to Cable Track table below.; Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350	400
0.1	16	15	12.5	12	10.5
0.3	16	15	12.5	12	10.5
0.5	12				10.5
0.7	9.5				

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	8		7.5
0.3	8		7.5
0.5	5	4.5	4
0.7	3	2.5	2

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	6	5.5	5
0.3	5.5	5	4.5
0.5	3	2.5	2

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA14R Y-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA14R	RCP6-SA7R
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	210mm/s	280mm/s
	HH	420mm/s	560mm/s
	SS	560mm/s	640mm/s
Motor size		56□ Stepper motor	56□ Stepper motor
Ball screw lead	MM	8mm	8mm
	HH	16mm	16mm
	SS	24mm	24mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

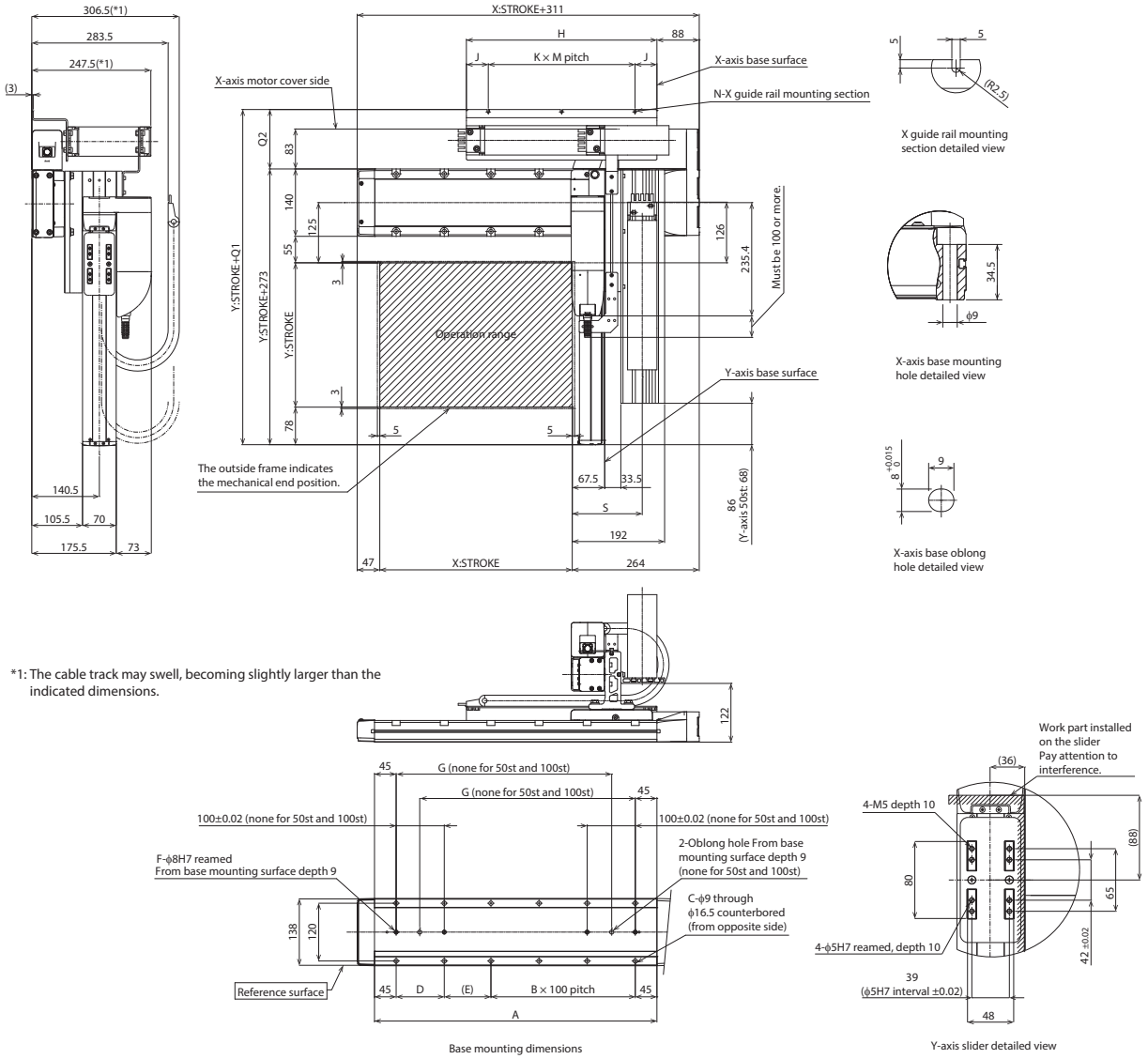
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596
J	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	43	48	45.5	43	43	45.5	43
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	383.5	396.5	409.5	426.5
Q2	110.5	123.5	136.5	153.5
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBF2□□S

RCP6 2-axis configurations

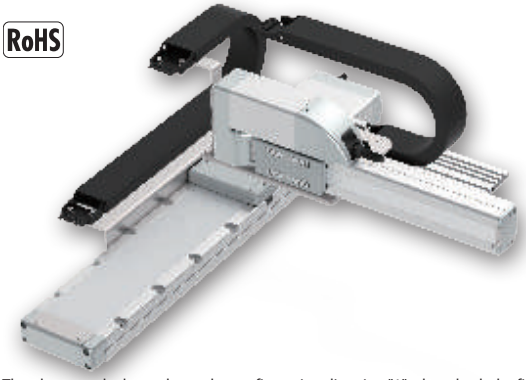
X-axis: WSA14C (straight)
Y-axis: SA7R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)		Second Axis (Y-axis)		Controller	Cable		
IK2	P6XBF2□ □S	WA	□	□	□	□	□	□	□	□

- Configuration Direction: 1 to 4 (Refer to Robot Type Descriptions on page 3)
- Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table below.
- Controller: PM1, PM2 (Refer to Applicable Controllers table below.)
- Cable Length: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- First Wiring: Refer to Cable Track table below.
- Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350	400
0.1	16	15	12.5	12	10.5
0.3	16	15	12.5	12	10.5
0.5	12				10.5
0.7	9.5				

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	8		7.5
0.3	8		7.5
0.5	5	4.5	4
0.7	3	2.5	2

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	6	5.5	5
0.3	5.5	5	4.5
0.5	3	2.5	2

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA14C Y-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA14C	RCP6-SA7R
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	210mm/s	280mm/s
	HH	420mm/s	560mm/s
	SS	560mm/s	640mm/s
Motor size		56□ Stepper motor	56□ Stepper motor
Ball screw lead	MM	8mm	8mm
	HH	16mm	16mm
	SS	24mm	24mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

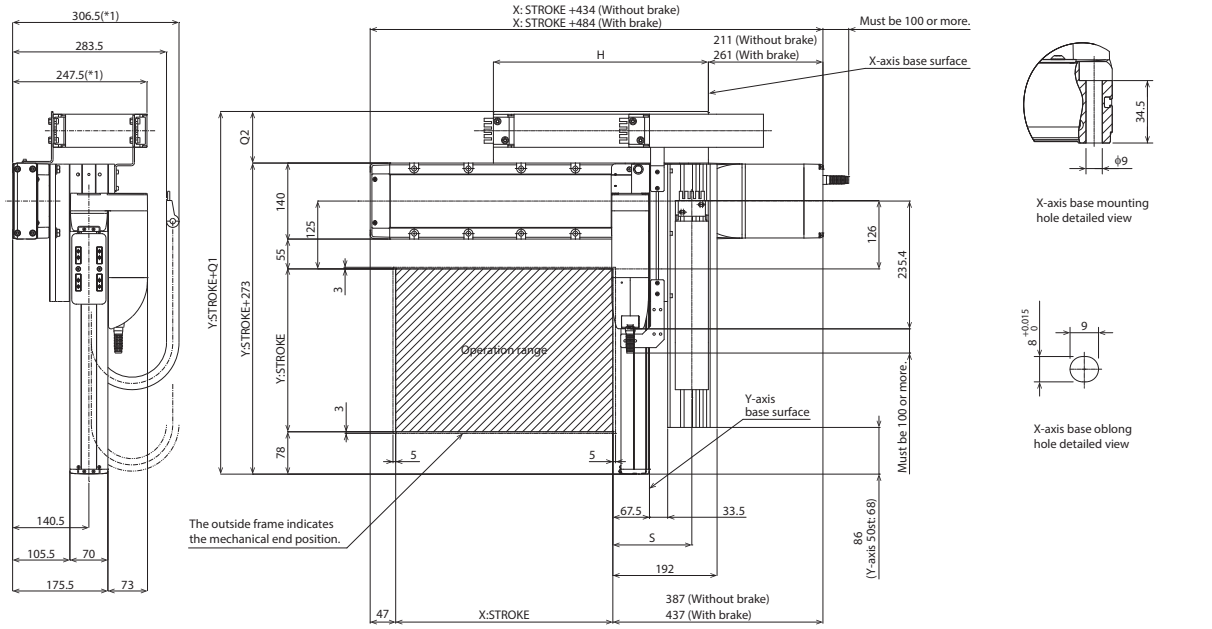
Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X-axis increases the length of the motor unit.
Please contact IAI for more information.

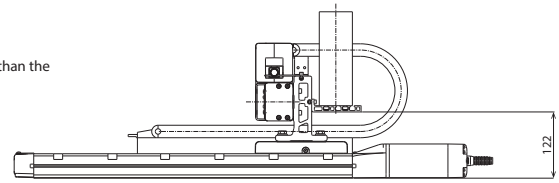
Dimensions

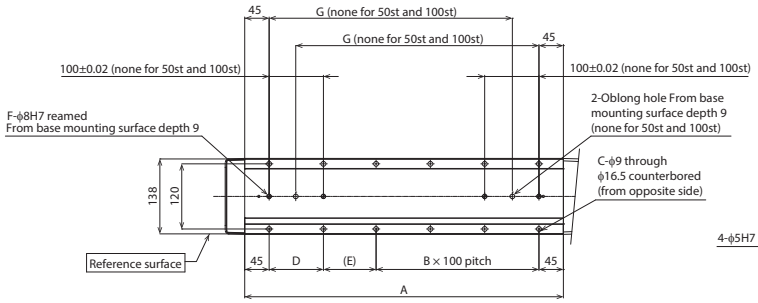
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

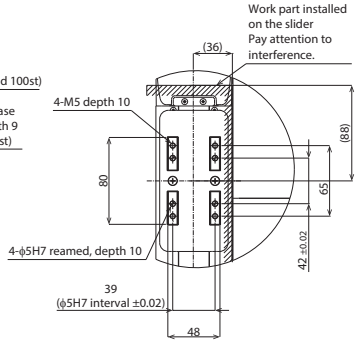


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

**The X-axis cable track guide rail is fixed on the X-axis body.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	356	368	383	401
Q2	83	95	110	128
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBF3□□S

RCP6 2-axis configurations

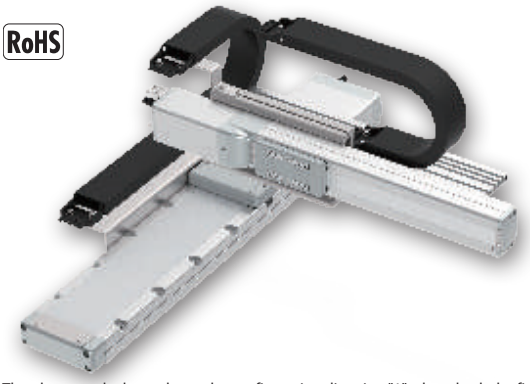
X-axis: WSA14C (straight)
Y-axis: SA7C (straight)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBF3□ □S	WA	□ □	□ □	□	□	□	□

- Configuration Direction: 1 to 4 (Refer to Robot Type Descriptions on page 3)
- Speed Type: MM: X Medium Speed/Y Medium Speed; HH: X High Speed/Y High Speed; SS: X Ultra High Speed/Y Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table below.
- Controller: PM1, PM2 (Refer to Applicable Controllers table below.)
- Cable Length: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- First Wiring / Second Wiring: Refer to Cable Track table below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350	400
0.1	16	15	12.5	12	10.5
0.3	16	15	12.5	12	10.5
0.5	12				10.5
0.7	9.5				

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	8		7.5
0.3	8		7.5
0.5	5	4.5	4
0.7	3	2.5	2

■ SS type: X ultra high speed/Y ultra high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~300 (Every 50mm)	350~400 (Every 50mm)
0.1	6	5.5	5
0.3	5.5	5	4.5
0.5	3	2.5	2

* When both X and Y axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400
50	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA14C Y-axis : SA7C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA14C	RCP6-SA7C
Stroke (Every 50mm)		50~800mm	50~400mm
Max. speed *	MM	210mm/s	280mm/s
	HH	420mm/s	560mm/s
	SS	560mm/s	640mm/s
Motor size		56□ Stepper motor	56□ Stepper motor
Ball screw lead	MM	8mm	8mm
	HH	16mm	16mm
	SS	24mm	24mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

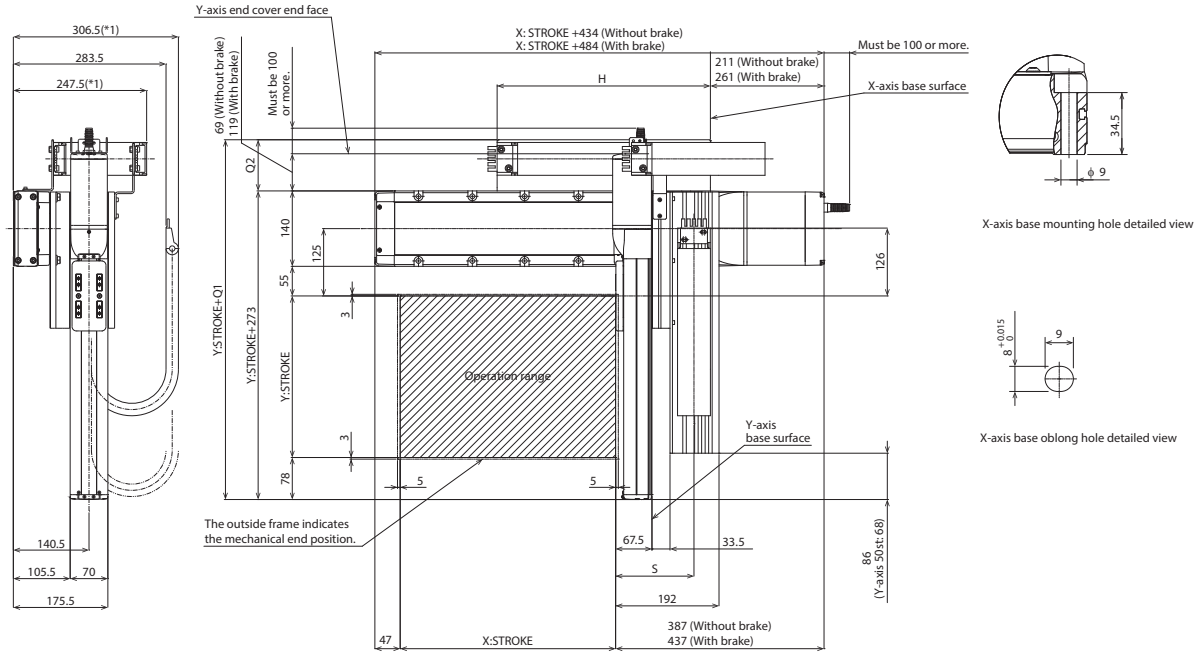
Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

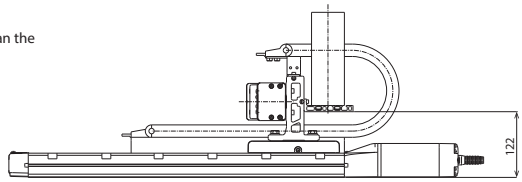
Dimensions

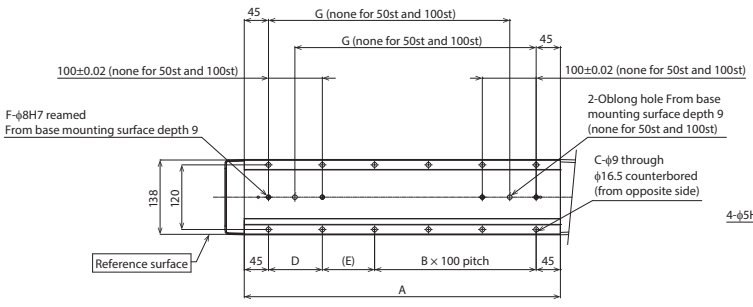
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

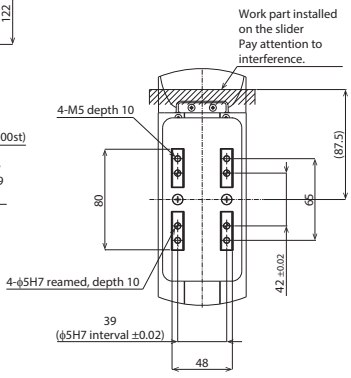


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Y-axis slider detailed view

(*) Notes

**The X-axis cable track guide rail is fixed on the X-axis body.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	356	368	383	401
Q2	83	95	110	128
S	139	145.5	152	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBE1□□S

RCP6 2-axis configurations

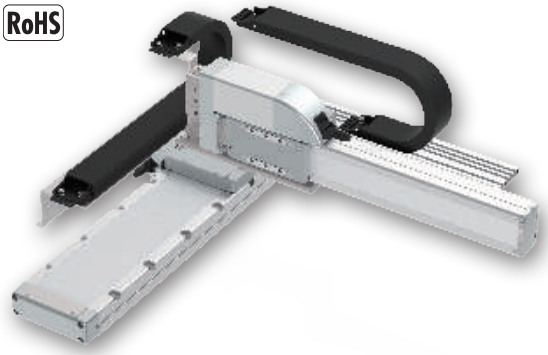
X-axis: WSA16R (side-mounted)
Y-axis: SA8R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBE1□□S	WA	□	□	□	□	□	□

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MH: X Medium Speed/Y High Speed; HH: X High Speed/Y High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm; ↓ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: PM1, PM2. Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MH type: X medium speed/Y high speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350~400 (Every 50mm)	450	500
0.1	17	16	15	14	12	10
0.3	17	16	15	14	12	10
0.5	11		10.5		10	

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~250 (Every 50mm)	300~400 (Every 50mm)	450~500 (Every 50mm)
0.1	10	9.5	9	8.5
0.3	9	8.5	8	7.5
0.5	4	3.5	3	2.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400	450	500
50	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA16R Y-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
PM2		RCON-PCF	P-159

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA16R	RCP6-SA8R
Stroke (Every 50mm)		50~1100mm	50~500mm
Max. speed *	MH	210mm/s	400mm/s
	HH	365mm/s	650mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor
Ball screw lead	MH	10mm	20mm
	HH	20mm	
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ16mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

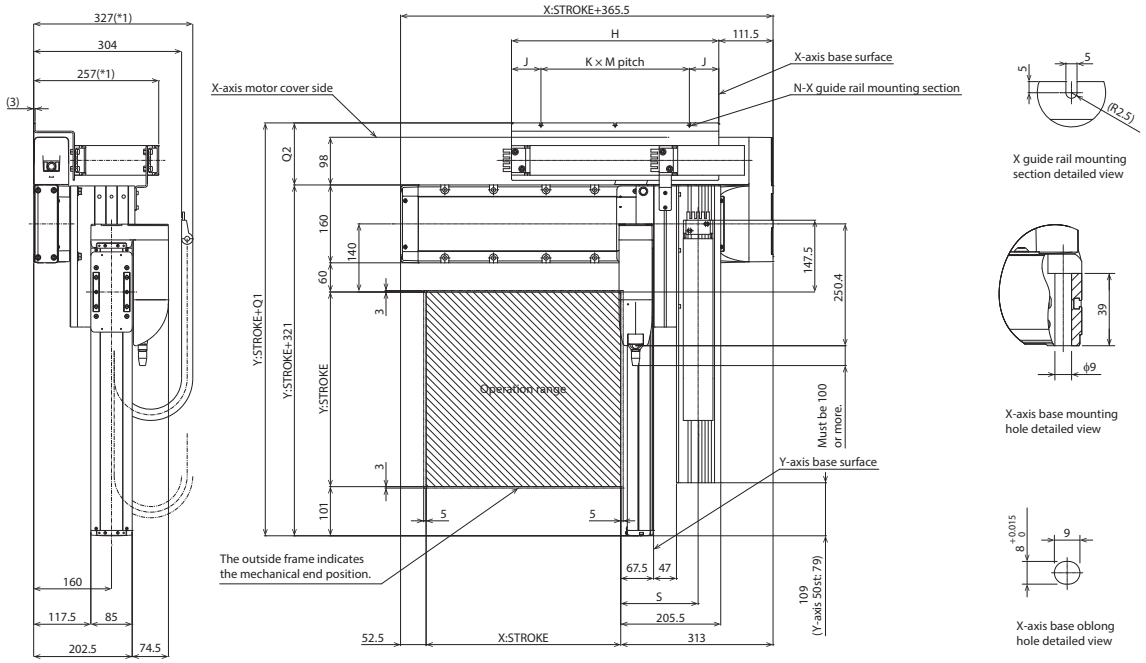
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis
Brake	B	See P.134	○	○
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

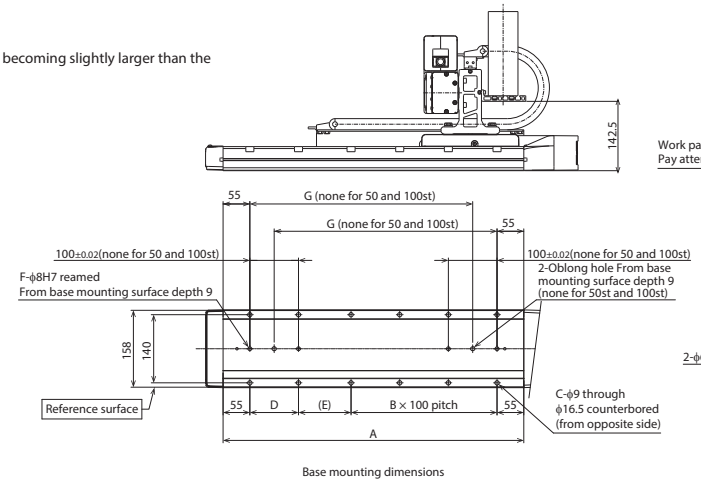
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

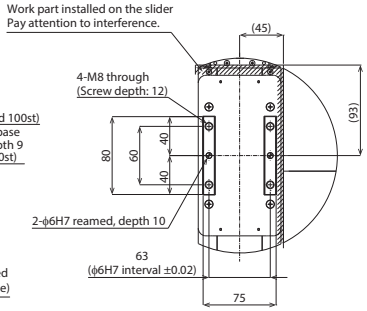
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions



Y-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776
J	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	58	63	60.5	58	58	60.5	58	60.5	58	60.5	63	63	63
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4	4	5	5	5
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5	132.5	140	145	120	125	130
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5	5	6	6	6

Cable track size	CT	CTM	CTL	CTXL
Q1	448.5	448.5	448.5	465.5
Q2	127.5	127.5	127.5	144.5
S	152.5	159	165.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBE2□□S

RCP6 2-axis configurations

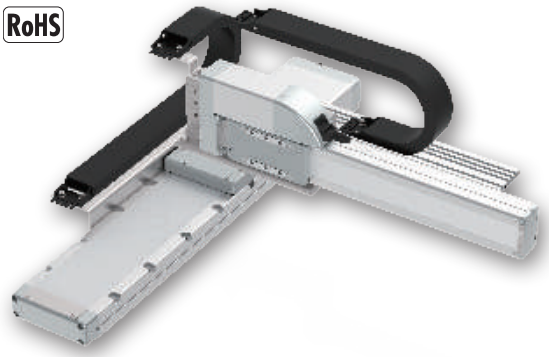
X-axis: WSA16C (straight)
Y-axis: SA8R (side-mounted)

■ Model Specification Items

IK2 — P6XBE2□ □S — WA — □ □ — □ □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBE2□ □S	WA	□ □	□ □	□	□	□	□
	Configuration Direction: 1 to 4 Refer to Robot Type Descriptions on page 3 / Speed Type: MH: X Medium Speed/Y High Speed HH: X High Speed/Y High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Options: Refer to Options table below.	Controller: PM1 PM2 Refer to Applicable Controllers table below.	Cable Length: 1L : 1m 3L : 3m 5L : 5m □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MH type: X medium speed/Y high speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350~400 (Every 50mm)	450	500
0.1	17	16	15	14	12	10
0.3	17	16	15	14	12	10
0.5	11		10.5		10	

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~250 (Every 50mm)	300~400 (Every 50mm)	450~500 (Every 50mm)
0.1	10	9.5	9	8.5
0.3	9	8.5	8	7.5
0.5	4	3.5	3	2.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400	450	500
50	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA16C Y-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
PM2		RCON-PCF	P-159

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA16C	RCP6-SA8R
Stroke (Every 50mm)		50~1100mm	50~500mm
Max. speed *	MH	210mm/s	400mm/s
	HH	365mm/s	650mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor
Ball screw lead	MH	10mm	20mm
	HH	20mm	
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ16mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

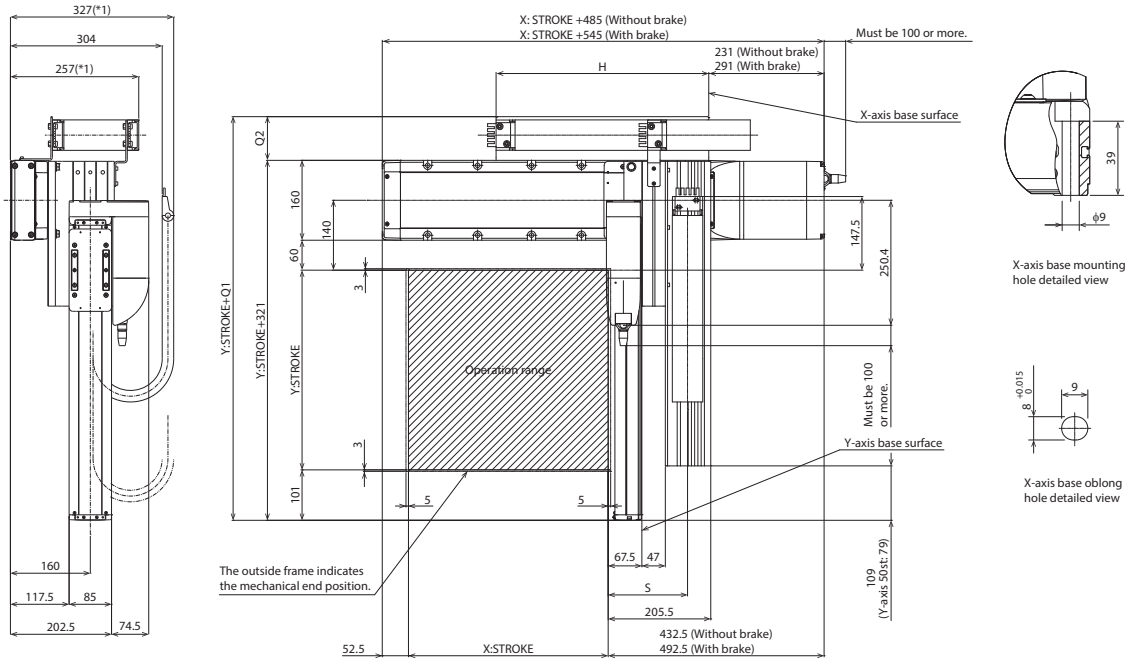
Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

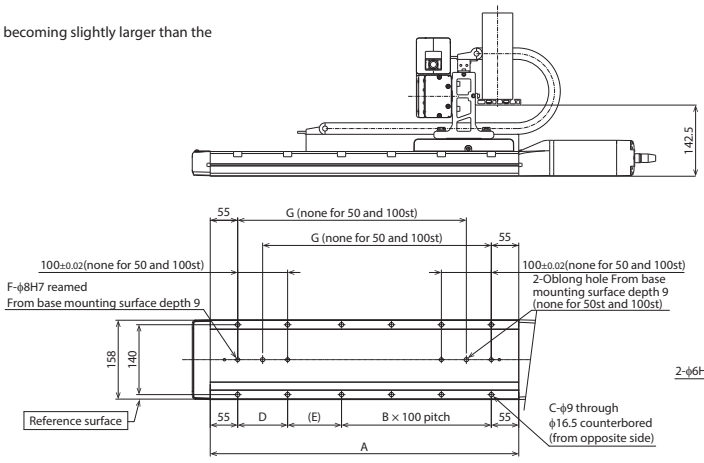
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

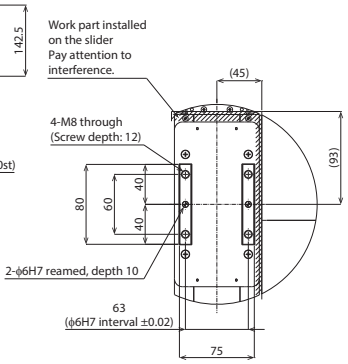
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions



Y-axis slider detailed view

(*) Notes

**The X-axis cable track guide rail is fixed on the X-axis body.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776

Cable track size	CT	CTM	CTL	CTXL
Q1	396.5	408.5	423.5	441.5
Q2	75.5	87.5	102.5	120.5
S	152.5	159	165.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6XBE3□□S

RCP6 2-axis configurations

X-axis: WSA16C (straight)
Y-axis: SA8C (straight)

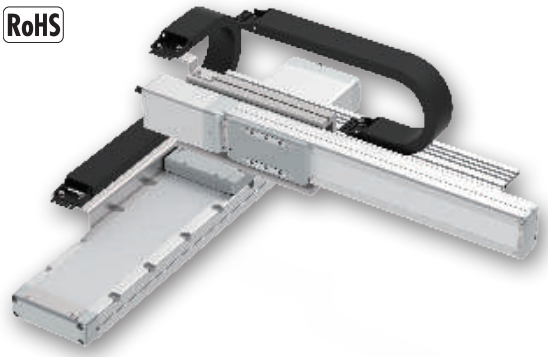
■ Model Specification Items

IK2 — P6XBE3□ □S — WA — □ □ — □ □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Controller	Cable		
IK2	P6XBE3□ □S	WA	□ □	□ □	□	□	□	□

- **Configuration Direction**: 1 to 4 — Refer to Robot Type Descriptions on page 3
- **Speed Type**: MH: X Medium Speed/Y High Speed; HH: X High Speed/Y High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: PM1, PM2 — Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**, **Second Wiring**: Refer to Cable Track table below.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MH type: X medium speed/Y high speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~200 (Every 50mm)	250~300 (Every 50mm)	350~400 (Every 50mm)	450	500
0.1	17	16	15	14	12	10
0.3	17	16	15	14	12	10
0.5	11		10.5		10	

■ HH type: X high speed/Y high speed

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~100 (Every 50mm)	150~250 (Every 50mm)	300~400 (Every 50mm)	450~500 (Every 50mm)
0.1	10	9.5	9	8.5
0.3	9	8.5	8	7.5
0.5	4	3.5	3	2.5

* When both X and Y axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50	100	150	200	250	300	350	400	450	500
50	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA16C Y-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
PM2		RCON-PCF	P-159

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis
Axis configuration		RCP6-WSA16C	RCP6-SA8C
Stroke (Every 50mm)		50~1100mm	50~500mm
Max. speed *	MH	210mm/s	400mm/s
	HH	365mm/s	650mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor
Ball screw lead	MH	10mm	20mm
	HH	20mm	
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ16mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

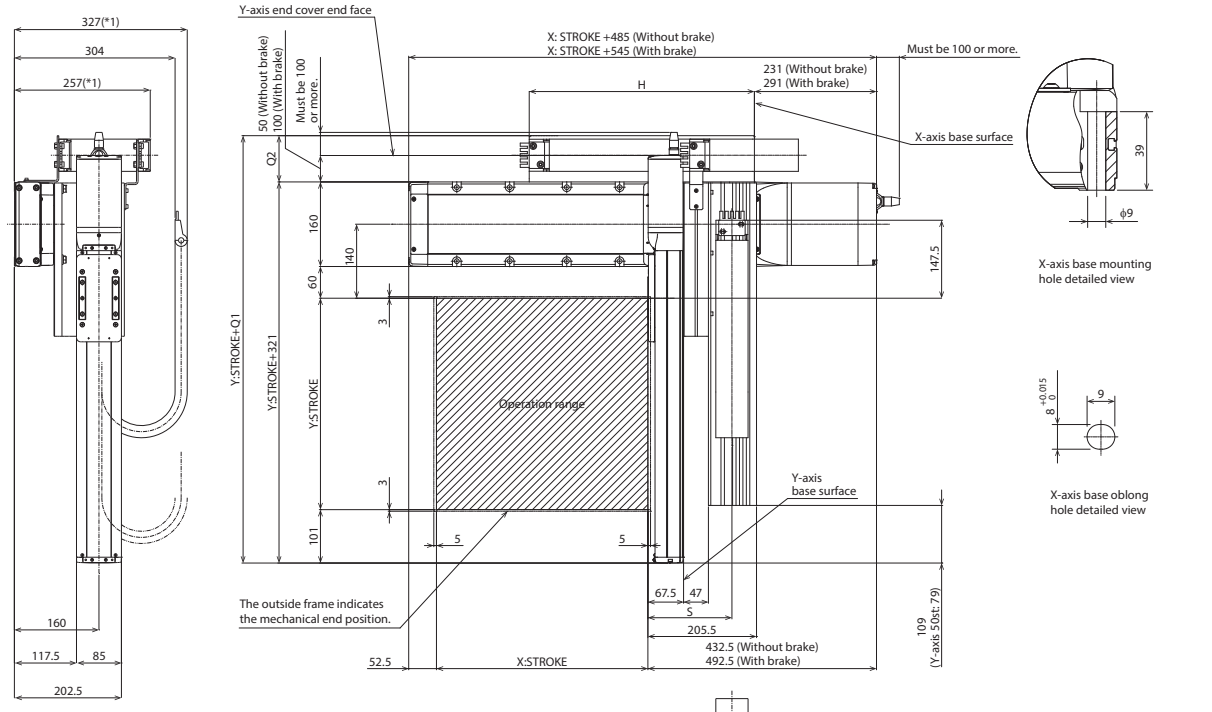
Type	Option code	Reference page	X-axis	Y-axis
Brake *	B	See P.134	○	○
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

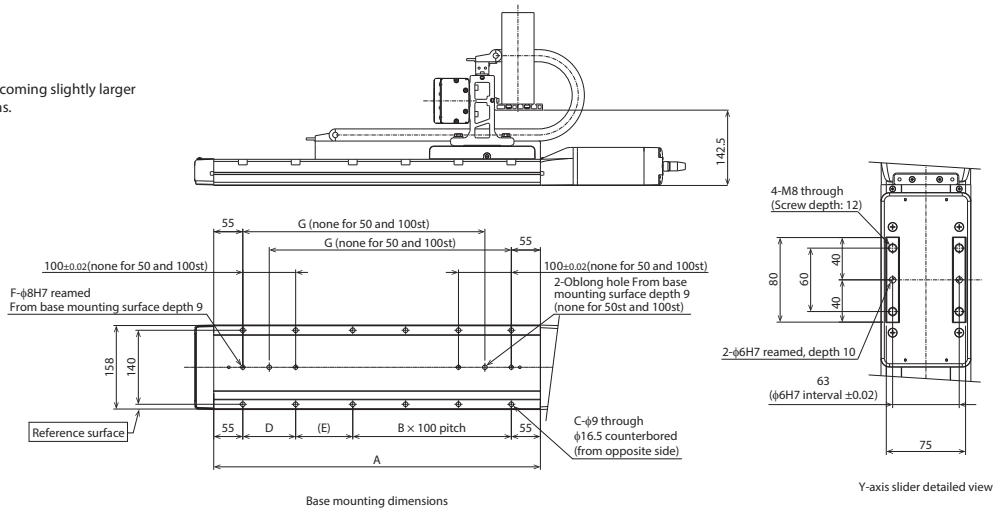
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions

Y-axis slider detailed view

(*) Notes

**The X-axis cable track guide rail is fixed on the X-axis body.
Also, the moving end of the Y-axis cable track is to be fixed to a plate or the like mounted on the Y-axis slider by the customer. (See P.136)**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776

Cable track size	CT	CTM	CTL	CTXL
Q1	396.5	408.5	423.5	441.5
Q2	75.5	87.5	102.5	120.5
S	152.5	159	165.5	–

* Dimensions Q1, Q2 and S change depending on the size of the cable track.

IK2-P6YBD1□□S

RCP6 2-axis configurations

Y-axis: SA6R (side-mounted)
Z-axis: SA4R (side-mounted)

■ Model Specification Items

IK2 — P6YBD1□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBD1□ □S	WA	□ □	□B□	□	□	□	□

- Series: IK2
- Type: P6YBD1□ □S
  - Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3)
  - Speed Type: SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed
- Encoder Type: WA — Encoder Type: WA: Battery-less Absolute
- First Axis (Y-axis): □ □ — Stroke: 5: 50mm ~ (Every 50mm)
- Second Axis (Z-axis): □B□ — Options: Refer to Options table below.
- Controller: □ — Controller: PM1, PM2 (Refer to Applicable Controllers table below.)
- Cable: □ — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- Cable: □ — First Wiring: Refer to Cable Track table below.
- Cable: □ — Second Wiring

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1.5
0.3	1.5
0.5	1.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150
50	○	○	○
100	○	○	○
150	○	○	○
200	○	○	○
250	○	○	○
300	○	○	○
350	○	○	○
400	○	○	○
450	○	○	○
500	○	○	○
550	○	○	○
600	○	○	○
650	○	○	○
700	○	○	○
750	○	○	○
800	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA6R Z-axis : SA4R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~150mm
Max. speed *	SM	800mm/s	350mm/s
	SH		610mm/s
Motor size		42□ Stepper motor	35□ Stepper motor
Ball screw lead	SM	20mm	5mm
	SH		10mm
Drive system		Ball screw Φ10mm rolled C10	Ball screw Φ8mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

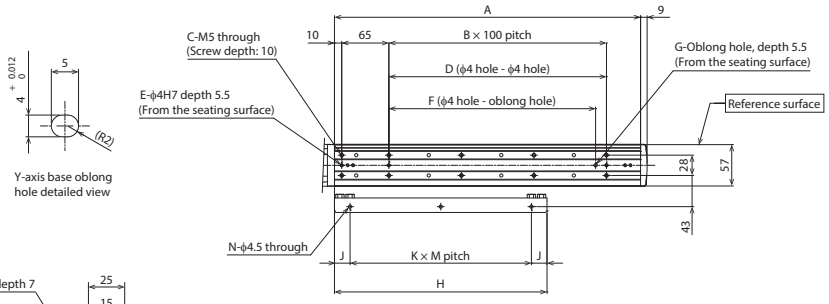
Type	Option code	Reference page	Y-axis	Z-axis
Brake	B	See P.134	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	○	Cannot be selected
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.

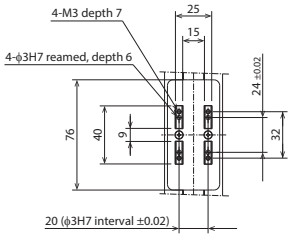
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

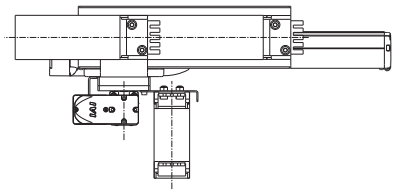
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



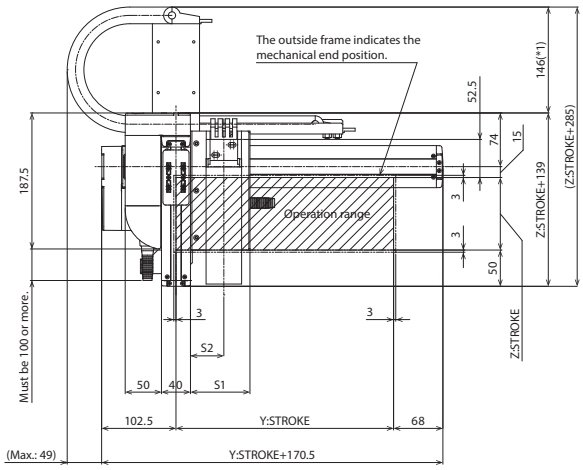
Base, guide rail mounting dimensions

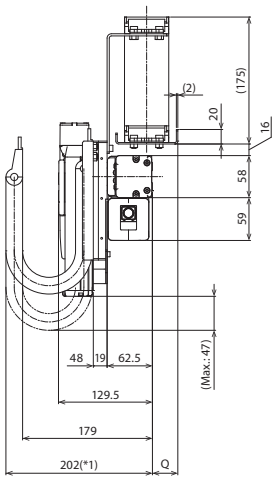


Z-axis slider detailed view



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBD2□□S

RCP6 2-axis configurations

Y-axis: SA6C (straight)
Z-axis: SA4R (side-mounted)

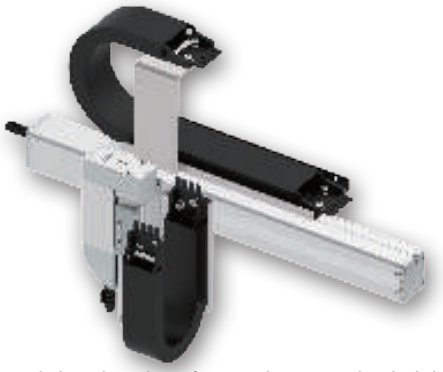
■ Model Specification Items

IK2 — P6YBD2□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBD2□ □S	WA	□ □	□B□	□	□	□	□

- Type — Configuration Direction: 1 to 2. Refer to Robot Type Descriptions on page 3. Speed Type: SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed
- Encoder Type: WA: Battery-less Absolute
- First Axis (Y-axis) — Stroke: 5: 50mm ~ (Every 50mm)
- Second Axis (Z-axis) — Options: Refer to Options table below.
- Controller: Controller PM1 PM2. Refer to Applicable Controllers table below.
- Cable — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring: Refer to Cable Track table below.
- Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1.5
0.3	1.5
0.5	1.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150
50	○	○	○
100	○	○	○
150	○	○	○
200	○	○	○
250	○	○	○
300	○	○	○
350	○	○	○
400	○	○	○
450	○	○	○
500	○	○	○
550	○	○	○
600	○	○	○
650	○	○	○
700	○	○	○
750	○	○	○
800	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA6C Z-axis : SA4R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA6C	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~150mm
Max. speed *	SM	800mm/s	350mm/s
	SH		610mm/s
Motor size		42□ Stepper motor	35□ Stepper motor
Ball screw lead	SM	20mm	5mm
	SH		10mm
Drive system		Ball screw Φ10mm rolled C10	Ball screw Φ8mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

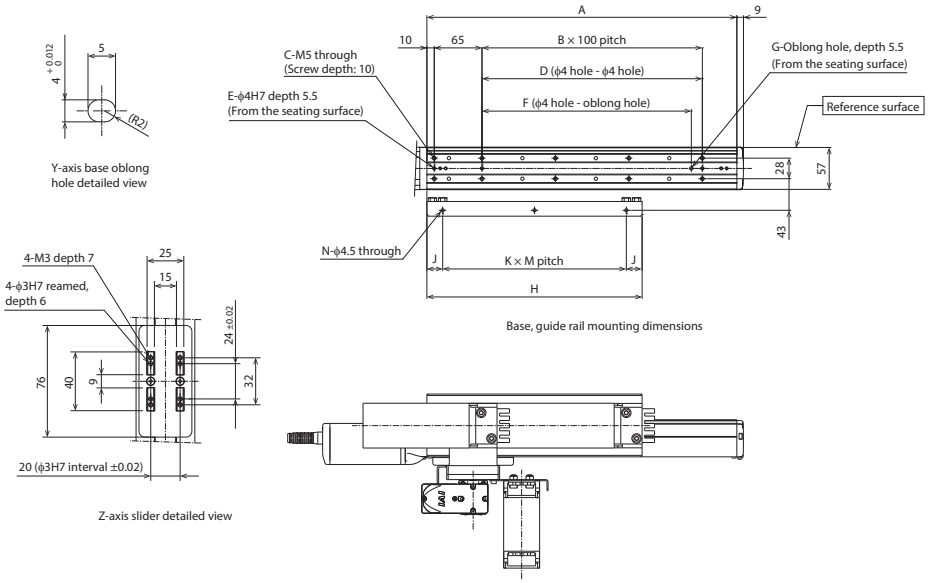
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

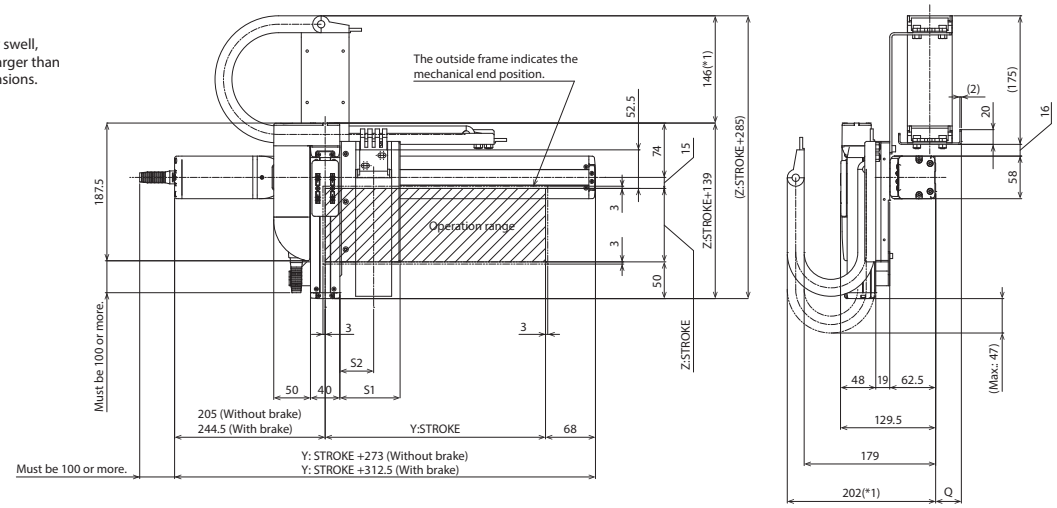
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBD3□□S

RCP6 2-axis configurations

Y-axis: SA6C (straight)
Z-axis: SA4C (straight)

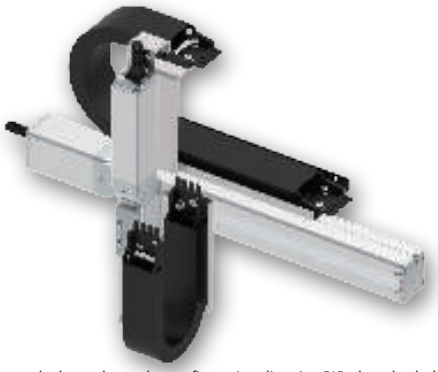
Model Specification Items

IK2 — P6YBD3□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBD3□ □S	WA	□ □	□B□	□	□	□	□

- **Configuration Direction**: 1 to 2. Refer to Robot Type Descriptions on page 3
- **Speed Type**: SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: PM1, PM2. Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1.5
0.3	1.5
0.5	1.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150
50	○	○	○
100	○	○	○
150	○	○	○
200	○	○	○
250	○	○	○
300	○	○	○
350	○	○	○
400	○	○	○
450	○	○	○
500	○	○	○
550	○	○	○
600	○	○	○
650	○	○	○
700	○	○	○
750	○	○	○
800	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA6C Z-axis : SA4C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA6C	RCP6-SA4C
Stroke (Every 50mm)		50~800mm	50~150mm
Max. speed *	SM	800mm/s	350mm/s
	SH		610mm/s
Motor size		42□ Stepper motor	35□ Stepper motor
Ball screw lead	SM	20mm	5mm
	SH		10mm
Drive system		Ball screw Φ10mm rolled C10	Ball screw Φ8mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

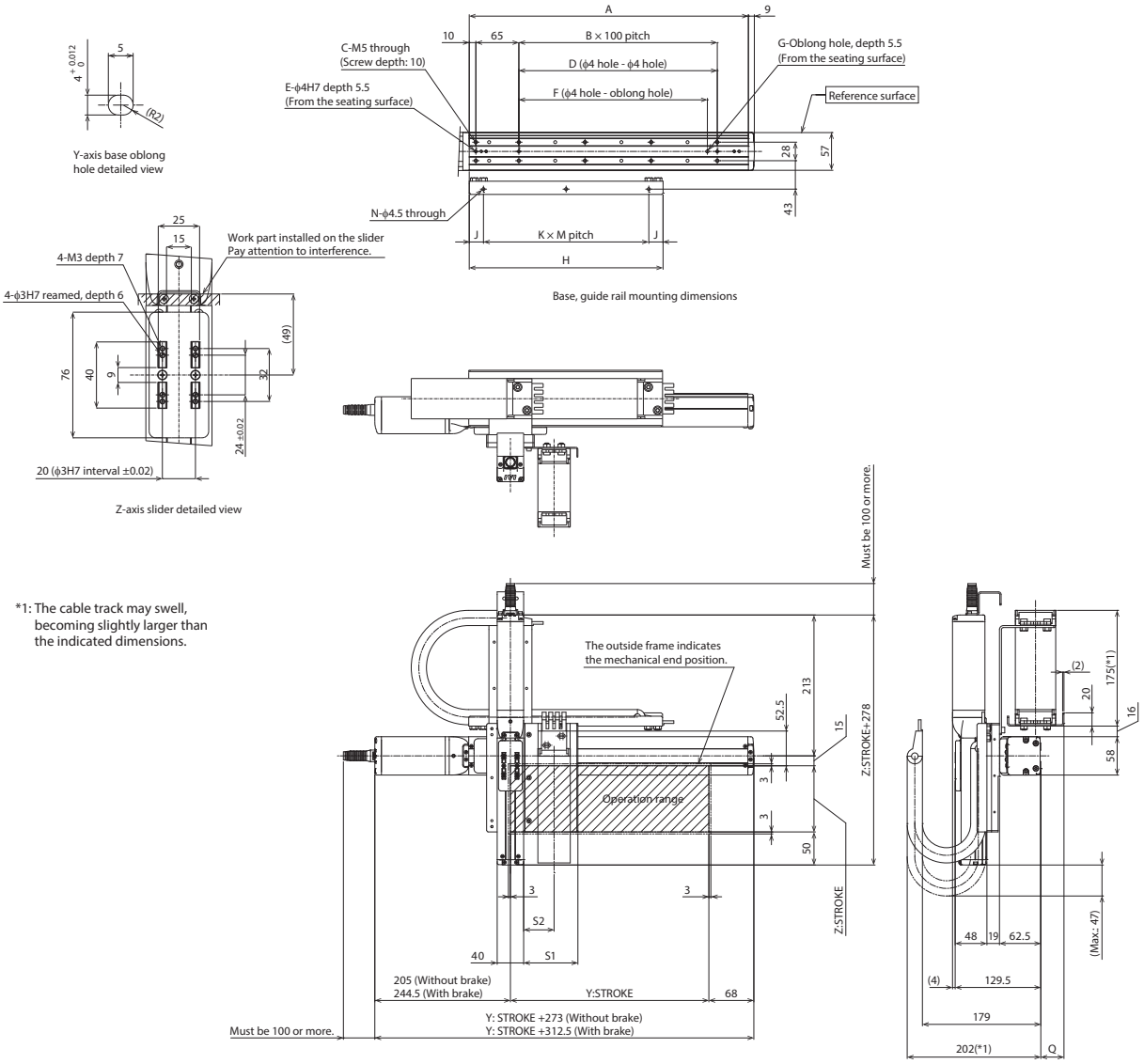
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBC1□□S

RCP6 2-axis configurations

Y-axis: SA7R (side-mounted)
Z-axis: SA6R (side-mounted)

Model Specification Items

IK2 — P6YBC1□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBC1□ □S	WA	□ □	□B□	□	□	□	□

- **Configuration Direction**: 1 to 2 — Refer to Robot Type Descriptions on page 3
- **Speed Type**: SL: Y Ultra High Speed/Z Low Speed; SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: PM1, PM2 — Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ **SL type: Y ultra high speed/ Z low speed**

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	3
0.3	3
0.5	2.5

■ **SM type: Y ultra high speed/ Z medium speed**

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ **SH type: Y ultra high speed/ Z high speed**

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ **SS type: Y ultra high speed/ Z ultra high speed**

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200
50	○	○	○	○
100	○	○	○	○
150	○	○	○	○
200	○	○	○	○
250	○	○	○	○
300	○	○	○	○
350	○	○	○	○
400	○	○	○	○
450	○	○	○	○
500	○	○	○	○
550	○	○	○	○
600	○	○	○	○
650	○	○	○	○
700	○	○	○	○
750	○	○	○	○
800	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA7R Z-axis : SA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~200mm
Max. speed *	SL	640mm/s	170mm/s
	SM		340mm/s
	SH		680mm/s
	SS		800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SL	24mm	3mm
	SM		6mm
	SH		12mm
	SS		20mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

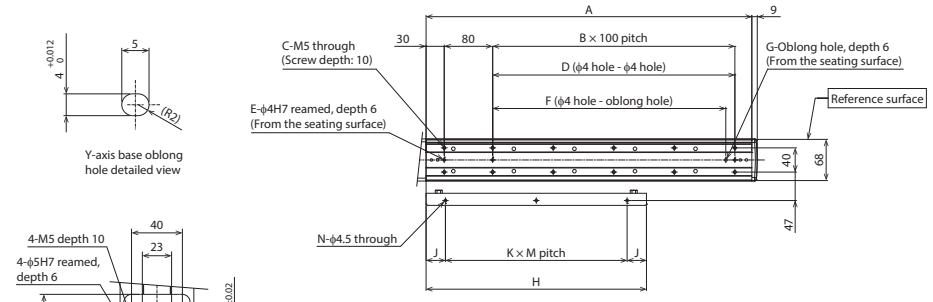
Type	Option code	Reference page	Y-axis	Z-axis
Brake	B	See P.134	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	○	Cannot be selected
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

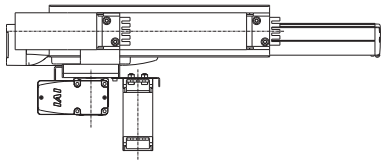
* Be sure to specify.

Dimensions

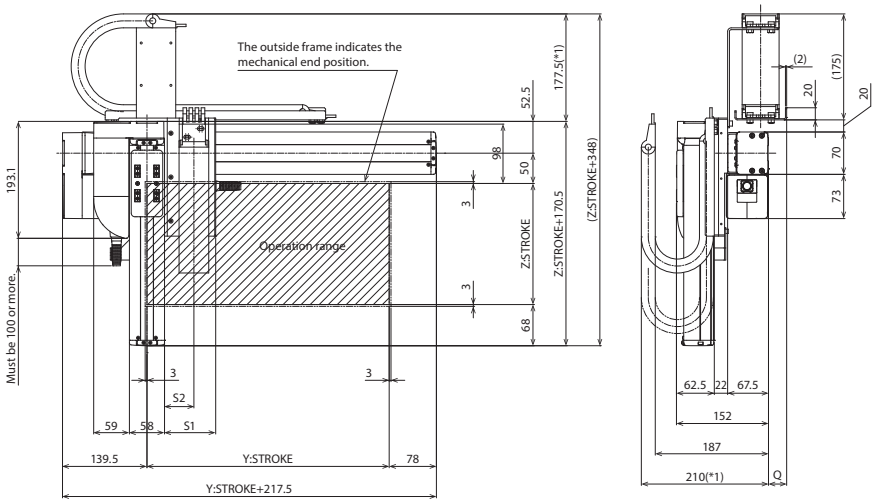
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.





*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBC2□□S

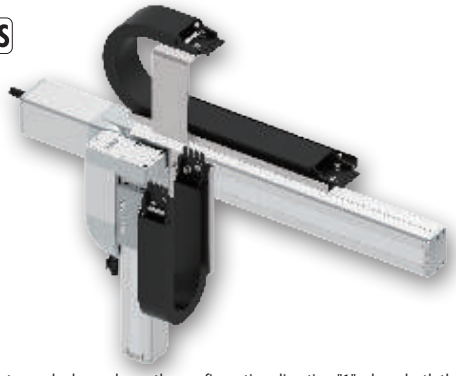
RCP6 2-axis configurations

Y-axis: SA7C (straight)
Z-axis: SA6R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)		Controller	Cable		
IK2	P6YBC2□ □S	WA	□	□	□	B□	□	□	□	□
Configuration Direction 1 to 2 Refer to Robot Type Descriptions on page 3	Speed Type SL: Y Ultra High Speed/Z Low Speed SM: Y Ultra High Speed/Z Medium Speed SH: Y Ultra High Speed/Z High Speed SS: Y Ultra High Speed/Z Ultra High Speed	Encoder Type WA: Battery-less Absolute	Stroke 5: 50mm ↓ (Every 50mm)		Options Refer to Options table below.		Controller PM1 PM2 Refer to Applicable Controllers table below.	Cable Length 1L : 1m 3L : 3m 5L : 5m □L : □m	First Wiring Refer to Cable Track table below.	Second Wiring

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ SL type: Y ultra high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	3
0.3	3
0.5	2.5

■ SM type: Y ultra high speed/ Z medium speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200
50	○	○	○	○
100	○	○	○	○
150	○	○	○	○
200	○	○	○	○
250	○	○	○	○
300	○	○	○	○
350	○	○	○	○
400	○	○	○	○
450	○	○	○	○
500	○	○	○	○
550	○	○	○	○
600	○	○	○	○
650	○	○	○	○
700	○	○	○	○
750	○	○	○	○
800	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA7C Z-axis : SA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~200mm
Max. speed *	SL	640mm/s	170mm/s
	SM		340mm/s
	SH		680mm/s
	SS		800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SL	24mm	3mm
	SM		6mm
	SH		12mm
	SS		20mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

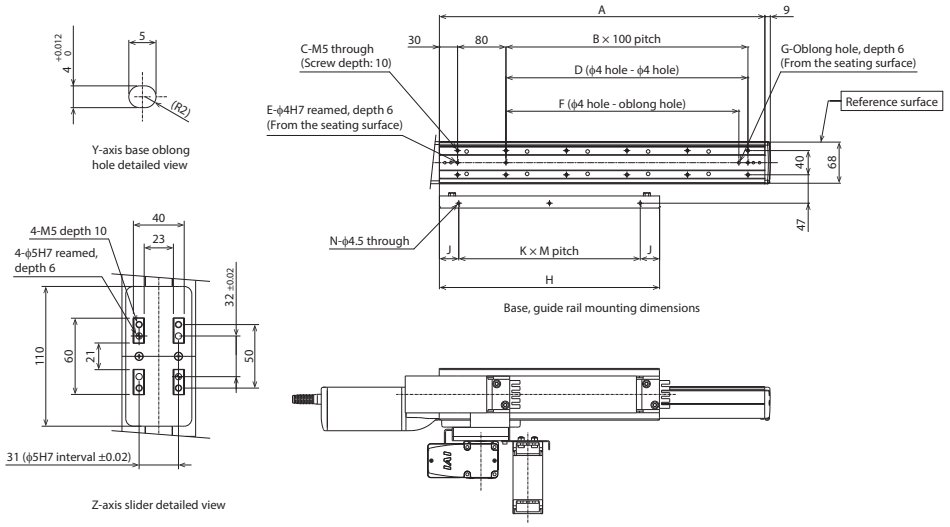
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

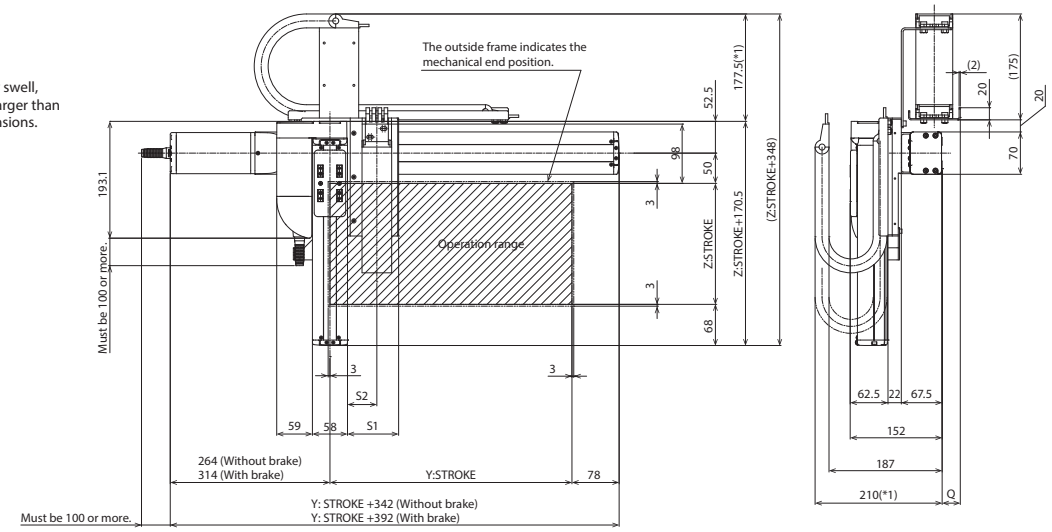
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBC3□□S

RCP6 2-axis configurations

Y-axis: SA7C (straight)
Z-axis: SA6C (straight)

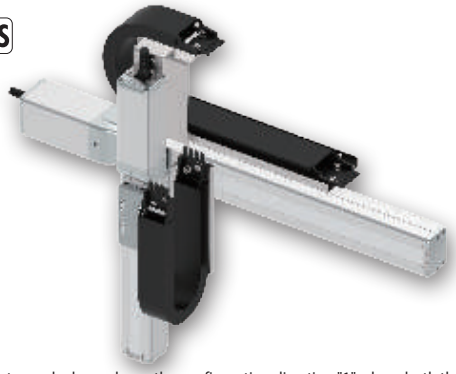
Model Specification Items

IK2 — P6YBC3□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBC3□ □S	WA	□ □	□B□	□	□	□	□

- **Configuration Direction**: 1 to 2 — Refer to Robot Type Descriptions on page 3
- **Speed Type**: SL: Y Ultra High Speed/Z Low Speed; SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: PM1, PM2 — Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ **SL type: Y ultra high speed/ Z low speed**

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	3
0.3	3
0.5	2.5

■ **SM type: Y ultra high speed/ Z medium speed**

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ **SH type: Y ultra high speed/ Z high speed**

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ **SS type: Y ultra high speed/ Z ultra high speed**

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200
50	○	○	○	○
100	○	○	○	○
150	○	○	○	○
200	○	○	○	○
250	○	○	○	○
300	○	○	○	○
350	○	○	○	○
400	○	○	○	○
450	○	○	○	○
500	○	○	○	○
550	○	○	○	○
600	○	○	○	○
650	○	○	○	○
700	○	○	○	○
750	○	○	○	○
800	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA7C Z-axis : SA6C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6C
Stroke (Every 50mm)		50~800mm	50~200mm
Max. speed *	SL	640mm/s	170mm/s
	SM		340mm/s
	SH		680mm/s
	SS		800mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SL	24mm	3mm
	SM		6mm
	SH		12mm
	SS		20mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

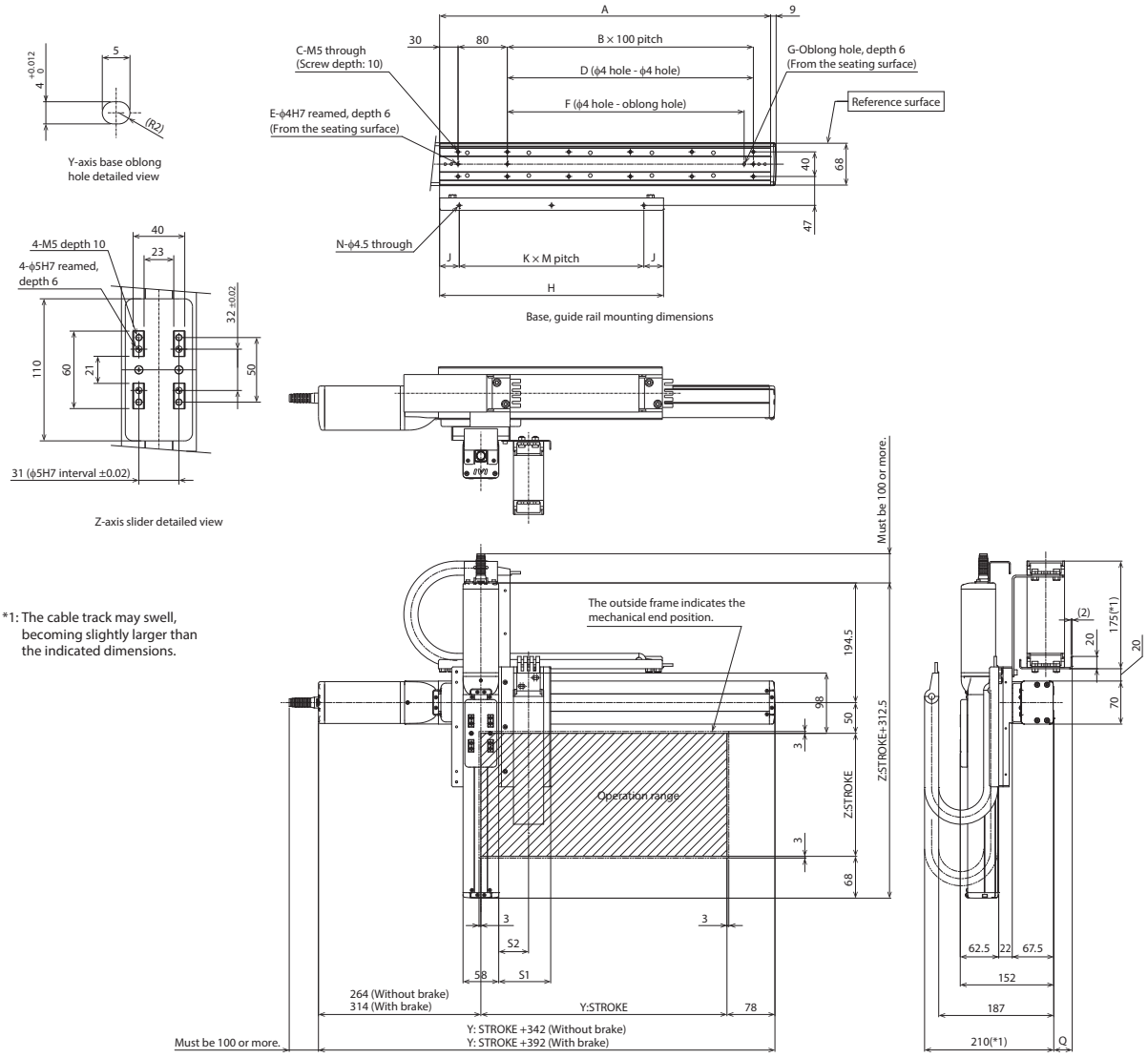
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBB1□□S

RCP6 2-axis configurations

Y-axis: SA8R (side-mounted)
Z-axis: SA7R (side-mounted)

Model Specification Items

IK2 — P6YBB1□□S — WA — □□ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBB1□□S	WA	□□	□B□	□	□	□	□

- **Configuration Direction**: 1 to 2 — Refer to Robot Type Descriptions on page 3
- **Speed Type**: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: PM1, PM2 — Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	9
0.3	8
0.5	7

■ HM type: Y high speed/ Z medium speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	4.5
0.3	4
0.5	3.5

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	3
0.3	2
0.5	1.5

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	1.5	
0.3	1.5	
0.5	1.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○
850	○	○	○	○	○	○
900	○	○	○	○	○	○
950	○	○	○	○	○	○
1000	○	○	○	○	○	○
1050	○	○	○	○	○	○
1100	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Z-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	Y-axis : SA8R	RCON-PCF	P-159
	Z-axis : SA7R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8R	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~300mm
Max. speed *	HL	400mm/s	105mm/s
	HM		280mm/s
	SH	650mm/s	560mm/s
	SS		640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
	SS		24mm
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

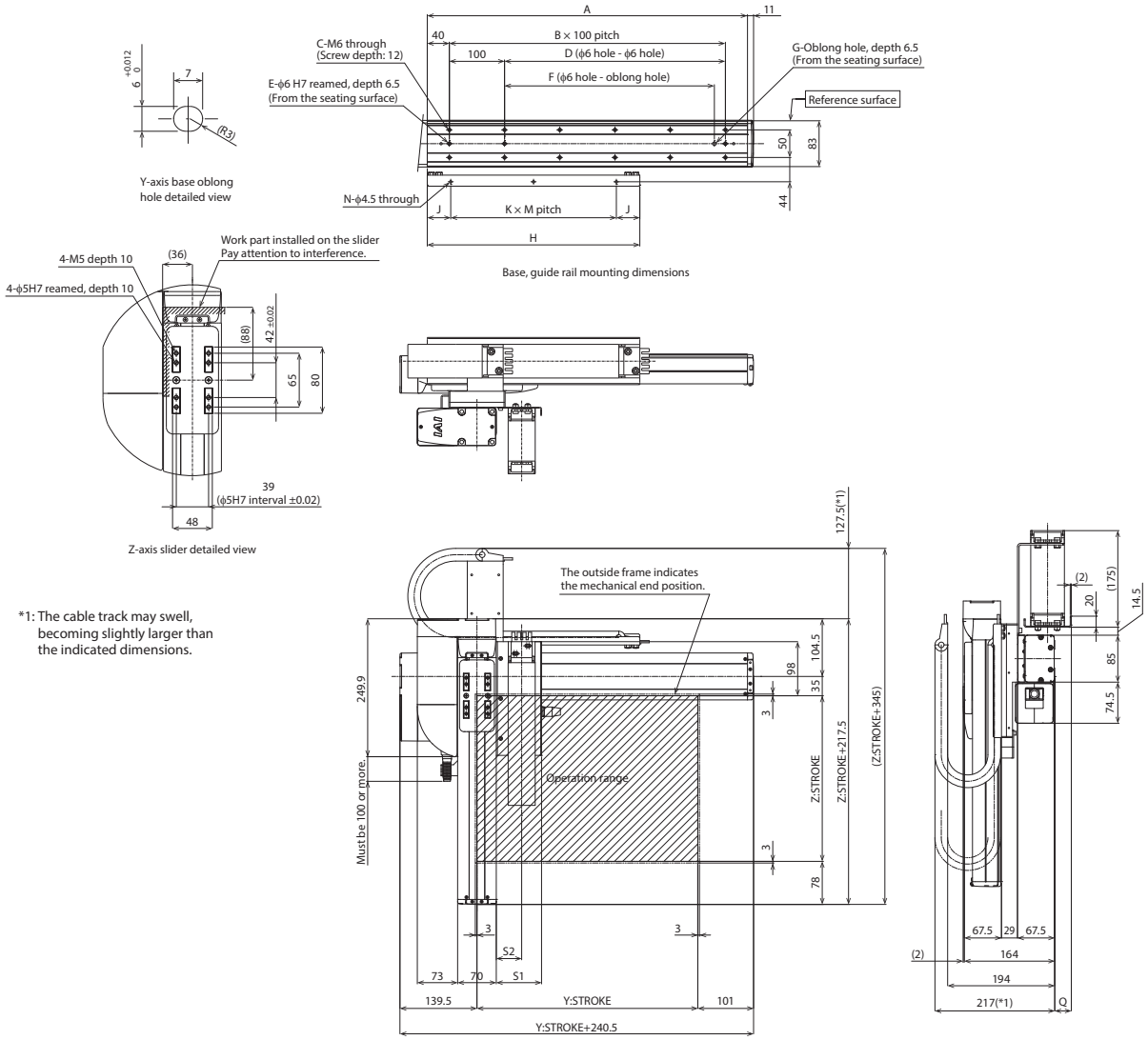
Type	Option code	Reference page	Y-axis	Z-axis
Brake	B	See P.134	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	○	Cannot be selected
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBB2□□S

RCP6 2-axis configurations

Y-axis: SA8C (straight)
Z-axis: SA7R (side-mounted)

Model Specification Items

IK2 — P6YBB2□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBB2□ □S	WA	□ □	□B□	□	□	□	□

- **Configuration Direction**: 1 to 2 — Refer to Robot Type Descriptions on page 3
- **Speed Type**: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: PM1, PM2 — Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

(Unit: kg)

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	9
0.3	8
0.5	7

■ HM type: Y high speed/ Z medium speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	4.5
0.3	4
0.5	3.5

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	3
0.3	2
0.5	1.5

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	1.5	
0.3	1.5	
0.5	1.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○
850	○	○	○	○	○	○
900	○	○	○	○	○	○
950	○	○	○	○	○	○
1000	○	○	○	○	○	○
1050	○	○	○	○	○	○
1100	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Z-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	Y-axis : SA8C	RCON-PCF	P-159
	Z-axis : SA7R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~300mm
Max. speed *	HL	400mm/s	105mm/s
	HM		280mm/s
	SH	650mm/s	560mm/s
	SS		640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
	SS		24mm
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

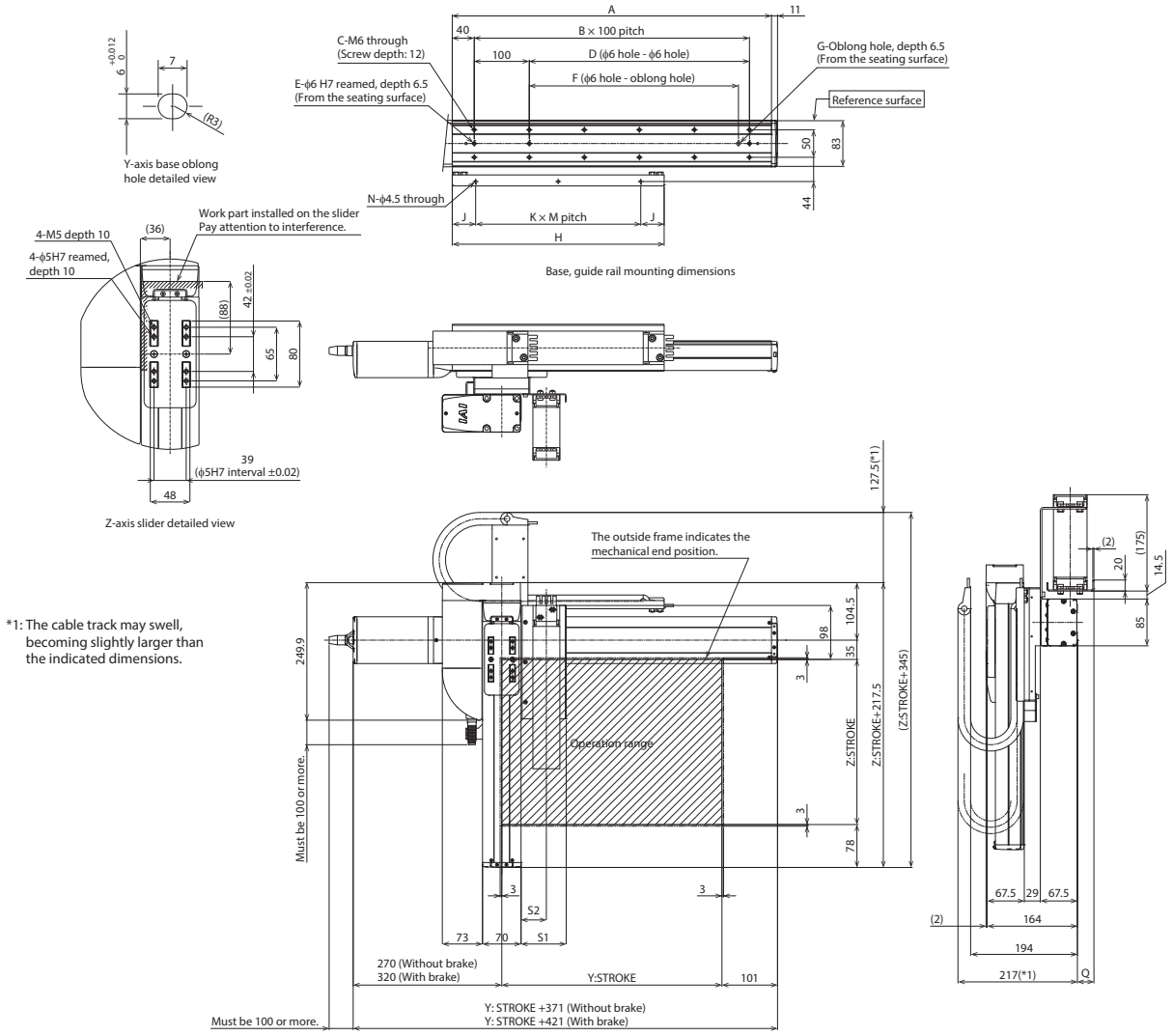
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBB3□□S

RCP6 2-axis configurations

Y-axis: SA8C (straight)
Z-axis: SA7C (straight)

Model Specification Items

IK2 — P6YBB3□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)	Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBB3□ □S	WA	□ □	□B□	□	□	□	□

- **Configuration Direction**: 1 to 2 — Refer to Robot Type Descriptions on page 3
- **Speed Type**: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed; SS: Y Ultra High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table below.
- **Controller**: PM1, PM2 — Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**: Refer to Cable Track table below.
- **Second Wiring**

RoHS

The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	9
0.3	8
0.5	7

■ HM type: Y high speed/ Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	4.5
0.3	4
0.5	3.5

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~300 (Every 50mm)
0.1	3
0.3	2
0.5	1.5

■ SS type: Y ultra high speed/ Z ultra high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	1.5	
0.3	1.5	
0.5	1.5	1

* When both Y and Z axes have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	100	150	200	250	300
50	○	○	○	○	○	○
100	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○
850	○	○	○	○	○	○
900	○	○	○	○	○	○
950	○	○	○	○	○	○
1000	○	○	○	○	○	○
1050	○	○	○	○	○	○
1100	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Z-axis : SA7C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	Y-axis : SA8C	RCON-PCF	P-159
	Z-axis : SA7C	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis lateral)	Second wiring (Z-axis lateral)
Without cable track (cable only)	N	See P.136	○	○
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7C
Stroke (Every 50mm)		50~1100mm	50~300mm
Max. speed *	HL	400mm/s	105mm/s
	HM		280mm/s
	SH	650mm/s	560mm/s
	SS		640mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
	SS		24mm
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

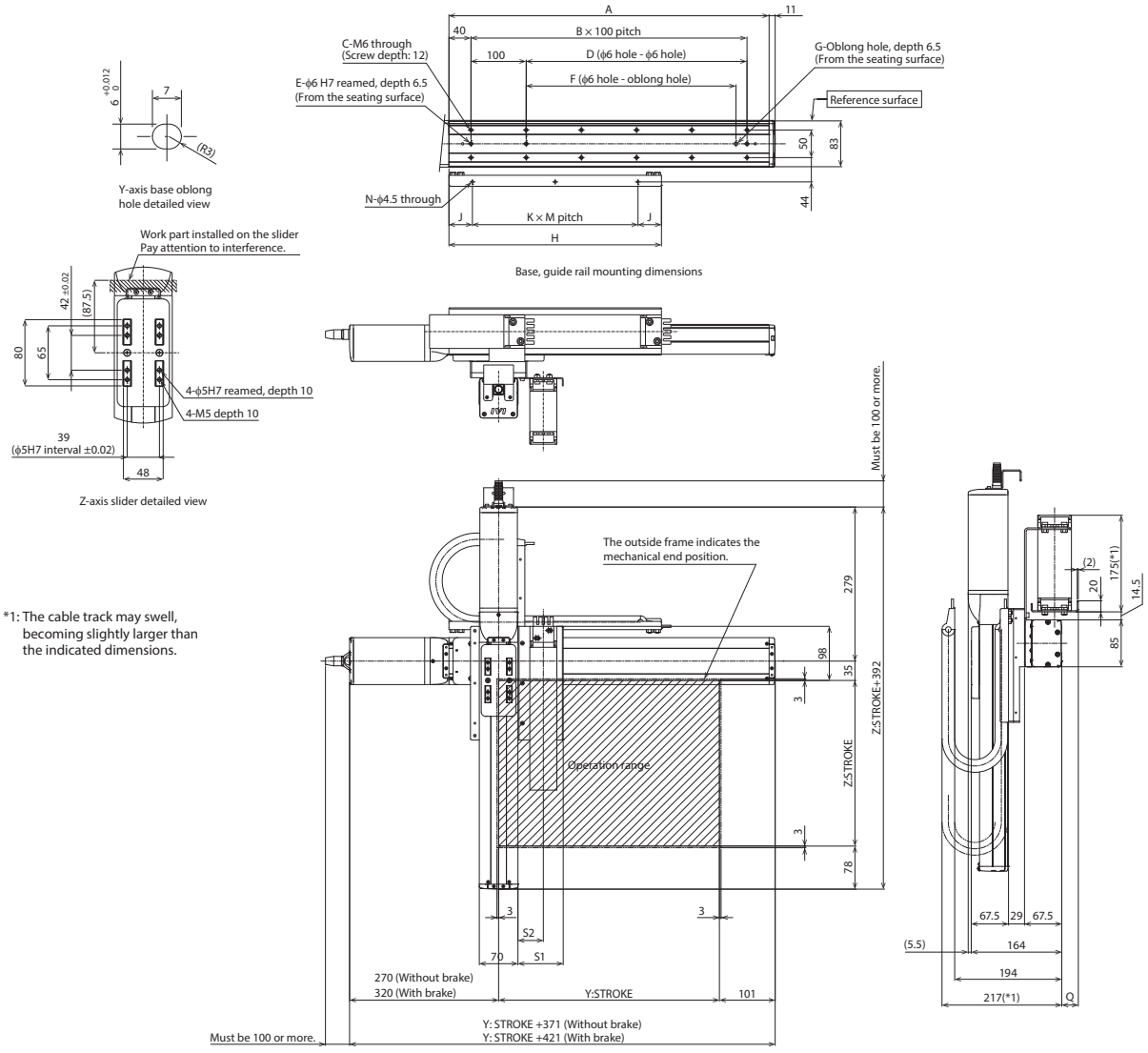
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	○

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit. Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBI1□□S

RCP6 2-axis configurations

Y-axis: SA6R (side-mounted)
Z-axis: TA4R (side-mounted)

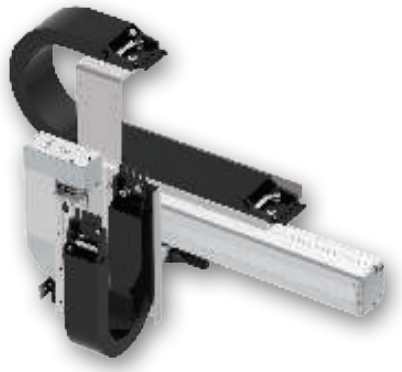
Model Specification Items

IK2 — P6YBI1□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBI1□ □S	WA	□	□	□B□	□	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3) / Speed Type: SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 50:50mm ~ (Every 50mm)	Stroke: 5: 50mm * ~ (Every 25mm)	Options: Refer to Options table below.	Controller PM1 PM2: Refer to Applicable Controllers table below.	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SH type: Y ultra high speed/Z high speed (Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 25mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150
50	○	○	○	○	○
100	○	○	○	○	○
150	○	○	○	○	○
200	○	○	○	○	○
250	○	○	○	○	○
300	○	○	○	○	○
350	○	○	○	○	○
400	○	○	○	○	○
450	○	○	○	○	○
500	○	○	○	○	○
550	○	○	○	○	○
600	○	○	○	○	○
650	○	○	○	○	○
700	○	○	○	○	○
750	○	○	○	○	○
800	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA6R Z-axis : TA4R	PCON-CFB/CGFB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	Y-axis	Z-axis
Axis configuration	RCP6-SA6R	RCP6-TA4R
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	800mm/s	350mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	10mm
Drive system	Ball screw Φ10mm rolled C10	Ball screw Φ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

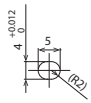
Type	Option code	Reference page	Y-axis	Z-axis
Brake	B	See P.134	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	○	Cannot be selected
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.

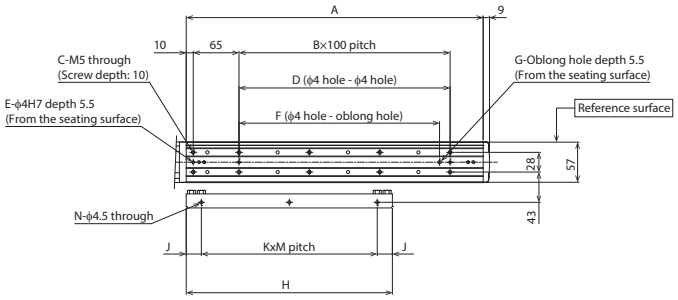
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

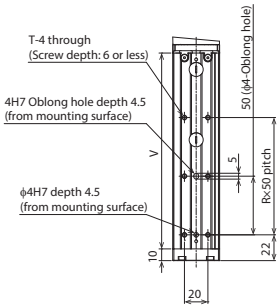
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

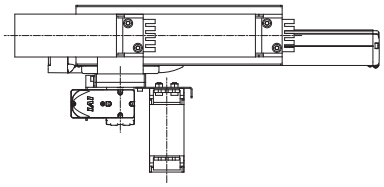


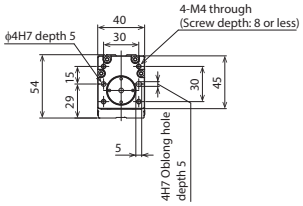
Y-axis base oblong hole detailed view



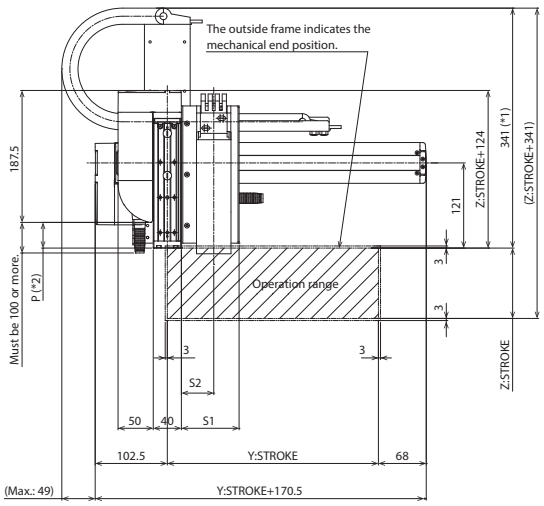
Base, guide rail mounting dimensions

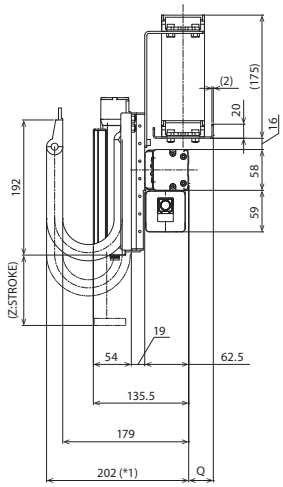






Z-axis table detailed view





*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150
P (*2)	-13.5	11.5	36.5	61.5	86.5
R	1	2	2	3	3
T	4	6	6	8	8
V	117	142	167	192	217

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBI2□□S

RCP6 2-axis configurations

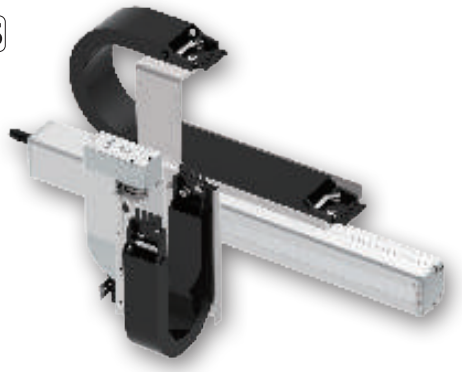
Y-axis: SA6C (straight)
Z-axis: TA4R (side-mounted)

Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)		Controller	Cable		
IK2	P6YBI2□ □S	WA	□	□	□	B□	□	□	□	□
Configuration Direction 1 to 2 Refer to Robot Type Descriptions on page 3	Speed Type SH: Y Ultra High Speed/Z High Speed	Encoder Type WA: Battery-less Absolute	Stroke 5:50mm ↕ (Every 50mm)	Stroke 5: 50mm * ↕ (Every 25mm)		Options Refer to Options table below.	Controller PM1 PM2 Refer to Applicable Controllers table below.	Cable Length 1L : 1m 3L : 3m 5L : 5m □L : □m	First Wiring Refer to Cable Track table below.	Second Wiring

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SH type: Y ultra high speed/Z high speed (Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 25mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150
50	○	○	○	○	○
100	○	○	○	○	○
150	○	○	○	○	○
200	○	○	○	○	○
250	○	○	○	○	○
300	○	○	○	○	○
350	○	○	○	○	○
400	○	○	○	○	○
450	○	○	○	○	○
500	○	○	○	○	○
550	○	○	○	○	○
600	○	○	○	○	○
650	○	○	○	○	○
700	○	○	○	○	○
750	○	○	○	○	○
800	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA6C Z-axis : TA4R	PCON-CFB/CGFB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	Y-axis	Z-axis
Axis configuration	RCP6-SA6C	RCP6-TA4R
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	800mm/s	350mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	10mm
Drive system	Ball screw Φ10mm rolled C10	Ball screw Φ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

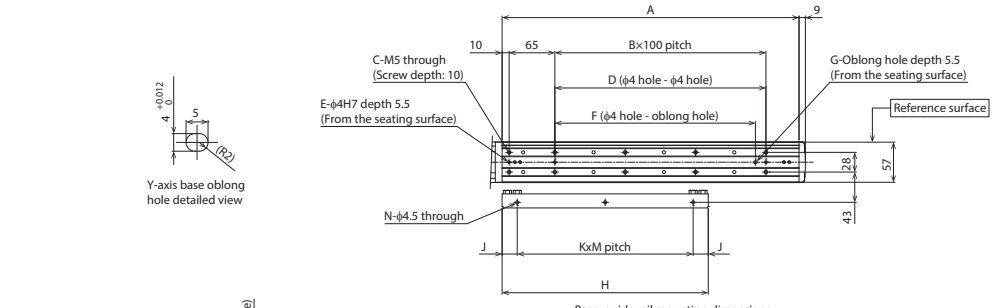
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

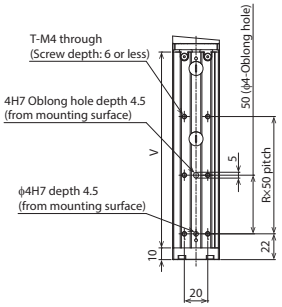
* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

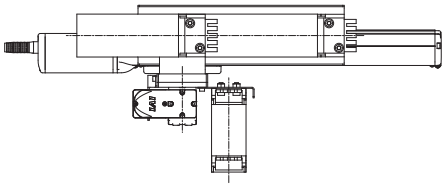
Dimensions

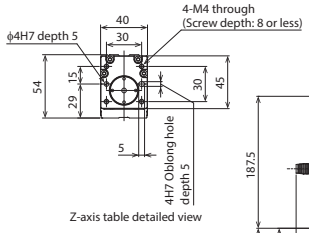
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

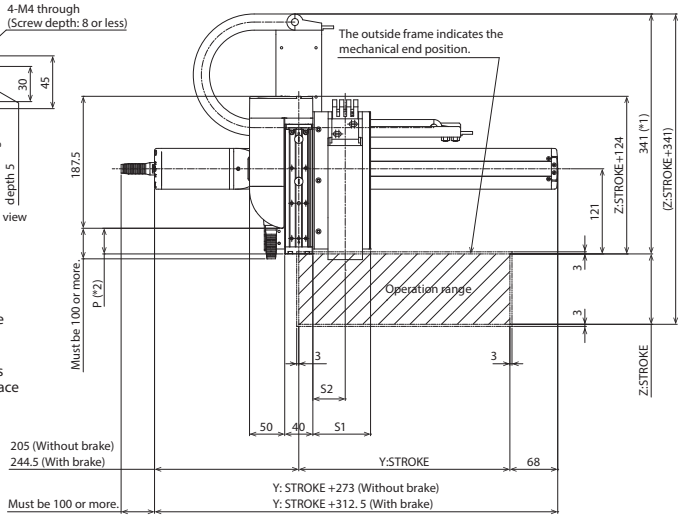
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

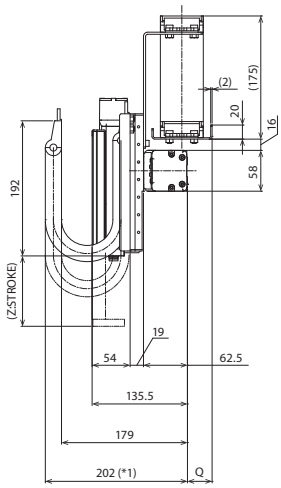












*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150
P (*2)	-13.5	11.5	36.5	61.5	86.5
R	1	2	2	3	3
T	4	6	6	8	8
V	117	142	167	192	217

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBI3□□S

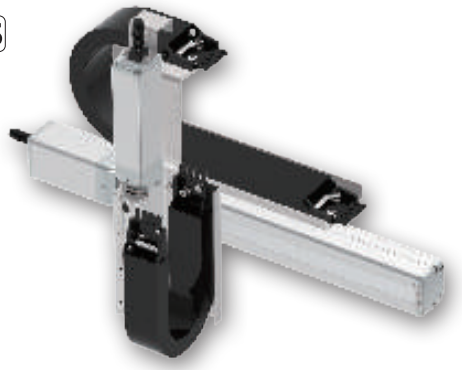
RCP6 2-axis configurations

Y-axis: SA6C (straight)
Z-axis: TA4C (straight)

Model Specification Items

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)		Controller	Cable		
IK2	P6YBI3□ □S	WA	□	□	□	B□	□	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3) / Speed Type: SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Stroke: 5: 50mm * ~ (Every 25mm)	Options: Refer to Options table below.		Controller: PM1 PM2 (Refer to Applicable Controllers table below.)	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring

* In case stroke like 75mm is selected, indicate "7" without 0.5.



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SH type: Y ultra high speed/Z high speed (Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~150 (Every 25mm)
0.1	1
0.3	1
0.5	1

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150
50	○	○	○	○	○
100	○	○	○	○	○
150	○	○	○	○	○
200	○	○	○	○	○
250	○	○	○	○	○
300	○	○	○	○	○
350	○	○	○	○	○
400	○	○	○	○	○
450	○	○	○	○	○
500	○	○	○	○	○
550	○	○	○	○	○
600	○	○	○	○	○
650	○	○	○	○	○
700	○	○	○	○	○
750	○	○	○	○	○
800	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA6C Z-axis : TA4C	PCON-CFB/CGFB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item	Y-axis	Z-axis
Axis configuration	RCP6-SA6C	RCP6-TA4C
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	800mm/s	350mm/s
Motor size	42□ Stepper motor	35□ Stepper motor
Ball screw lead	20mm	10mm
Drive system	Ball screw Φ10mm rolled C10	Ball screw Φ8mm rolled C10
Positioning repeatability	±0.01mm	
Base material	Aluminum	
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

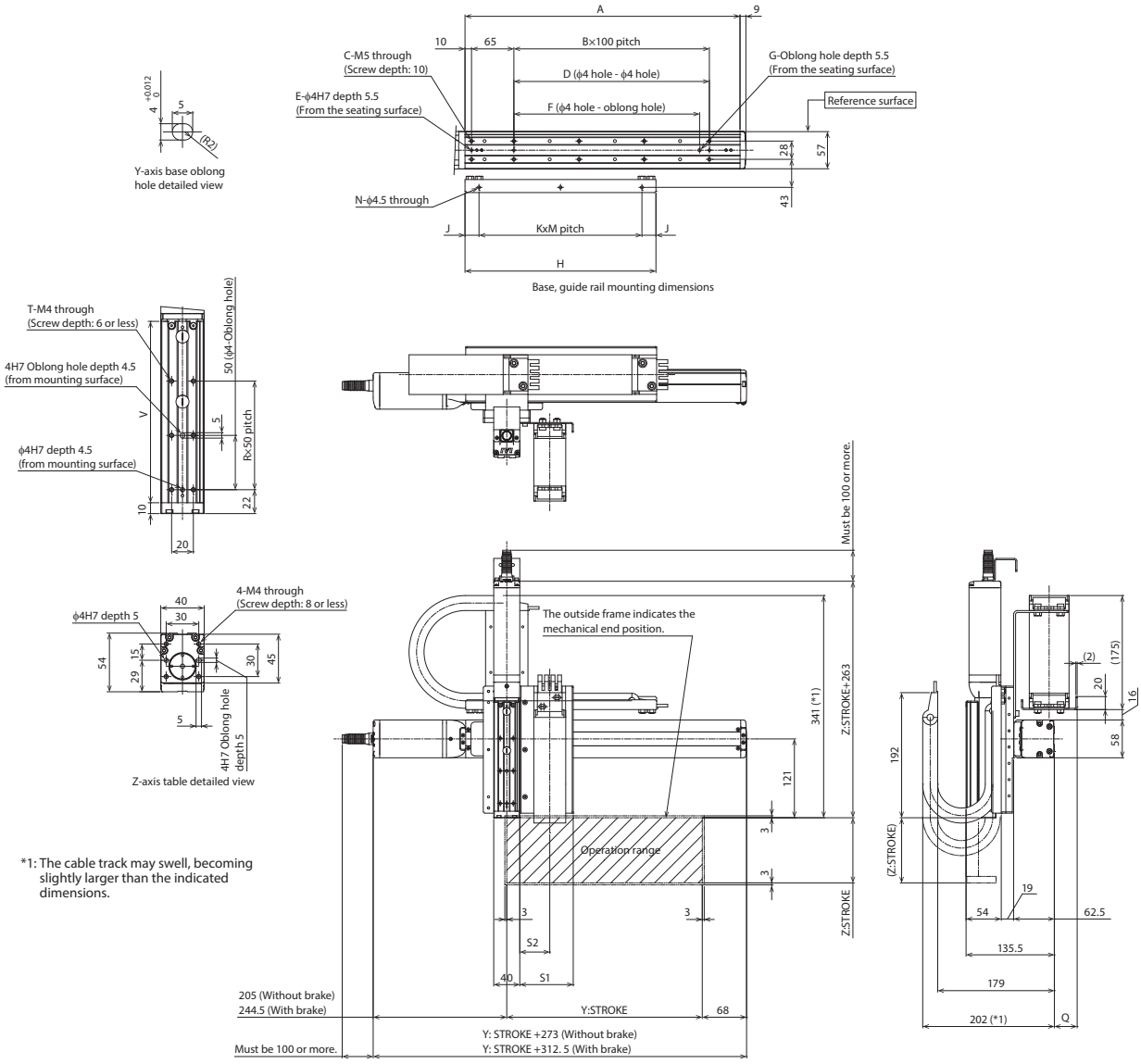
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	168	193	218	243	268	293	318	343	368	393	418	443	468	493	518	543
J	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	9	21.5	34	9
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150
R	1	2	2	3	3
T	4	6	6	8	8
V	117	142	167	192	217

Cable track size	CT	CTM	CTL	CTXL
Q	23	35	50	68
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBH1□□S

RCP6 2-axis configurations

Y-axis: SA7R (side-mounted)
Z-axis: TA6R (side-mounted)

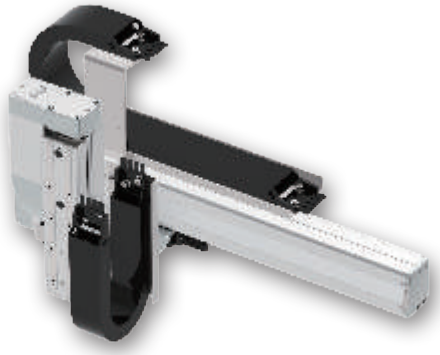
Model Specification Items

IK2 — P6YBH1□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBH1□ □S	WA	□	□	□B□	□	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3) / Speed Type: SM: Y Ultra High Speed/Z Medium Speed, SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Stroke: 5: 50mm * ~ (Every 25mm)	Options: Refer to Options table below.	Controller: PM1, PM2 (Refer to Applicable Controllers table below.)	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	3
0.3	2.5
0.5	2.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	1.5
0.3	1.5
0.5	1.5

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200
50	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA7R Z-axis : TA6R	PCON-CFB/CGFB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7R	RCP6-TA6R
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 25mm)
Max speed *	SM	640mm/s	280mm/s
	SH		440mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SM	24mm	6mm
	SH		12mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

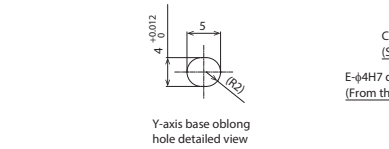
Type	Option code	Reference page	Y-axis	Z-axis
Brake	B	See P.134	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	○	Cannot be selected
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.

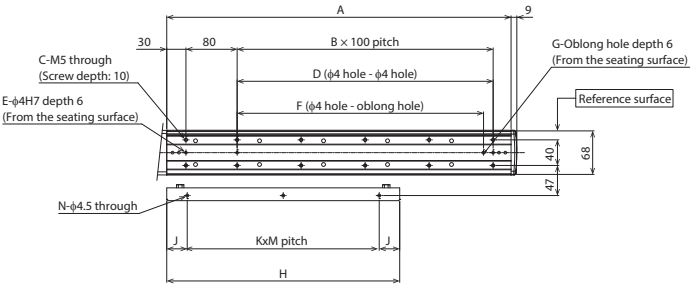
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

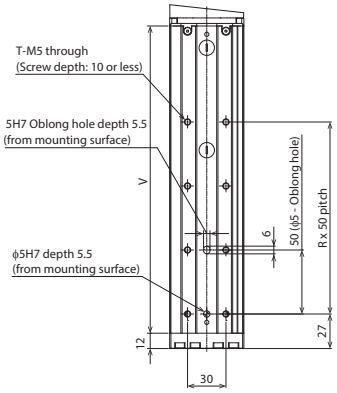
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

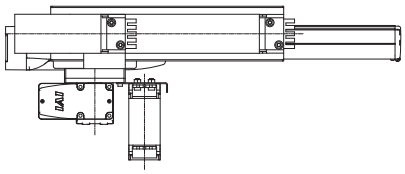


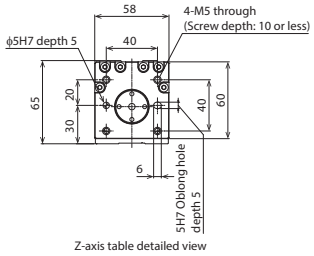
Y-axis base oblong hole detailed view



Base, guide rail mounting dimensions

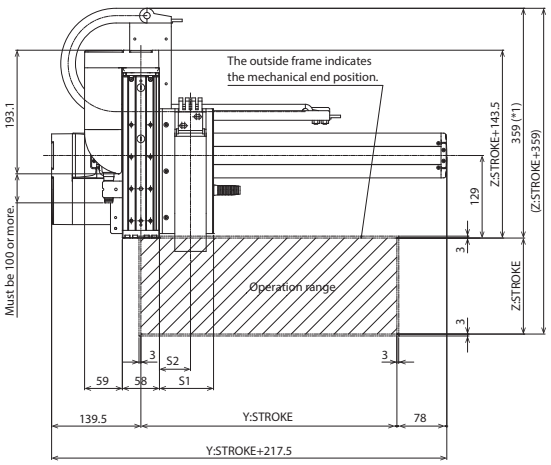


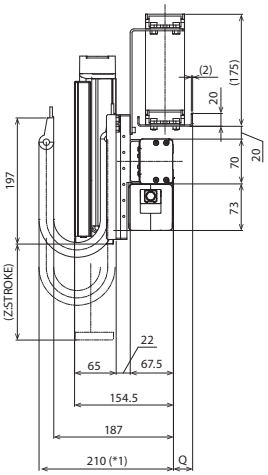




Z-axis table detailed view

*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150	175	200
R	1	2	2	3	3	4	4
T	4	6	6	8	8	10	10
V	140	165	190	215	240	265	290

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBH2□□S

RCP6 2-axis configurations

Y-axis: SA7C (straight)
Z-axis: TA6R (side-mounted)

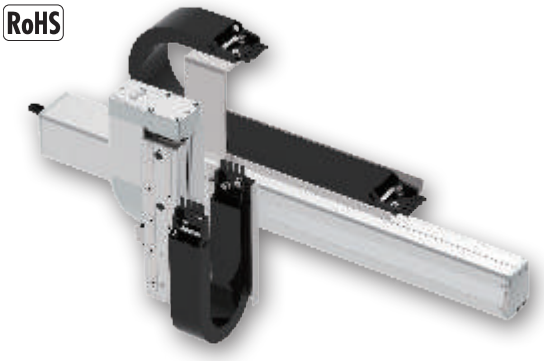
Model Specification Items

IK2 — P6YBH2□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBH2□ □S	WA	□	□	□B□	□	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3) / Speed Type: SM: Y Ultra High Speed/Z Medium Speed, SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm, ↑ (Every 50mm)	Stroke: 5: 50mm*, ↑ (Every 25mm)	Options: Refer to Options table below.	Controller: PM1, PM2 (Refer to Applicable Controllers table below.)	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	3
0.3	2.5
0.5	2.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	1.5
0.3	1.5
0.5	1.5

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200
50	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA7C Z-axis : TA6R	PCON-CFB/CGFB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-TA6R
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 25mm)
Max speed *	SM	640mm/s	280mm/s
	SH		440mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SM	24mm	6mm
	SH		12mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

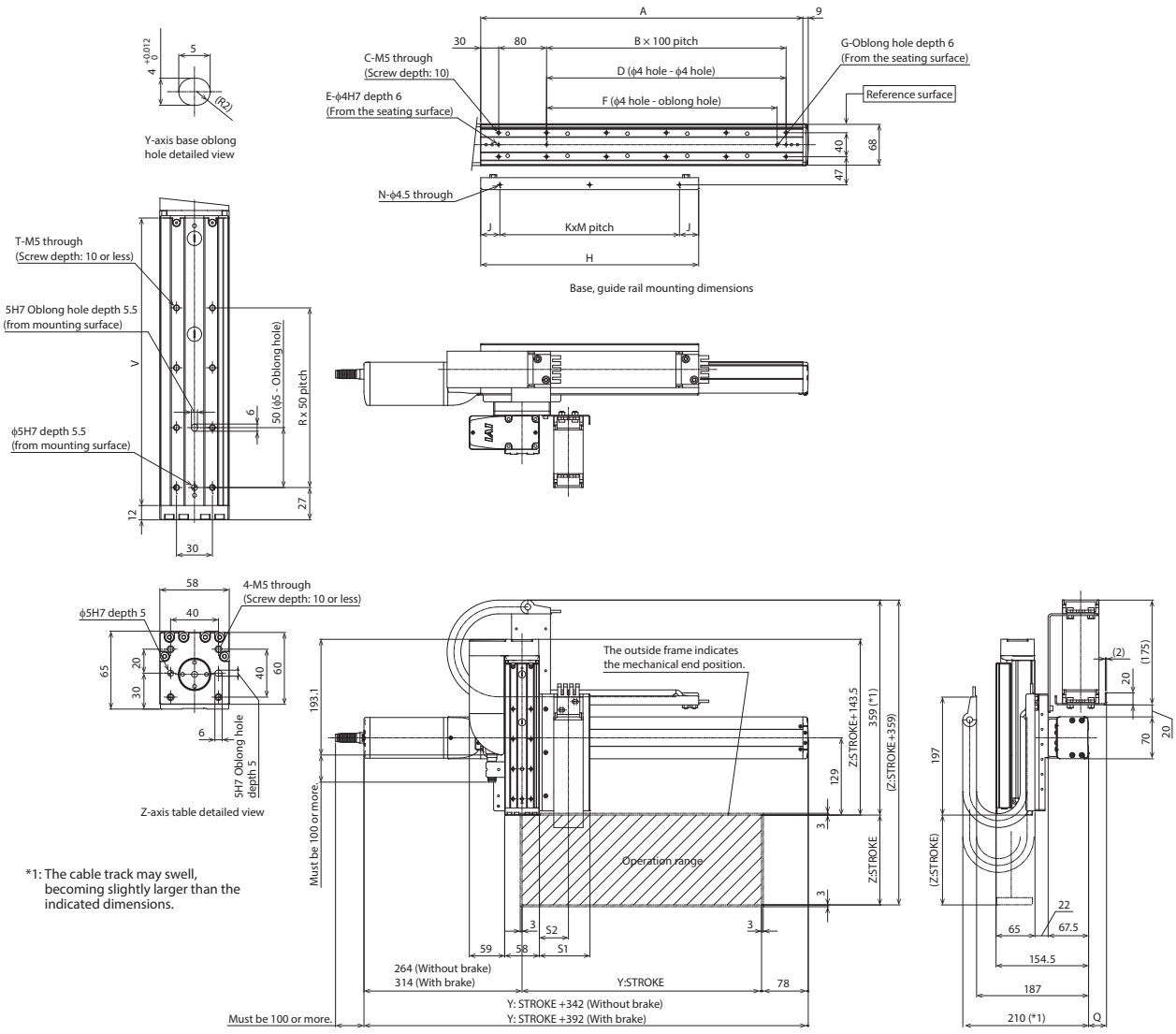
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150	175	200
R	1	2	2	3	3	4	4
T	4	6	6	8	8	10	10
V	140	165	190	215	240	265	290

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBH3□□S

RCP6 2-axis configurations

Y-axis: SA7C (straight)
Z-axis: TA6C (straight)

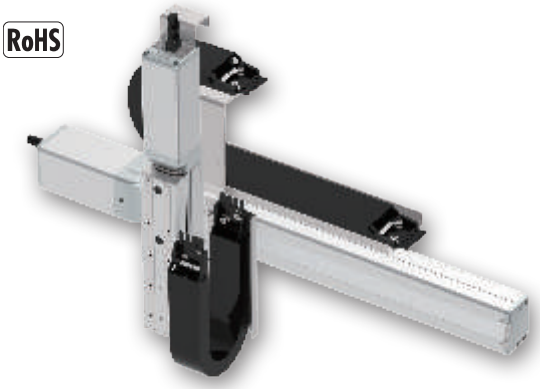
Model Specification Items

IK2 — P6YBH3□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBH3□ □S	WA	□	□	□B□	□	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3)	Speed Type: SM: Y Ultra High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Stroke: 5: 50mm* ~ (Every 25mm)	Options: Refer to Options table below.	Controller: PM1, PM2 (Refer to Applicable Controllers table below.)	Cable Length: 1L: 1m, 3L: 3m, 5L: 5m, □L: □m	First Wiring, Second Wiring: Refer to Cable Track table below.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ SM type: Y ultra high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	3
0.3	2.5
0.5	2.5

■ SH type: Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)
0.1	1.5
0.3	1.5
0.5	1.5

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200
50	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA7C Z-axis : TA6C	PCON-CFB/CGFB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track.
A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-TA6C
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 25mm)
Max speed *	SM	640mm/s	280mm/s
	SH		440mm/s
Motor size		56□ Stepper motor	42□ Stepper motor
Ball screw lead	SM	24mm	6mm
	SH		12mm
Drive system		Ball screw Φ12mm rolled C10	Ball screw Φ10mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

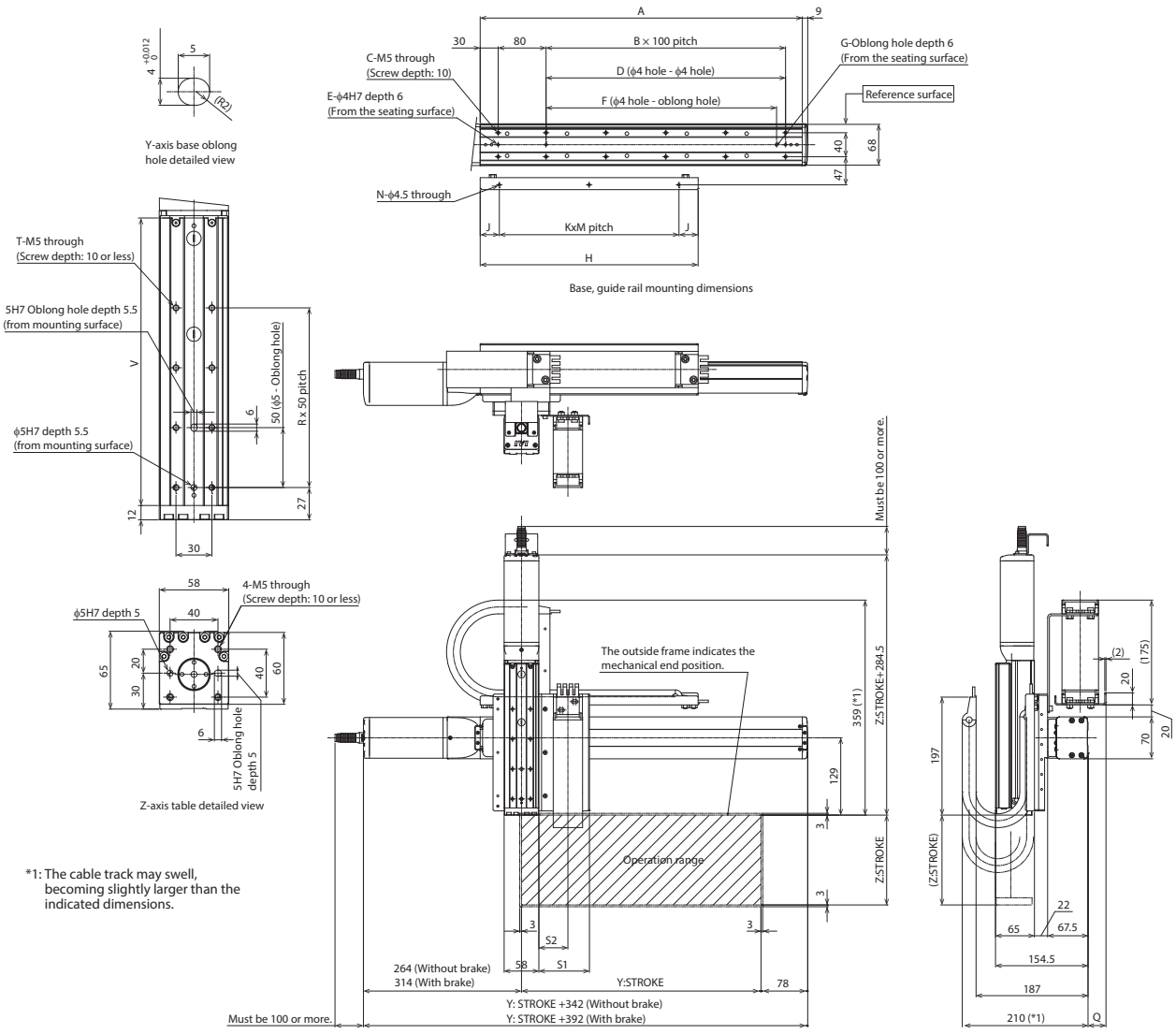
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	189	214	239	264	289	314	339	364	389	414	439	464	489	514	539	564
J	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	19.5	32	44.5	19.5
K	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
M	150	150	200	200	250	250	150	150	175	175	200	200	150	150	150	175
N	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4

Z: Stroke	50	75	100	125	150	175	200
R	1	2	2	3	3	4	4
T	4	6	6	8	8	10	10
V	140	165	190	215	240	265	290

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	84.5	96.5	109.5	–
S2	48.5	55	61.5	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBG1□□S

RCP6 2-axis configurations

Y-axis: SA8R (side-mounted)
Z-axis: TA7R (side-mounted)

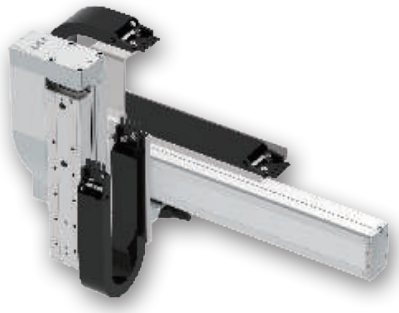
■ Model Specification Items

IK2 — P6YBG1□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)		Controller	Cable		
IK2	P6YBG1□ □S	WA	□	□	□B□		□	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3) / Speed Type: HL: Y High Speed/Z Low Speed, HM: Y High Speed/Z Medium Speed, SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)		Stroke: 5: 50mm * ~		Options: Refer to Options table below.	Controller: PM1, PM2 (Refer to Applicable Controllers table below.)	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m	First Wiring / Second Wiring: Refer to Cable Track table below.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	8		
0.3	6		

■ HM type: Y high speed/ Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	4		
0.3	3		
0.5	3		

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	3		
0.3	2.5		

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200	250	300
50	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Z-axis : TA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	Y-axis : SA8R	RCON-PFC	P-159
	Z-axis : TA7R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8R	RCP6-TA7R
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 200 (Every 25mm), 250, 300mm
Max speed *	HL	400mm/s	140mm/s
	HM		280mm/s
	SH	650mm/s	420mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

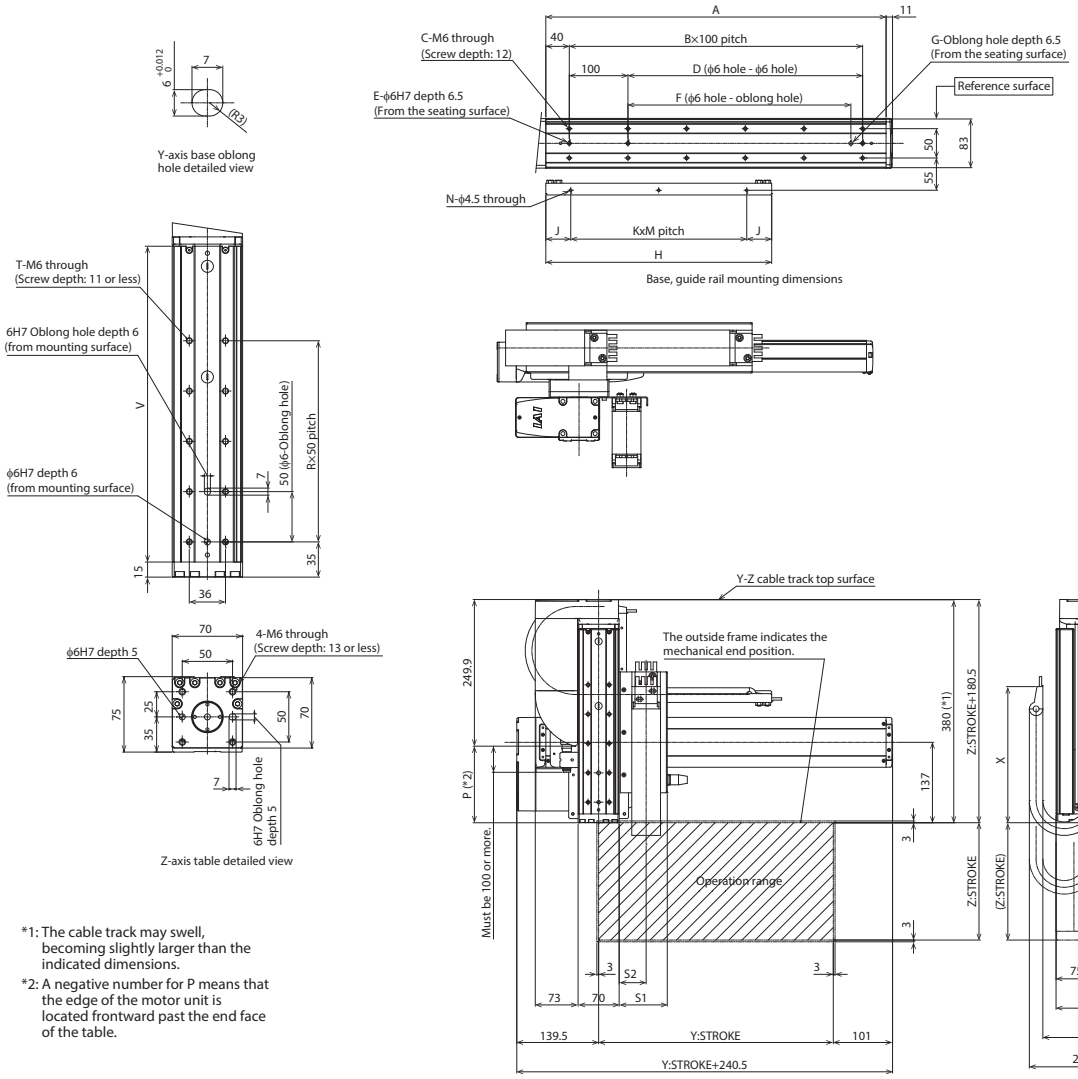
Type	Option code	Reference page	Y-axis	Z-axis
Brake	B	See P.134	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	○	Cannot be selected
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Z: Stroke	50	75	100	125	150	175	200	250	300
P (*2)	-19.4	5.6	30.6	55.6	80.6	105.6	130.6	180.6	230.6
R	1	2	2	3	3	4	4	5	6
T	4	6	6	8	8	10	10	12	14
V	164	189	214	239	264	289	314	364	414
X	188			232					

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBG2□□S

RCP6 2-axis configurations

Y-axis: SA8C (straight)
Z-axis: TA7R (side-mounted)

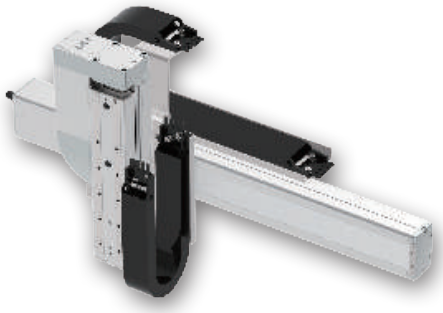
■ Model Specification Items

IK2 — P6YBG2□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBG2□ □S	WA	□	□	□B□	□	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3)	Speed Type: HL: Y High Speed/Z Low Speed; HM: Y High Speed/Z Medium Speed; SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ~ (Every 50mm)	Stroke: 5: 50mm* ~	Options: Refer to Options table below.	Controller: PM1, PM2 (Refer to Applicable Controllers table below.)	Cable Length: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m	First Wiring: Refer to Cable Track table below.	Second Wiring

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	8		
0.3	6		

■ HM type: Y high speed/ Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	4		
0.3	3		
0.5	3		

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	3		
0.3	2.5		

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200	250	300
50	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Z-axis : TA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	Y-axis : SA8C	RCON-PFC	P-159
	Z-axis : TA7R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-TA7R
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 200 (Every 25mm), 250, 300mm
Max speed *	HL	400mm/s	140mm/s
	HM		280mm/s
	SH	650mm/s	420mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

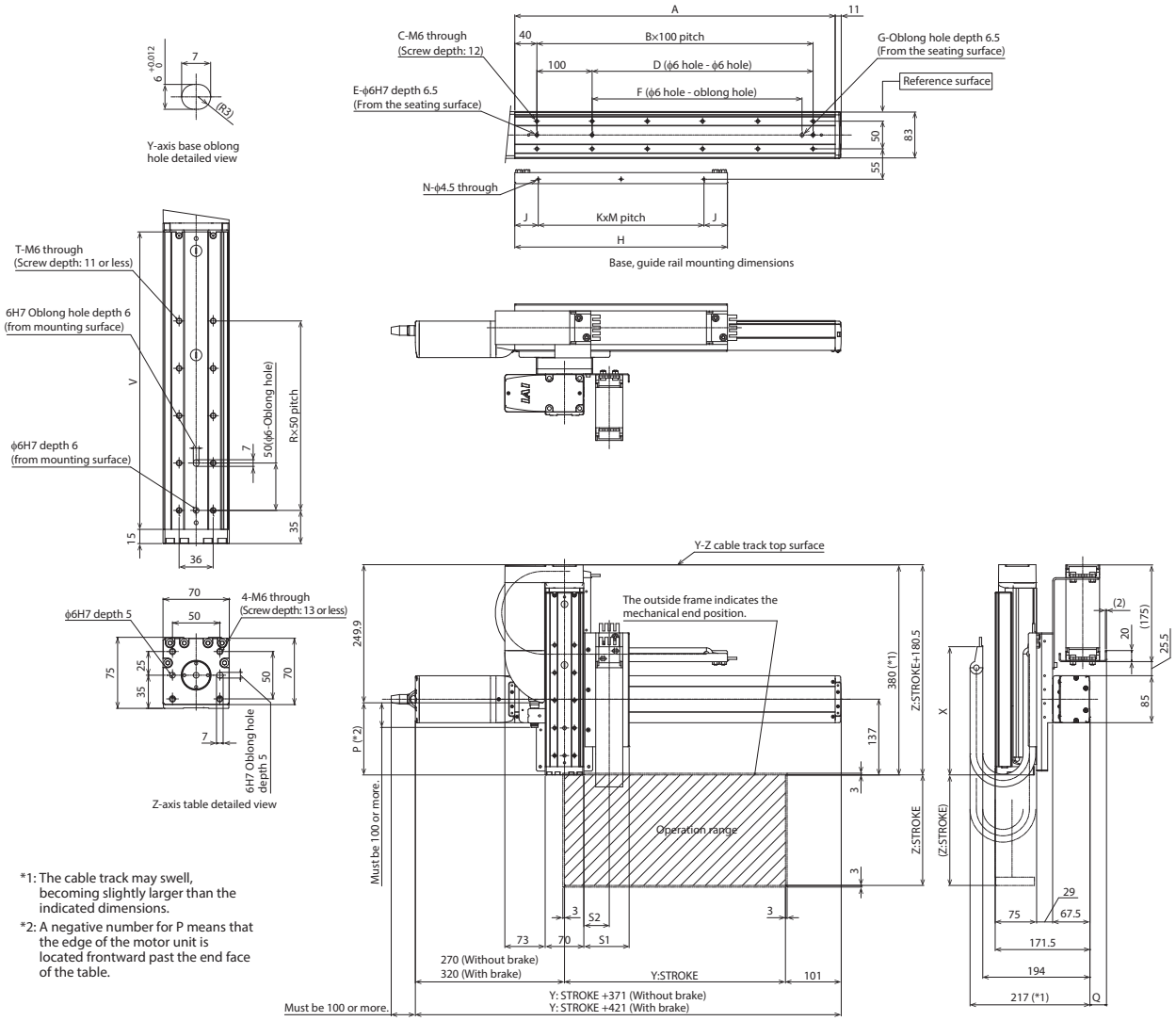
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5

Z: Stroke	50	75	100	125	150	175	200	250	300
P (*2)	-19.4	5.6	30.6	55.6	80.6	105.6	130.6	180.6	230.6
R	1	2	2	3	3	4	4	5	6
T	4	6	6	8	8	10	10	12	14
V	164	189	214	239	264	289	314	364	414
X	188			232					

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK2-P6YBG3□□S

RCP6 2-axis configurations

Y-axis: SA8C (straight)
Z-axis: TA7C (straight)

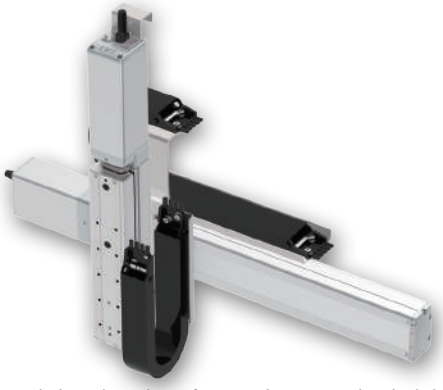
Model Specification Items

IK2 — P6YBG3□ □S — WA — □ □ — □B□ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (Y-axis)		Second Axis (Z-axis)	Controller	Cable		
IK2	P6YBG3□ □S	WA	□	□	□B□	□	□	□	□
	Configuration Direction: 1 to 2 (Refer to Robot Type Descriptions on page 3) / Speed Type: HL: Y High Speed/Z Low Speed, HM: Y High Speed/Z Medium Speed, SH: Y Ultra High Speed/Z High Speed	Encoder Type: WA: Battery-less Absolute	Stroke: 5: 50mm ↑ (Every 50mm)	Stroke: 5: 50mm * ↑	Options: Refer to Options table below.	Controller: PM1, PM2 (Refer to Applicable Controllers table below.)	Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m	First Wiring	Second Wiring
								Refer to Cable Track table below.	

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HL type: Y high speed/ Z low speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	8		
0.3	6		

■ HM type: Y high speed/ Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	4		
0.3	3		
0.5	3		

■ SH type: Y ultra high speed/ Z high speed

Acceleration/deceleration (G) \ Z-axis stroke (mm)	50~200 (Every 25mm)	250	300
0.1	3		
0.3	2.5		

* When both Y and Z axes have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm) \ Z-axis stroke (mm)	50	75	100	125	150	175	200	250	300
50	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	Y-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Z-axis : TA7C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	Y-axis : SA8C	RCON-PFC	P-159
	Z-axis : TA7C	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (Y-axis side)	Second wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm) *	CTXL		○	Cannot be selected *

* Only the first wiring can be selected

Specifications

Item		Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-TA7C
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 200 (Every 25mm), 250, 300mm
Max speed *	HL	400mm/s	140mm/s
	HM		280mm/s
	SH	650mm/s	420mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	HL	20mm	4mm
	HM		8mm
	SH	30mm	16mm
Drive system		Ball screw Φ16mm rolled C10	Ball screw Φ12mm rolled C10
Positioning repeatability		±0.01mm	
Base material		Aluminum	
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)	

* The maximum speed may not be reached if the travel distance is short or acceleration is low.
Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

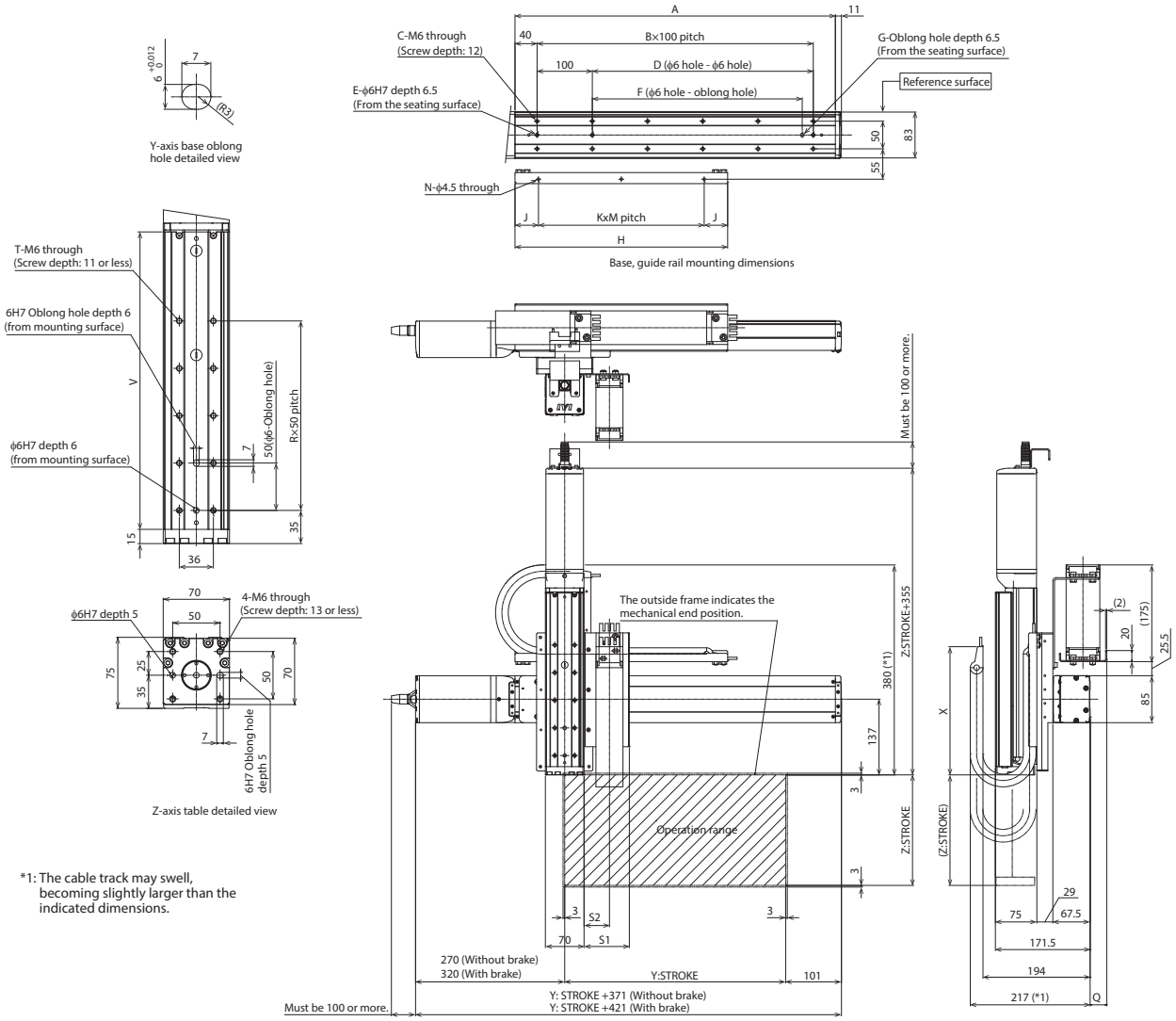
Type	Option code	Reference page	Y-axis	Z-axis
Brake *	B	See P.134	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected
Cable exit direction (Right)	CJR	See P.134	○	
Cable exit direction (Left)	CJL	See P.134	○	
Cable exit direction (Bottom)	CJB	See P.134	○	
Non-motor end specification	NM	See P.135	○	○
Slider section roller specification	SR	See P.135	○	Cannot be selected

* Be sure to specify.
* Brake option for Y-axis increases the length of the motor unit.
Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows the configuration direction "1" where both the first wiring and second wiring have cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The Y-axis cable track guide rail is to be fixed to the Y-axis mounting surface by the customer. Please note that there will be an overhang outside the Y-axis mounting surface. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

Y: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	210	235	260	285	310	335	360	385	410	435	460	485	510	535	560	585	610	635	660	685	710	735
J	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	30	42.5	55	30	42.5	55	30	42.5	55	17.5
K	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4
M	150	150	200	200	125	125	150	150	175	175	200	200	150	150	150	175	175	175	200	200	200	175
N	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5

Z: Stroke	50	75	100	125	150	175	200	250	300
R	1	2	2	3	3	4	4	5	6
T	4	6	6	8	8	10	10	12	14
V	164	189	214	239	264	289	314	364	414
X	188			232					

Cable track size	CT	CTM	CTL	CTXL
Q	18	30	45	63
S1	82	94	107	–
S2	46	52.5	59	–

* Dimensions Q, S1 and S2 change depending on the size of the cable track.

IK3-P6BBC1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7R (side-mounted)
Y-axis: SA6R (side-mounted) Z-axis: SA4R (side-mounted)

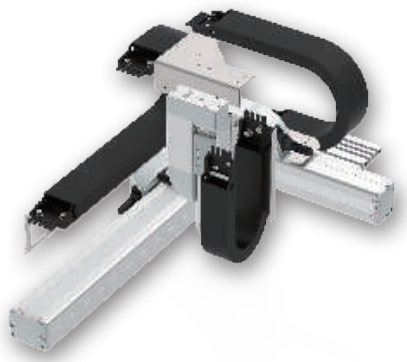
■ Model Specification Items

Series — Type — Encoder Type — First Axis (X-axis) — Second Axis (Y-axis) — Third Axis (Z-axis) — Controller — Cable

IK3 — P6BBC1□ □S — WA — □ □ — □ □ — □BCJO□ — □ — □ — □ — □ — □

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HHL: X High Speed/Y High Speed/Z Low Speed; HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed; HHS: X High Speed/Y High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on the next page.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring / Third Wiring: Refer to Cable Track table below.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHL type: X high speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	3	–
0.3	3	–

■ HHM type: X high speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	2	
0.3	2	1

■ HHH type: X high speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HHS type: X high speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50			100			150			200		
Z-axis stroke (mm)		50	100	150	50	100	150	50	100	150	50	100	150
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		250 *			300 *			350 *			400 *		
Z-axis stroke (mm)		50	100	150	50	100	150	50	100	150	50	100	150
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200mm. (250mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA7R Y-axis : SA6R Z-axis : SA4R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7R	RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~400mm *1	50~150mm
Max. speed *2	HHL	420mm/s	560mm/s	150mm/s
	HHM			305mm/s
	HHH			525mm/s
	HHS			560mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHL	16mm	12mm	2.5mm
	HHM			5mm
	HHH			10mm
	HHS			16mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200 mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options * Please check the Options reference pages to confirm each option.

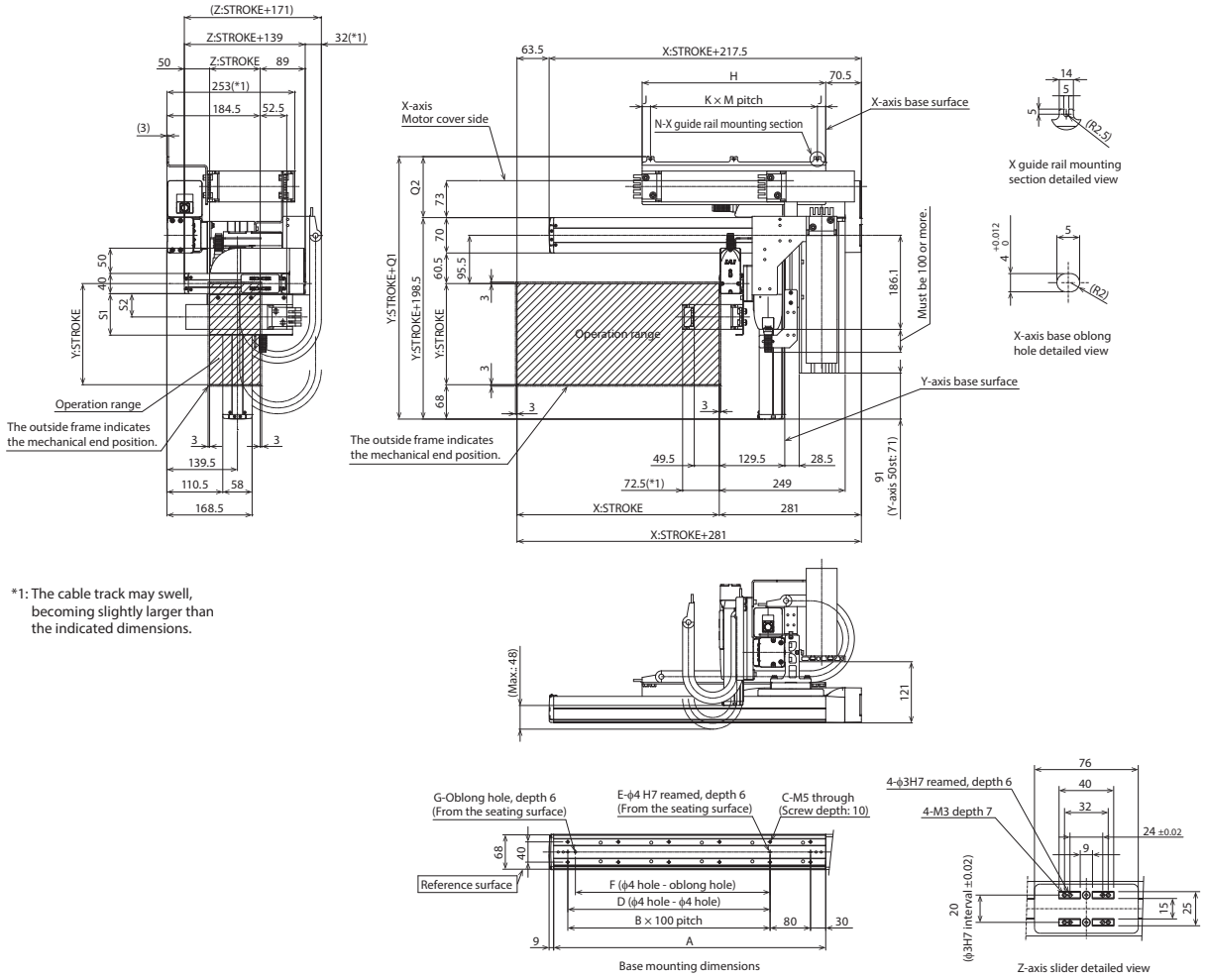
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Be sure to specify.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	306	319	332	349
Q2	107.5	120.5	133.5	150.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBC2□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7C (straight)
Y-axis: SA6R (side-mounted) Z-axis: SA4R (side-mounted)

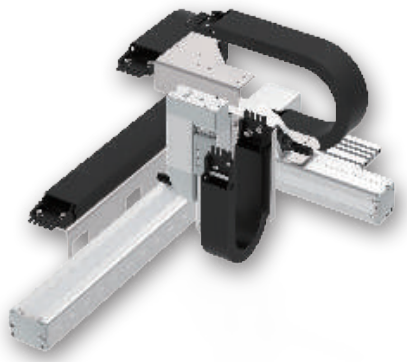
■ Model Specification Items

IK3 — P6BBC2□ □S — WA — □□ — □□ — □□ — □BCJO□ — □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBC2□ □S	WA	□□	□□	□BCJO□	□	□	□	□	□	□

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HHL: X High Speed/Y High Speed/Z Low Speed; HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed; HHS: X High Speed/Y High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table (1) on the next page.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring, Second Wiring, Third Wiring: Refer to Cable Track table below.
- Options: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHL type: X high speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	3	–
0.3	3	–

■ HHM type: X high speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	2	
0.3	2	1

■ HHH type: X high speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HHS type: X high speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50			100			150			200		
	50	100	150	50	100	150	50	100	150	50	100	150
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	250 *			300 *			350 *			400 *		
	50	100	150	50	100	150	50	100	150	50	100	150
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200mm. (250mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA7C Y-axis : SA6R Z-axis : SA4R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6R	RCP6-SA4R
Stroke (Every 50mm)		50~800mm	50~400mm *1	50~150mm
Max. speed *2	HHL	420mm/s	560mm/s	150mm/s
	HHM			305mm/s
	HHH			525mm/s
	HHS			560mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHL	16mm	12mm	2.5mm
	HHM			5mm
	HHH			10mm
	HHS			16mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200 mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1) * Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

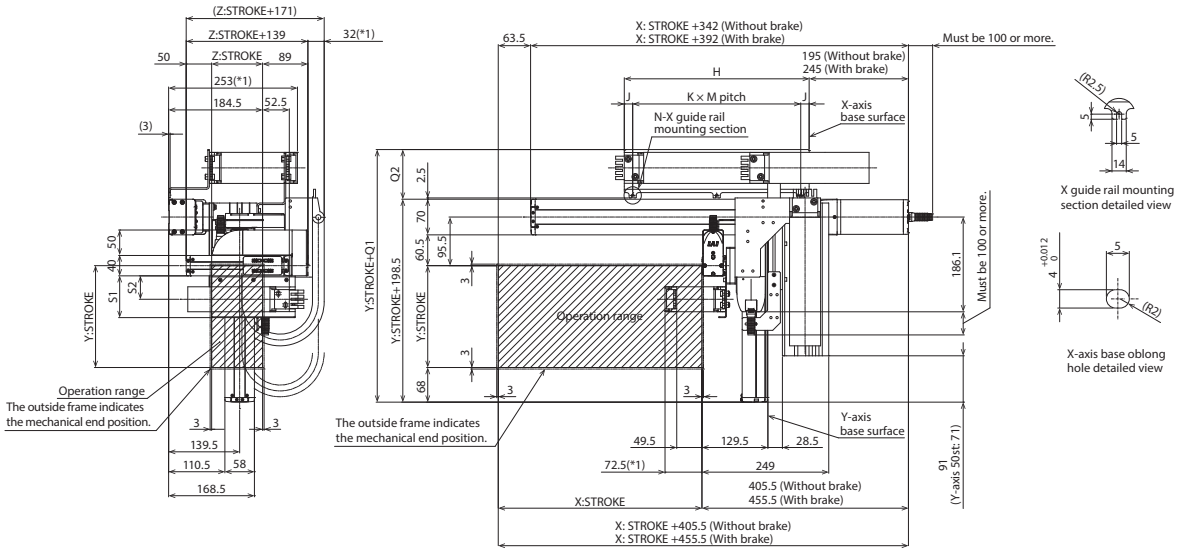
Options (2) * Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

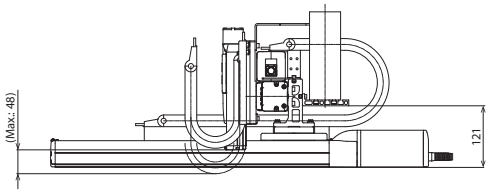
Dimensions

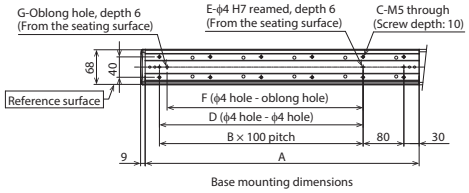
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

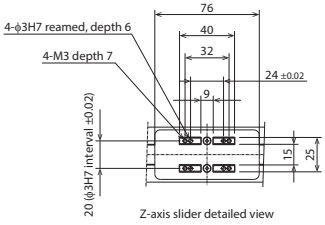
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.







(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBC3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7C (straight)
Y-axis: SA6C (straight) Z-axis: SA4C (straight)

■ Model Specification Items

IK3 — P6BBC3□ □S — WA — □ □ — □ □ — □B□ — □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBC3□ □S	WA	□ □	□ □	□B□	□	□	□	□	□	□

Configuration Direction
1 to 4
Refer to Robot Type Descriptions on page 3

Speed Type
HHL: X High Speed/Y High Speed/Z Low Speed
HHM: X High Speed/Y High Speed/Z Medium Speed
HHH: X High Speed/Y High Speed/Z High Speed
HHS: X High Speed/Y High Speed/Z Ultra High Speed

Encoder Type
WA: Battery-less Absolute

Stroke
5: 50mm
:
(Every 50mm)

Options
Refer to Options table (1) on the next page.

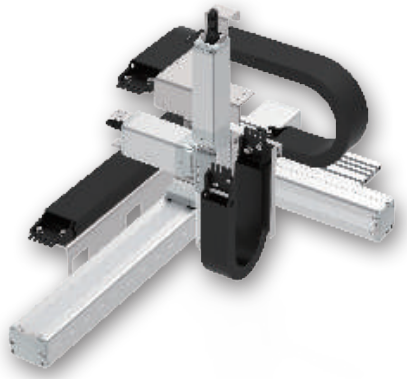
Controller
PM1
PM2
Refer to Applicable Controllers table below.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring
Second Wiring
Third Wiring
Refer to Cable Track table below.

Options
Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHL type: X high speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	3	–
0.3	3	–

■ HHM type: X high speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250~400 (Every 50mm)
0.1	2	
0.3	2	1

■ HHH type: X high speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HHS type: X high speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50			100			150			200		
	50	100	150	50	100	150	50	100	150	50	100	150
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	250 *			300 *			350 *			400 *		
	50	100	150	50	100	150	50	100	150	50	100	150
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200mm. (250mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track Price List

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA7C Y-axis : SA6C Z-axis : SA4C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6C	RCP6-SA4C
Stroke (Every 50mm)		50~800mm	50~400mm *1	50~150mm
Max. speed *2	HHL	420mm/s	560mm/s	150mm/s
	HHM			305mm/s
	HHH			525mm/s
	HHS			560mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHL	16mm	12mm	2.5mm
	HHM			5mm
	HHH			10mm
	HHS			16mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HHL" is selected, the maximum Y-axis stroke will be 200 mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1) * Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

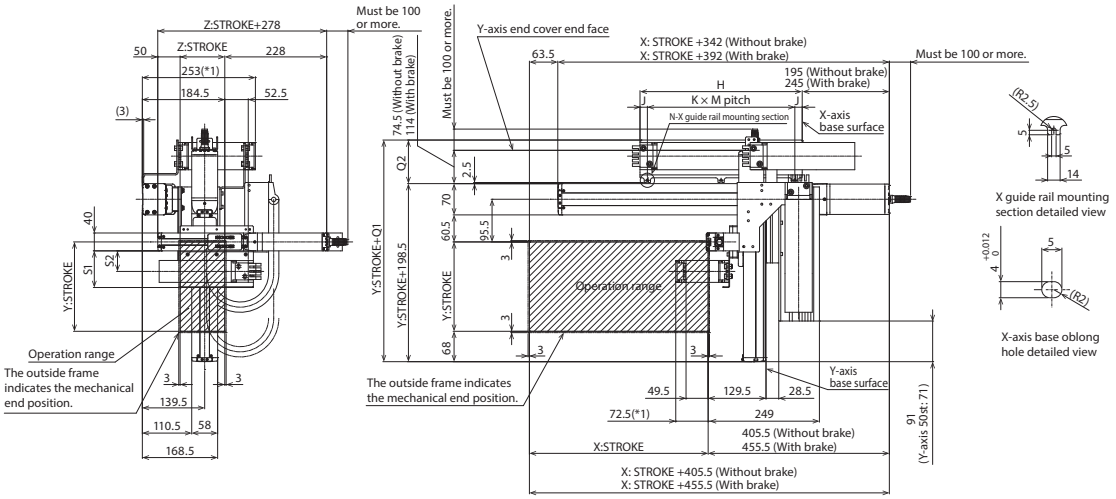
Options (2) * Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

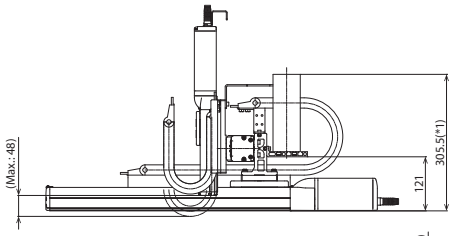
Dimensions

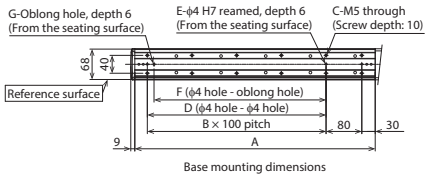
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

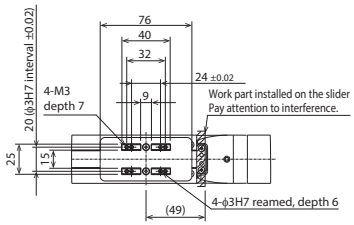
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.







(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBB1□□S

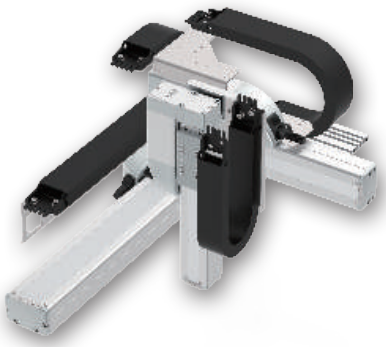
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8R (side-mounted)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable
IK3	P6BBB1□ □S	WA	□ □	□ □	□BCJO□	□	□ □ □ □

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed; HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on the next page.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring / Third Wiring: Refer to Cable Track table below.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks. Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	4	–
0.3	4	–
0.5	4	–

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	2	
0.3	2	1
0.5	2	1

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50				100				150			
	50	100	150	200	50	100	150	200	50	100	150	200
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	200				250				300 *			
	50	100	150	200	50	100	150	200	50	100	150	200
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Y-axis stroke (mm)		350 *				400 *			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7R Z-axis : SA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8R	RCON-PCF	P-159
	Y-axis : SA7R Z-axis : SA6R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8R	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~1100mm	50~400mm *1	50~200mm
Max. speed *2	HSL	300mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

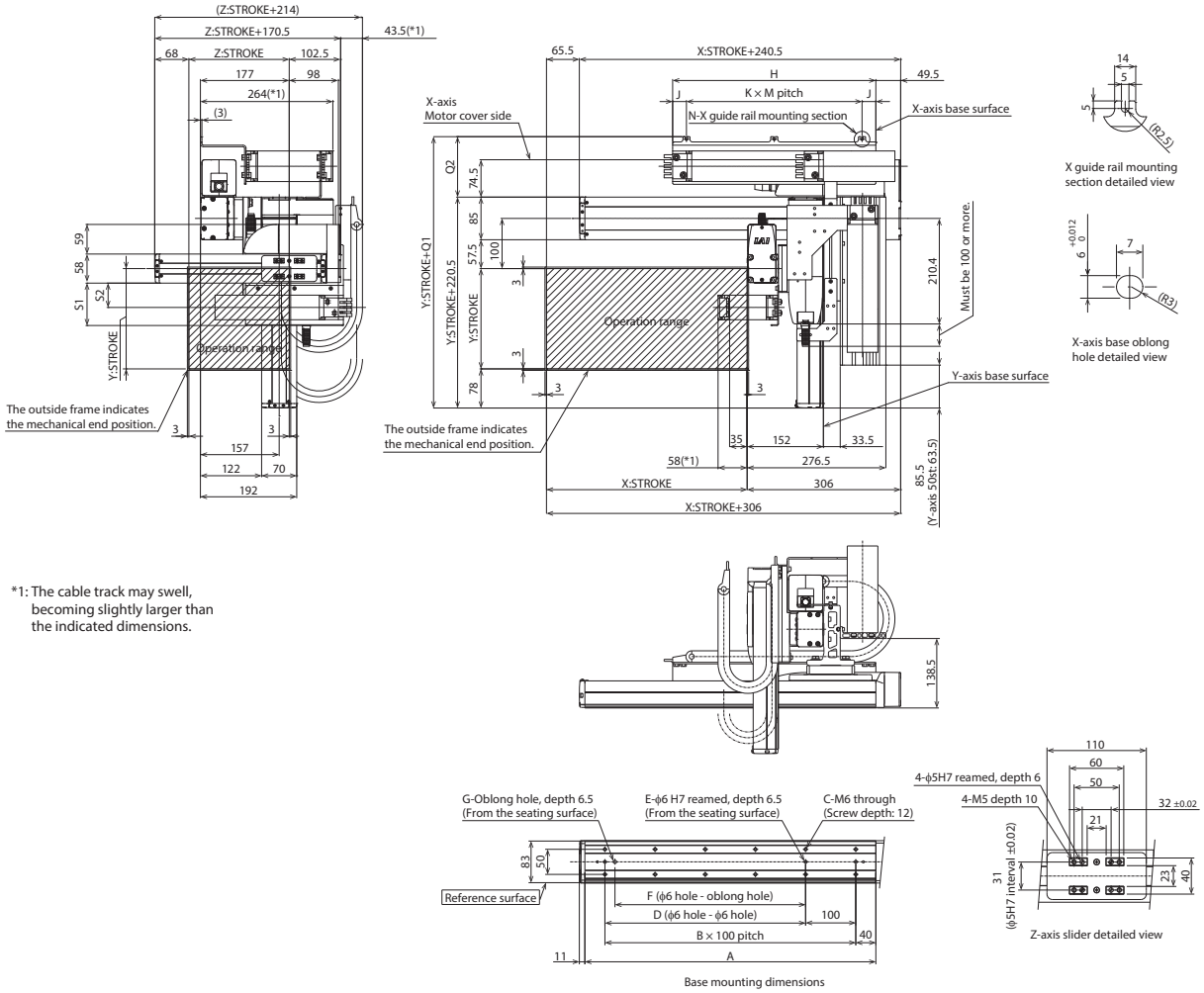
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Be sure to specify.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	328	341	354	371
Q2	107.5	120.5	133.5	150.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBB2□□S

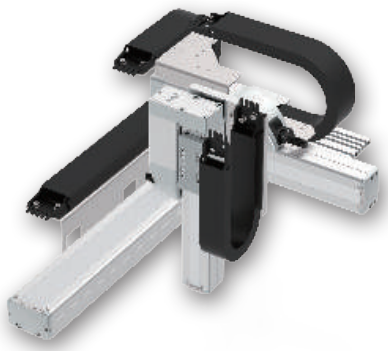
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8C (straight)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBB2□ □S	WA	□ □	□ □	□BCJO□	□	□	□	□	□	□

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed; HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table (1) on the next page.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring, Second Wiring, Third Wiring: Refer to Cable Track table below.
- Options: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks. Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	4	–
0.3	4	–
0.5	4	–

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	2	
0.3	2	1
0.5	2	1

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)	X-axis stroke (mm)	50	100	150	200	50	100	150	200	50	100	150	200
	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300 *			
Z-axis stroke (mm)	X-axis stroke (mm)	50	100	150	200	50	100	150	200	50	100	150	200
	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Y-axis stroke (mm)		350 *				400 *			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7R Z-axis : SA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8C	RCON-PCF	P-159
	Y-axis : SA7R Z-axis : SA6R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~1100mm	50~400mm *1	50~200mm
Max. speed *2	HSL	300mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	–	–	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	–	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	–		
Cable exit direction (Left)	**CJL**	See P.134	–		
Cable exit direction (Bottom)	**CJB**	See P.134	–		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	–	–	–
Slider section roller specification	**SR**	See P.135	–	–	–

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

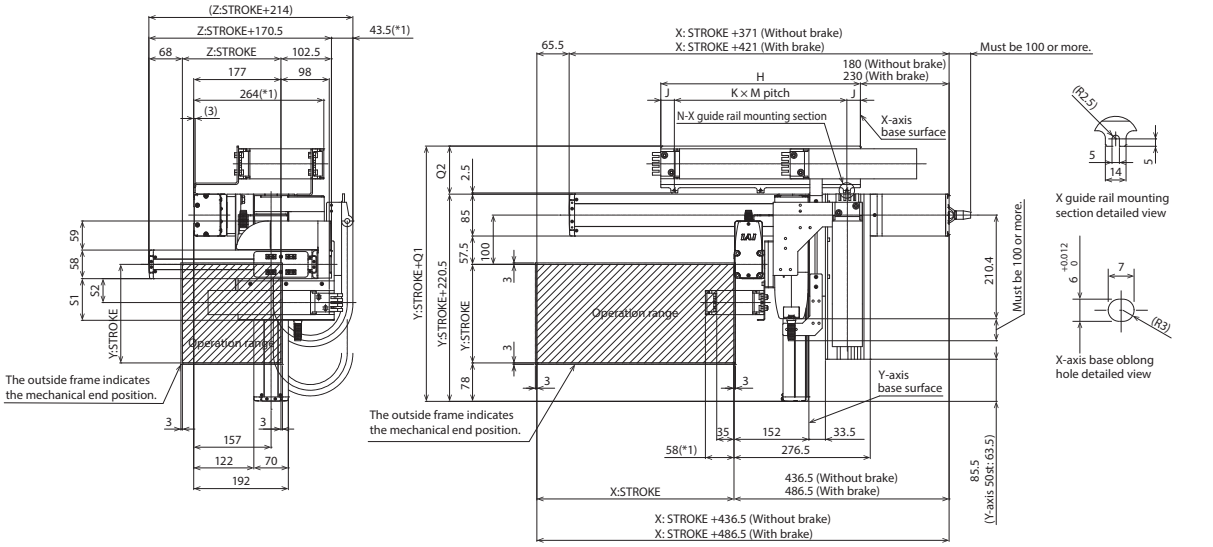
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

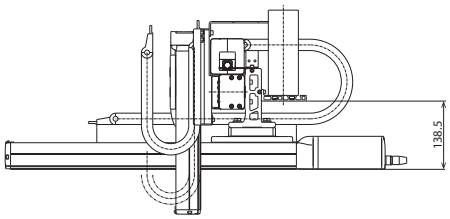
Dimensions

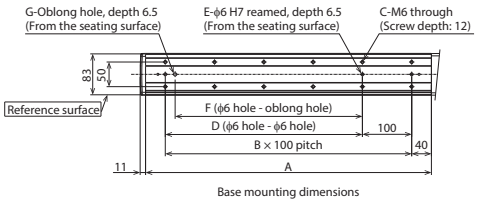
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

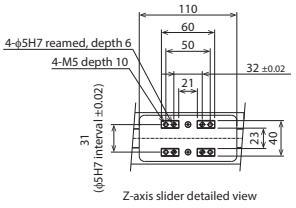


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.





Base mounting dimensions



Z-axis slider detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBB3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8C (straight)
Y-axis: SA7C (straight) Z-axis: SA6C (straight)

■ Model Specification Items

IK3 — P6BBB3□ □S — WA — □ □ — □ □ — □B□ — □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBB3□ □S	WA	□ □	□ □	□B□	□	□	□	□	□	□

Configuration Direction
1 to 4
Refer to Robot Type Descriptions on page 3

Speed Type
HSL: X High Speed/Y Ultra High Speed/Z Low Speed
HSM: X High Speed/Y Ultra High Speed/Z Medium Speed
HSH: X High Speed/Y Ultra High Speed/Z High Speed
HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed

Encoder Type
WA: Battery-less Absolute

Stroke
5: 50mm
:
(Every 50mm)

Options
Refer to Options table (1) on the next page.

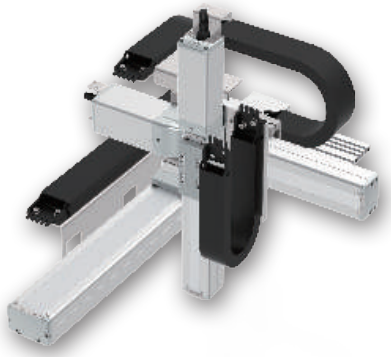
Controller
PM1
PM2
Refer to Applicable Controllers table below.

Cable Length
1L : 1m
3L : 3m
5L : 5m
□L : □m

First Wiring
Second Wiring
Third Wiring
Refer to Cable Track table below.

Options
Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	4	–
0.3	4	–
0.5	4	–

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~250 (Every 50mm)	300~400 (Every 50mm)
0.1	2	
0.3	2	1
0.5	2	1

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300 *			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Y-axis stroke (mm)		350 *				400 *			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○

* When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm. (300mm or more cannot be selected.)

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7C Z-axis : SA6C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8C	RCON-PCF	P-159
	Y-axis : SA7C Z-axis : SA6C	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7C	RCP6-SA6C
Stroke (Every 50mm)		50~1100mm	50~400mm *1	50~200mm
Max. speed *2	HSL	300mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

*1 When the speed type "HSL" is selected, the maximum Y-axis stroke will be 250mm.
*2 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

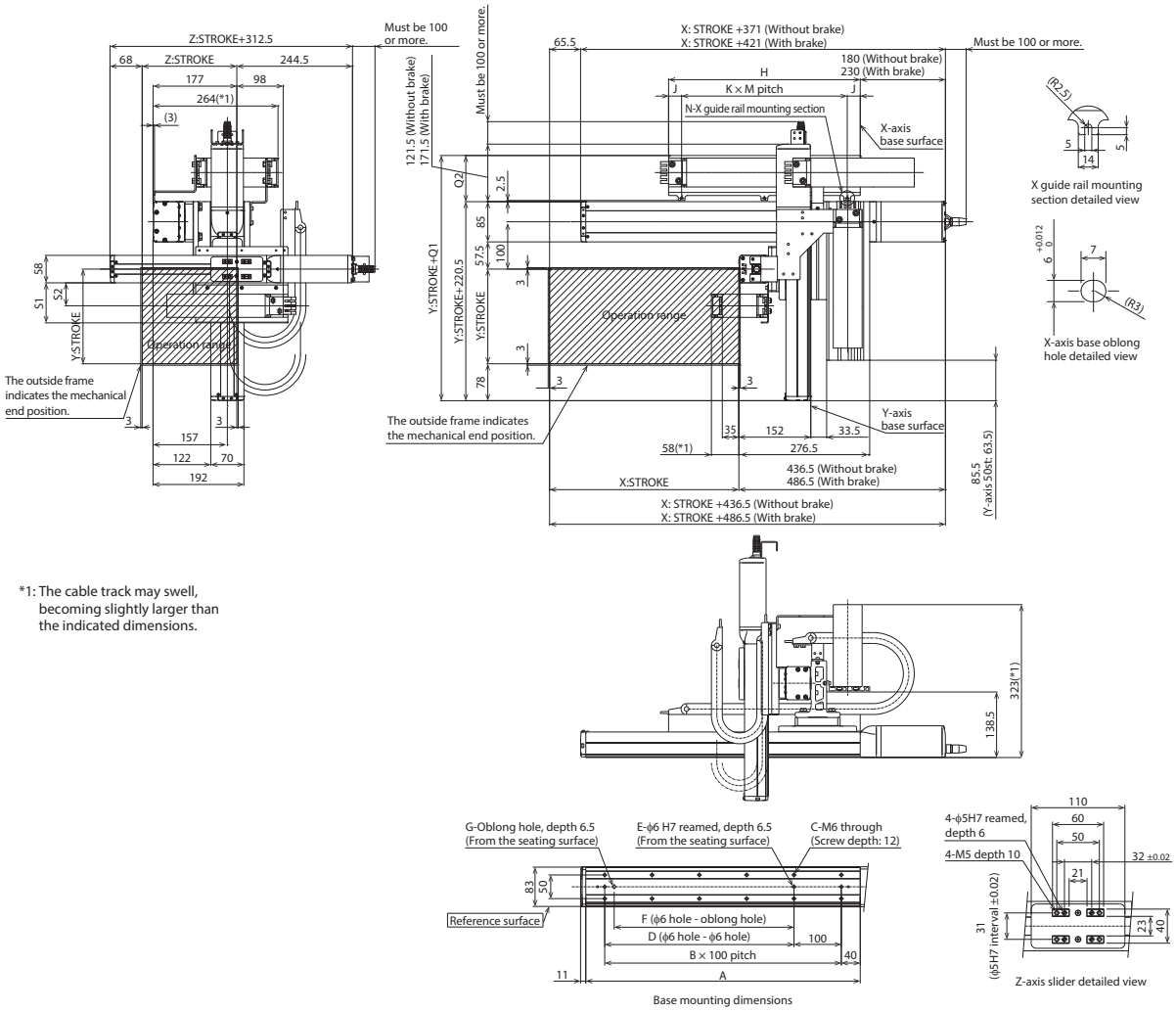
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	**FTP**	See P.134

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

**The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.**

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBF1□□S

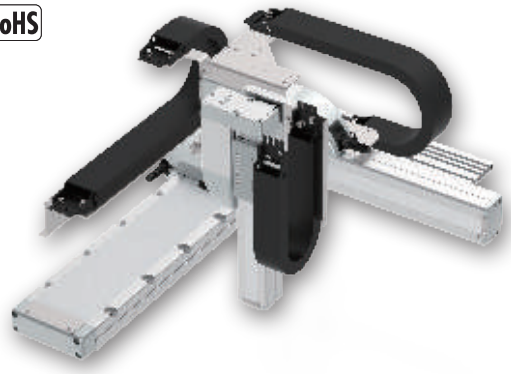
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA14R (side-mounted)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBF1□ □S	WA	□ □	□ □	□BCJO□	□	□	□	□	□

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed; HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on the next page.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring, Second Wiring, Third Wiring. Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	4

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA14R Y-axis : SA7R Z-axis : SA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA14R	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~400mm	50~200mm
Max. speed *	HSL	280mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56□ Stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	16mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

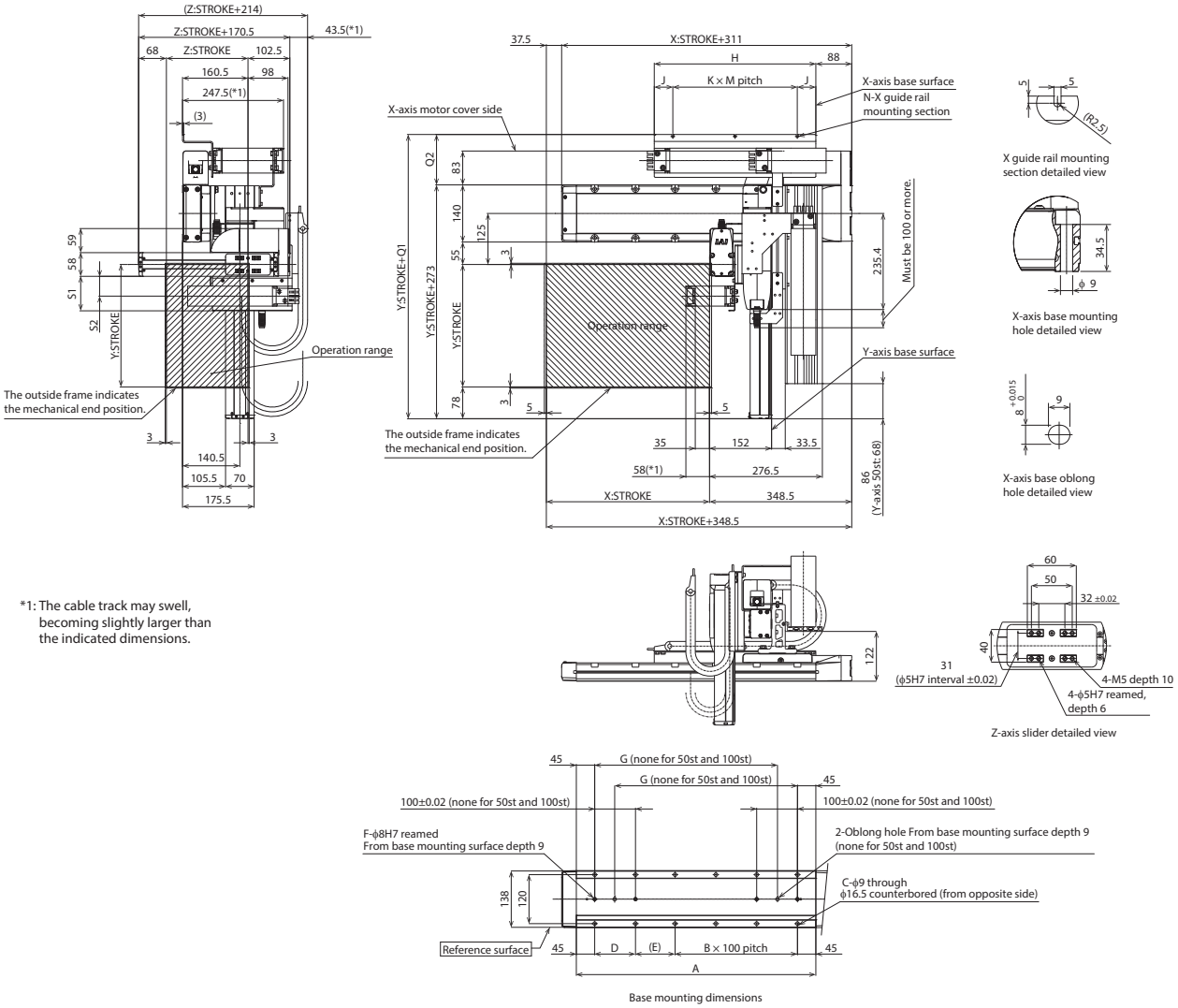
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Be sure to specify.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596
J	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	43	48	45.5	43	43	45.5	43
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	383.5	396.5	409.5	426.5
Q2	110.5	123.5	136.5	153.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBF2□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA14C (straight)
Y-axis: SA7R (side-mounted) Z-axis: SA6R (side-mounted)

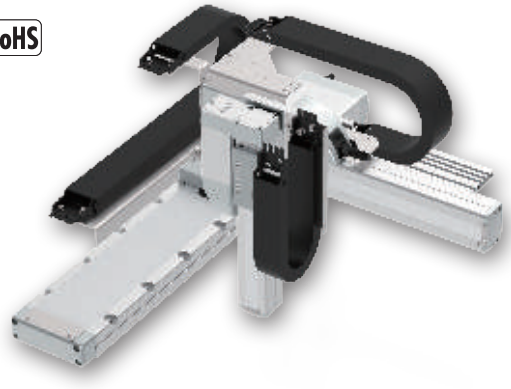
■ Model Specification Items

IK3 — P6BBF2□ □S — WA — □□ — □□ — □□ — □BCJO□ — □ — □ — □ — □ — □

- Series: IK3
- Type: P6BBF2□ □S
  - Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
  - Speed Type: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed; HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- First Axis (X-axis): Stroke
- Second Axis (Y-axis): Stroke — 5: 50mm (Every 50mm)
- Third Axis (Z-axis): Options — Refer to Options table on the next page.
- Controller: Controller PM1 PM2 — Refer to Applicable Controllers table below.
- Cable: Cable Length — 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring
- Second Wiring
- Third Wiring

Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	4

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA14C Y-axis : SA7R Z-axis : SA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA14C	RCP6-SA7R	RCP6-SA6R
Stroke (Every 50mm)		50~800mm	50~400mm	50~200mm
Max. speed *	HSL	280mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56□ Stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	16mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

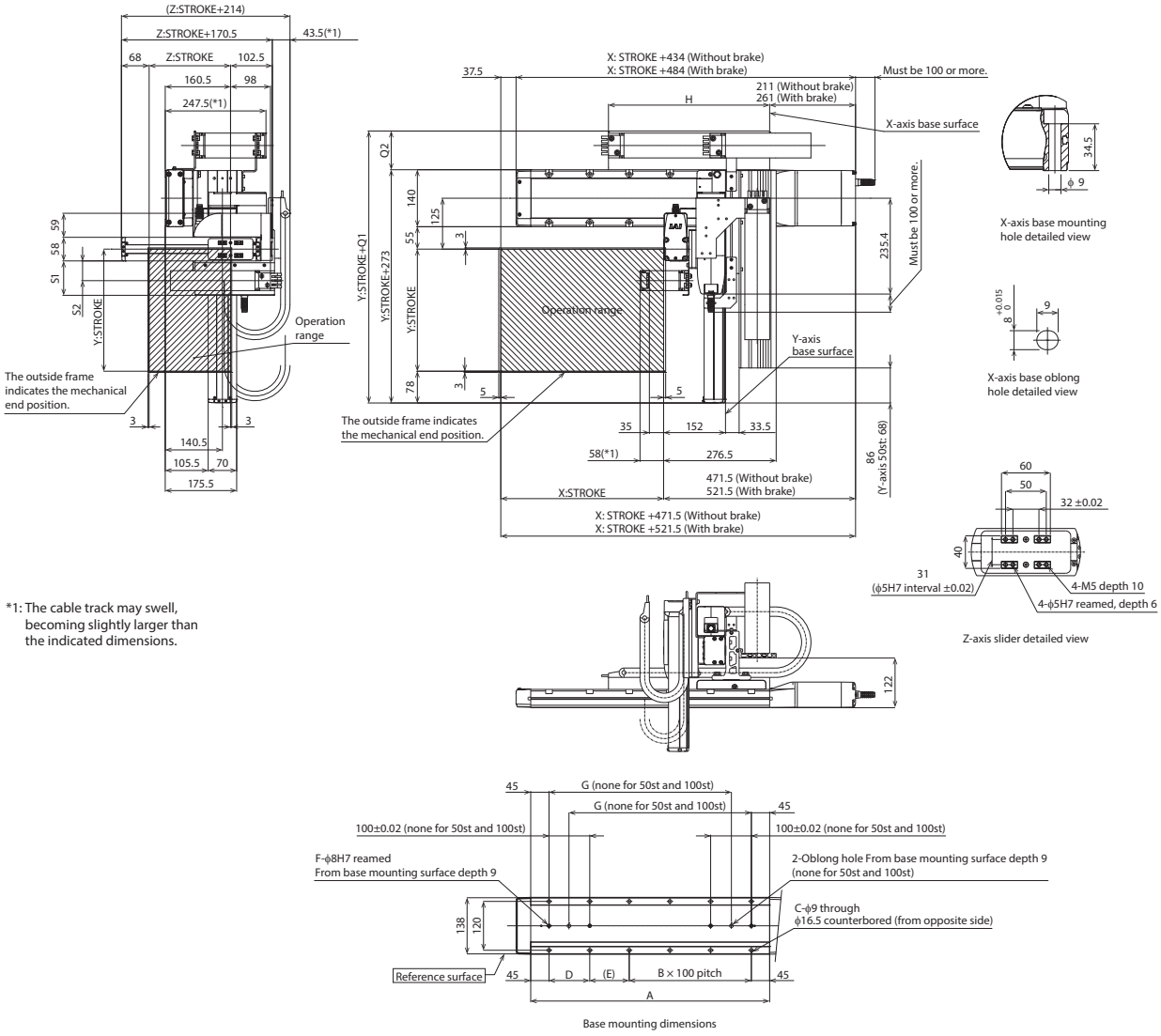
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes The moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	356	368	383	401
Q2	83	95	110	128
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBF3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA14C (straight)
Y-axis: SA7C (straight) Z-axis: SA6C (straight)

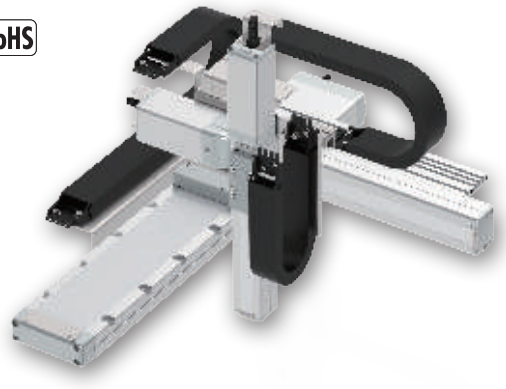
■ Model Specification Items

IK3 — P6BBF3□ □S — WA — □ □ — □ □ — □B□ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBF3□ □S	WA	□ □	□ □	□B□	□	□	□	□	□

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed; HSS: X High Speed/Y Ultra High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on the next page.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring / Third Wiring: Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	4

■ HSM type: X high speed/Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	2
0.3	2
0.5	2

■ HSH type: X high speed/Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	1
0.3	1
0.5	1

■ HSS type: X high speed/Y ultra high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)
0.1	0.5
0.3	0.5
0.5	0.5

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		50	100	150	200	50	100	150	200
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA14C Y-axis : SA7C Z-axis : SA6C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA14C	RCP6-SA7C	RCP6-SA6C
Stroke (Every 50mm)		50~800mm	50~400mm	50~200mm
Max. speed *	HSL	280mm/s	640mm/s	170mm/s
	HSM			340mm/s
	HSH			680mm/s
	HSS			800mm/s
Motor size		56□ Stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	16mm	24mm	3mm
	HSM			6mm
	HSH			12mm
	HSS			20mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

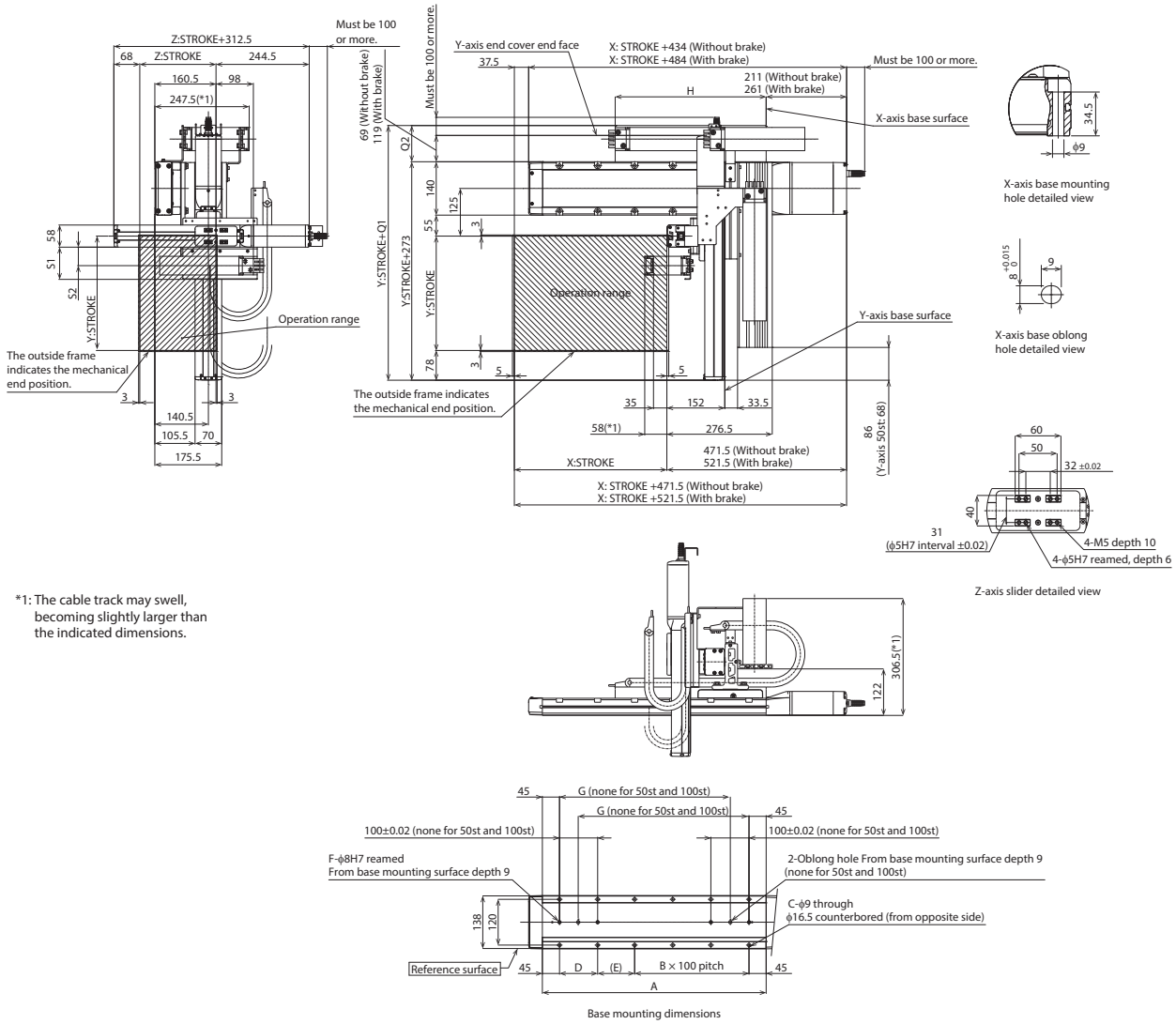
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	○

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes The moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	356	368	383	401
Q2	83	95	110	128
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBE1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA16R (side-mounted)
Y-axis: SA8R (side-mounted) Z-axis: SA7R (side-mounted)

■ Model Specification Items

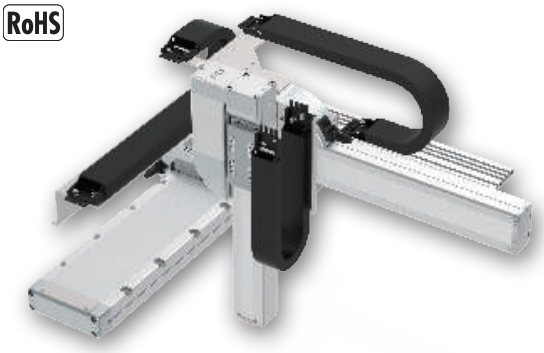
IK3 — P6BBE1□ □S — WA — □ □ — □ □ — □ □ — □BCJO□ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable
IK3	P6BBE1□ □S	WA	□ □	□ □	□BCJO□	□	□ — □ — □ — □

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: MHL: X Medium Speed/Y High Speed/Z Low Speed; MHM: X Medium Speed/Y High Speed/Z Medium Speed; MHH: X Medium Speed/Y High Speed/Z High Speed; MHS: X Medium Speed/Y High Speed/Z Ultra High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Options**: Refer to Options table on page 100.
- **Controller**: PM1, PM2. Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- **First Wiring**
- **Second Wiring**
- **Third Wiring**

Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MHL type: X medium speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	6

■ MHM type: X medium speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)	450~500 (Every 50mm)
0.1	4	
0.3	4	–

■ MHH type: X medium speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	2
0.3	2

■ MHS type: X medium speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	1
0.3	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50						100					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		150						200					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Stroke

Y-axis stroke (mm)	250						300					
Z-axis stroke (mm) / X-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	350						400					
Z-axis stroke (mm) / X-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	450						500					
Z-axis stroke (mm) / X-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA16R Y-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Z-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : WSA16R Y-axis : SA8R	RCON-PCF	P-159
	Z-axis : SA7R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA16R	RCP6-SA8R	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~500mm	50~300mm
Max. speed *	MHL	210mm/s	400mm/s	105mm/s
	MHM			210mm/s
	MHH			420mm/s
	MHS			640mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MHL	10mm	20mm	4mm
	MHM			8mm
	MHH			16mm
	MHS			24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	B	See P.134	–	–	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	NM	See P.135	–	–	–
Slider section roller specification	SR	See P.135	–	–	–

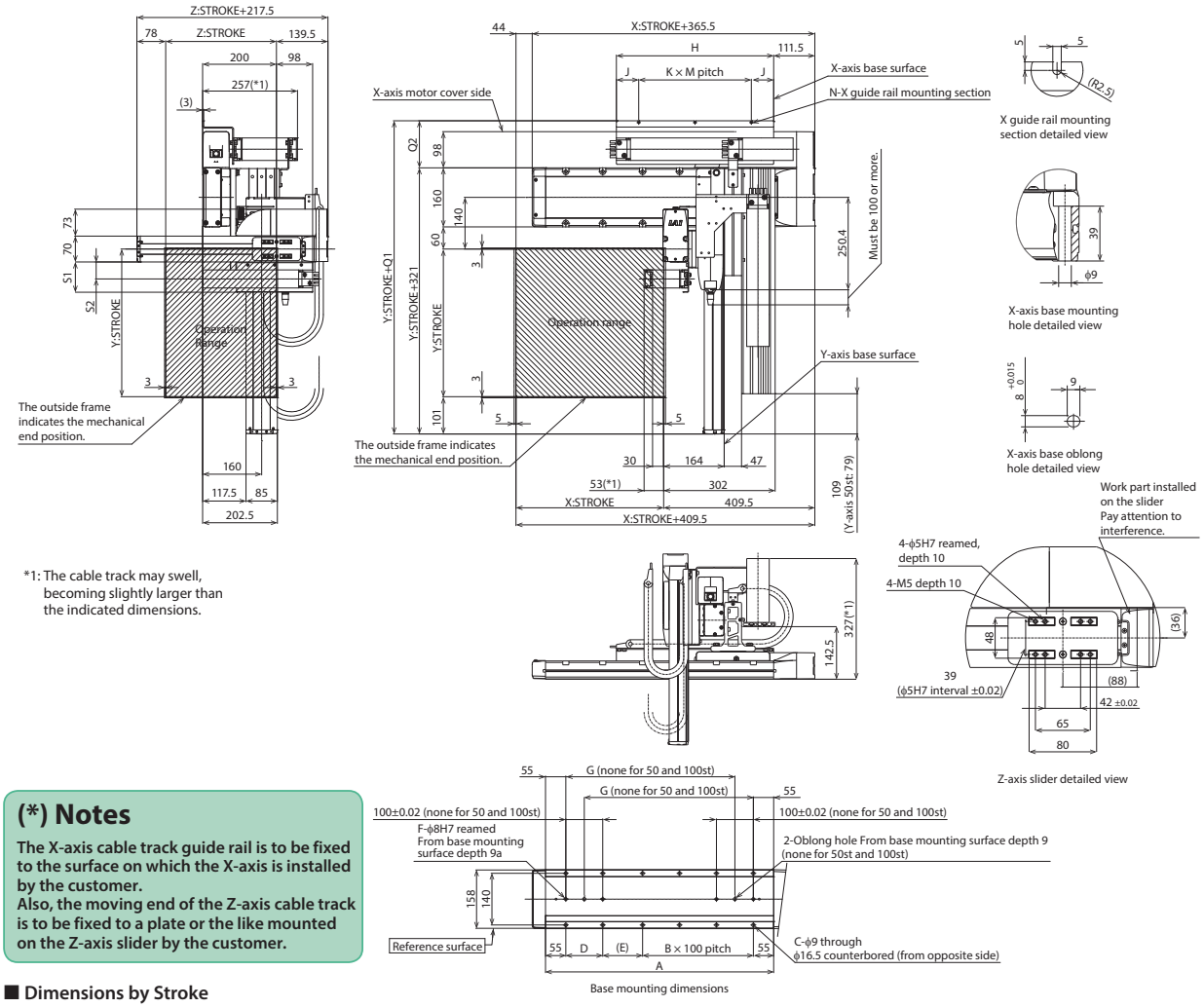
* Be sure to specify.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776
J	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	58	63	60.5	58	58	60.5	58	60.5	58	60.5	63	63	63
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4	4	4	5	5	5
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5	132.5	140	145	120	125	130
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5	5	6	6	6

Cable track size	CT	CTM	CTL	CTXL
Q1	448.5	448.5	448.5	465.5
Q2	127.5	127.5	127.5	144.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBE2□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA16C (straight)
Y-axis: SA8R (side-mounted) Z-axis: SA7R (side-mounted)

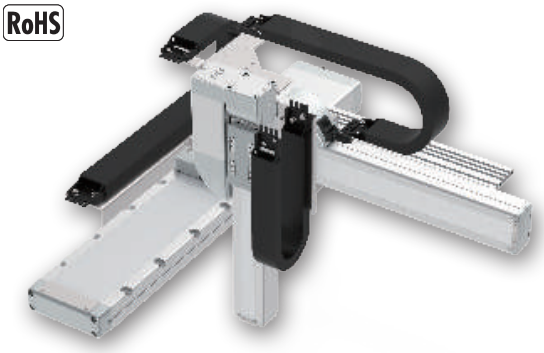
■ Model Specification Items

IK3 — P6BBE2□ □S — WA — □ □ — □ □ — □BCJO□ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable			
IK3	P6BBE2□ □S	WA	□ □	□ □	□BCJO□	□	□	□	□	□

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: MHL: X Medium Speed/Y High Speed/Z Low Speed; MHM: X Medium Speed/Y High Speed/Z Medium Speed; MHH: X Medium Speed/Y High Speed/Z High Speed; MHS: X Medium Speed/Y High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on page 103.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring / Third Wiring: Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MHL type: X medium speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	6

■ MHM type: X medium speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)	450~500 (Every 50mm)
0.1	4	
0.3	4	–

■ MHH type: X medium speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	2
0.3	2

■ MHS type: X medium speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	1
0.3	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50						100					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		150						200					
Z-axis stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Stroke

Y-axis stroke (mm)	250						300					
Z-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm) 50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	350						400					
Z-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm) 50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	450						500					
Z-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
X-axis stroke (mm) 50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	–	–	–
Cable track S size (inner width: 38mm)	**CT**		–	–	–
Cable track M size (inner width: 50mm)	**CTM**		–	–	–
Cable track L size (inner width: 63mm)	**CTL**		–	–	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		–	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA16C Y-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Z-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : WSA16C Y-axis : SA8R	RCON-PCF	P-159
	Z-axis : SA7R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA16C	RCP6-SA8R	RCP6-SA7R
Stroke (Every 50mm)		50~1100mm	50~500mm	50~300mm
Max. speed *	MHL	210mm/s	400mm/s	105mm/s
	MHM			210mm/s
	MHH			420mm/s
	MHS			640mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MHL	10mm	20mm	4mm
	MHM			8mm
	MHH			16mm
	MHS			24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

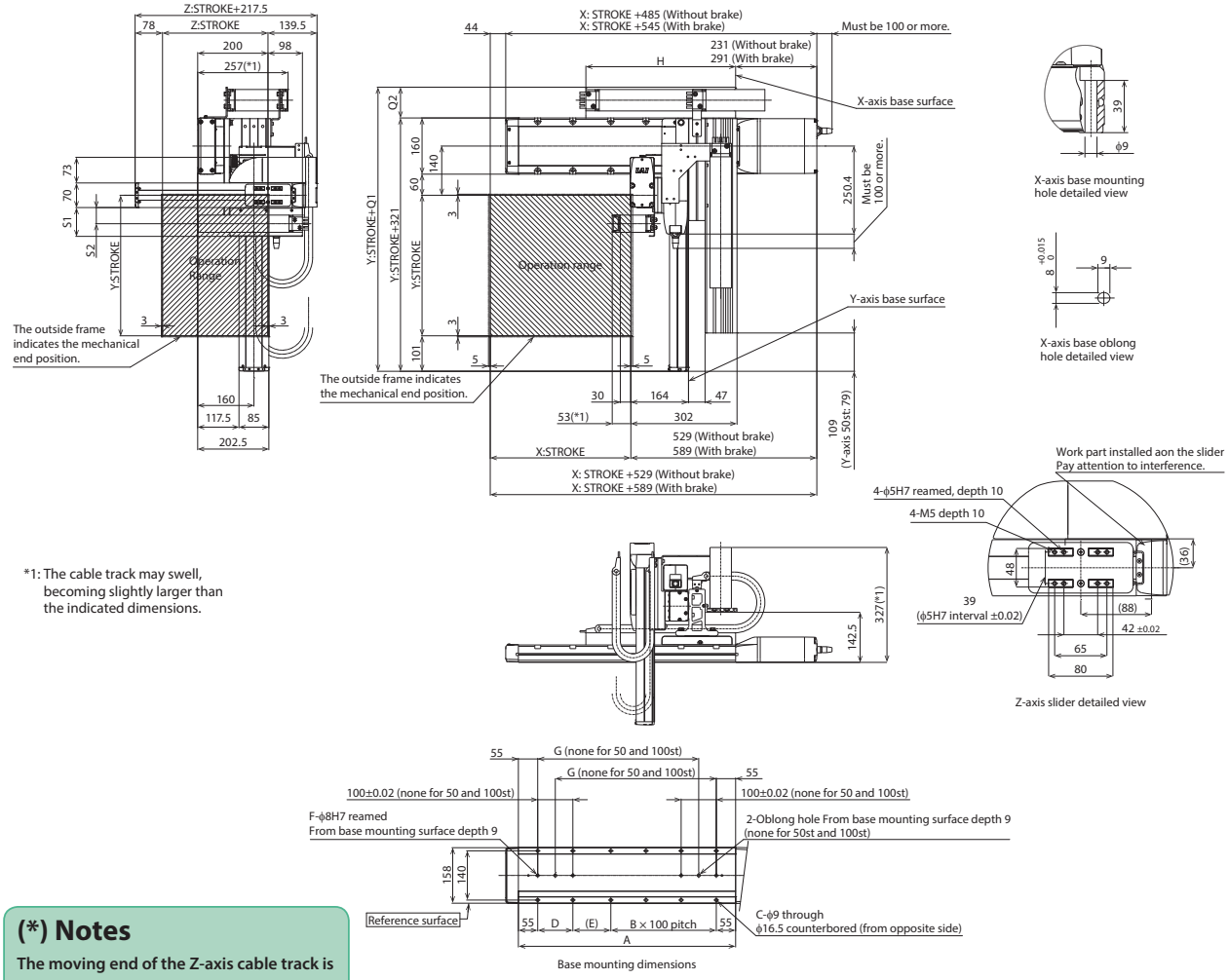
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	B	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected	
Cable exit direction (Right)	CJR	See P.134	○		
Cable exit direction (Left)	CJL	See P.134	○		
Cable exit direction (Bottom)	CJB	See P.134	○		
Cable exit direction (Outside)	CJO	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	NM	See P.135	○	○	○
Slider section roller specification	SR	See P.135	○	○	○

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com
2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776

Cable track size	CT	CTM	CTL	CTXL
Q1	396.5	408.5	423.5	441.5
Q2	75.5	87.5	102.5	120.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBE3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: WSA16C (straight)
Y-axis: SA8C (straight) Z-axis: SA7C (straight)

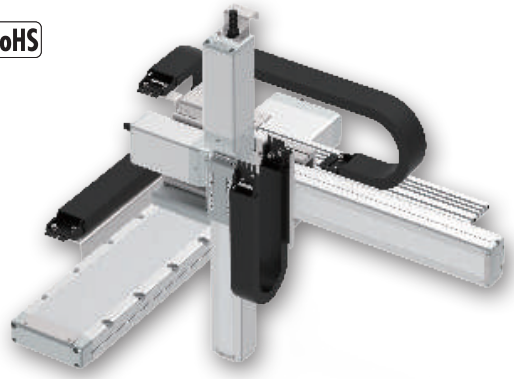
■ Model Specification Items

IK3 — P6BBE3□ □S — WA — □ □ — □ □ — □B□ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable
IK3	P6BBE3□ □S	WA	□ □	□ □	□B□	□	□ — □ — □ — □

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: MHL: X Medium Speed/Y High Speed/Z Low Speed; MHM: X Medium Speed/Y High Speed/Z Medium Speed; MHH: X Medium Speed/Y High Speed/Z High Speed; MHS: X Medium Speed/Y High Speed/Z Ultra High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on page 106.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring / Third Wiring: Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MHL type: X medium speed/Y high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	6

■ MHM type: X medium speed/Y high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~400 (Every 50mm)	450~500 (Every 50mm)
0.1	4	
0.3	4	–

■ MHH type: X medium speed/Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	2
0.3	2

■ MHS type: X medium speed/Y high speed/Z ultra high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~500 (Every 50mm)
0.1	1
0.3	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)	50						100					
Z-axis stroke (mm) / X-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	150						200					
Z-axis stroke (mm) / X-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Stroke

Y-axis stroke (mm)	250						300					
Z-axis stroke (mm) / X-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	350						400					
Z-axis stroke (mm) / X-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)	450						500					
Z-axis stroke (mm) / X-axis stroke (mm)	50	100	150	200	250	300	50	100	150	200	250	300
50	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)	Third wiring (Z-axis lateral)
Without cable track (cable only)	**N**	See P.136	○	○	○
Cable track S size (inner width: 38mm)	**CT**		○	○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA16C Y-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Z-axis : SA7C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : WSA16C Y-axis : SA8C	RCON-PCF	P-159
	Z-axis : SA7C	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-WSA16C	RCP6-SA8C	RCP6-SA7C
Stroke (Every 50mm)		50~1100mm	50~500mm	50~300mm
Max. speed *	MHL	210mm/s	400mm/s	105mm/s
	MHM			210mm/s
	MHH			420mm/s
	MHS			640mm/s
Motor size		56□ High thrust stepper motor	56□ High thrust stepper motor	56□ Stepper motor
Ball screw lead	MHL	10mm	20mm	4mm
	MHM			8mm
	MHH			16mm
	MHS			24mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	B	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected	
Cable exit direction (Right)	CJR	See P.134	○		
Cable exit direction (Left)	CJL	See P.134	○		
Cable exit direction (Bottom)	CJB	See P.134	○		
Non-motor end specification	NM	See P.135	○	○	○
Slider section roller specification	SR	See P.135	○	○	○

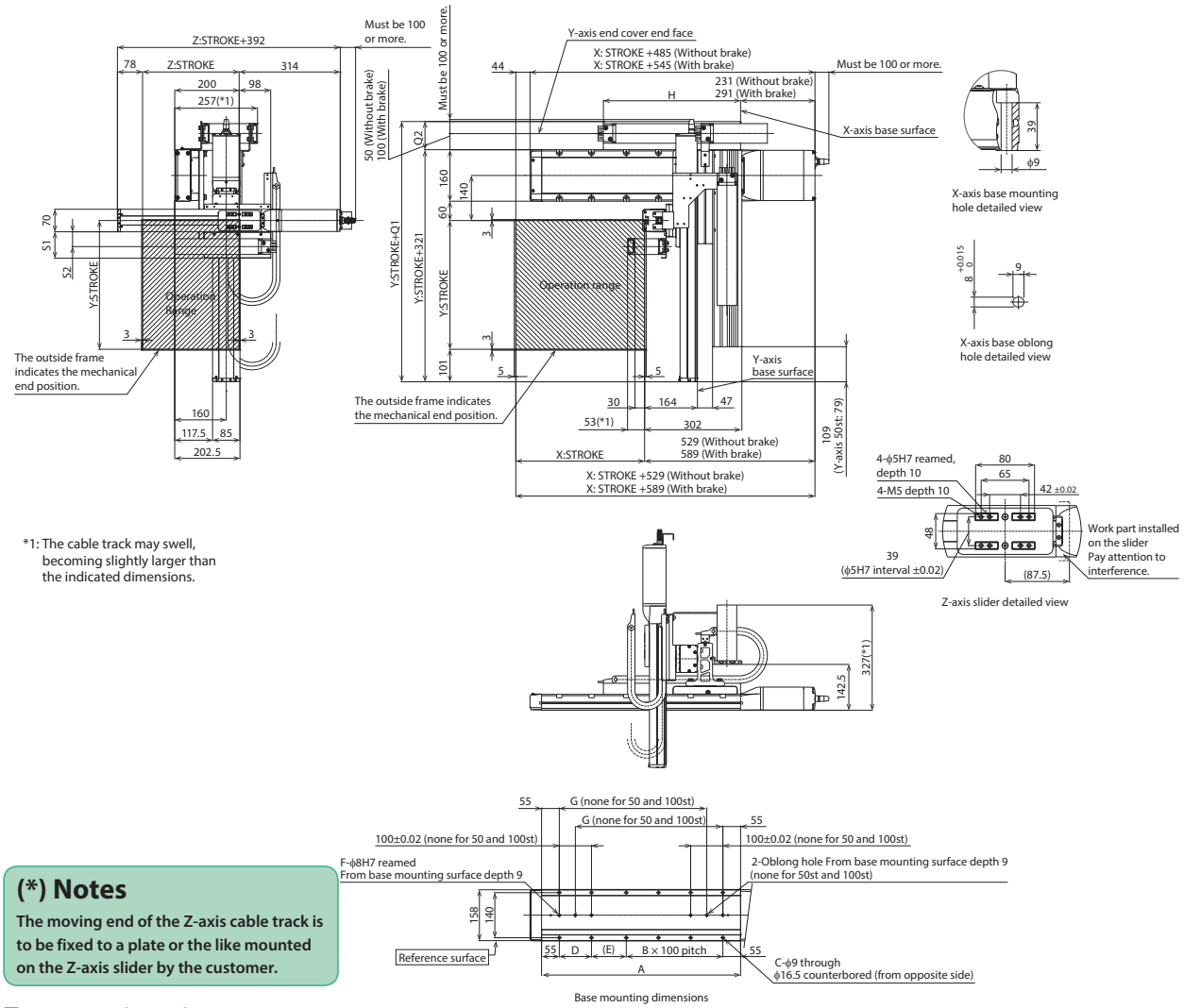
* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



(*) Notes

The moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis slider by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	158	208	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108	58	108
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
H	251	276	301	326	351	376	401	426	451	476	501	526	551	576	601	626	651	676	701	726	751	776

Cable track size	CT	CTM	CTL	CTXL
Q1	396.5	408.5	423.5	441.5
Q2	75.5	87.5	102.5	120.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBH1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7R (side-mounted)
Y-axis: SA6R (side-mounted) Z-axis: TA4R (side-mounted)

■ Model Specification Items

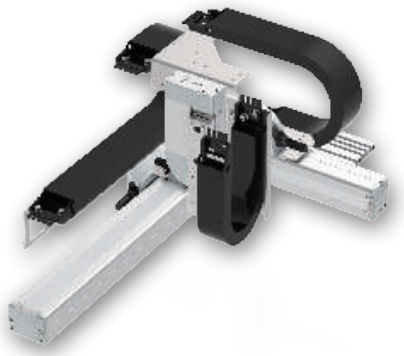
Series — Type — Encoder Type — First Axis (X-axis) — Second Axis (Y-axis) — Third Axis (Z-axis) — Controller — Cable

IK3 — P6BBH1□ □S — WA — □ □ — □ □ — □BCJO□ — □ — □ — □ — □ — □

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Stroke: 5: 50mm * ~ (Every 25mm)
- Options: Refer to Options table on the next page.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring / Third Wiring. Refer to Cable Track table below.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHM type: X high speed/ Y high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	1.5

■ HHH type: X high speed/ Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50			100			150			200		
Z-axis stroke (mm)		50	75	100	50	75	100	50	75	100	50	75	100
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA7R Y-axis : SA6R Z-axis : TA4R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7R	RCP6-SA6R	RCP6-TA4R
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 50mm)	50 ~ 100mm (Every 25mm)
Max speed *	HHM	420mm/s	560mm/s	260mm/s
	HHH			350mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHM	16mm	12mm	5mm
	HHH			10mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

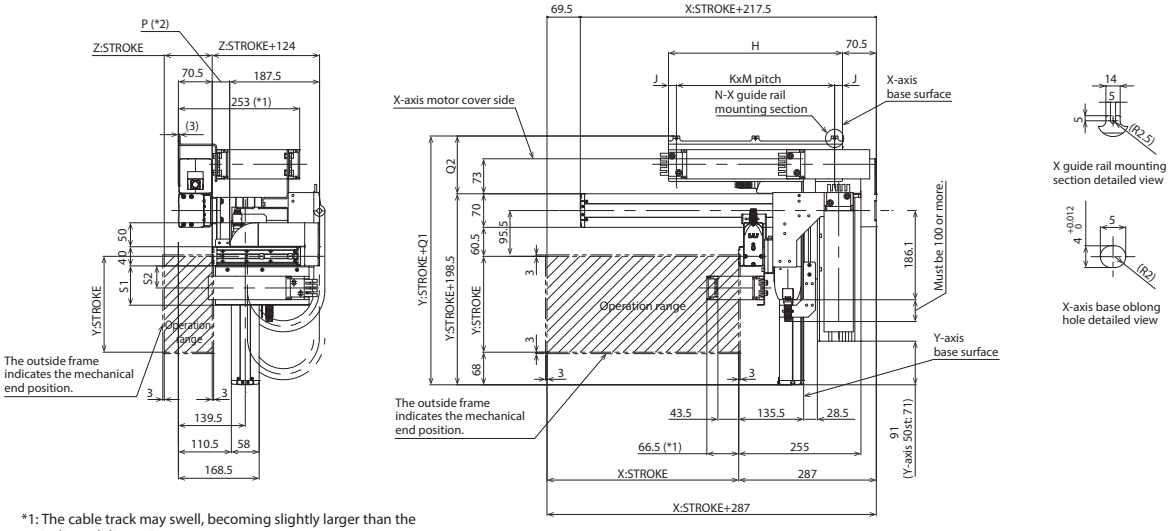
* Be sure to specify.

Dimensions

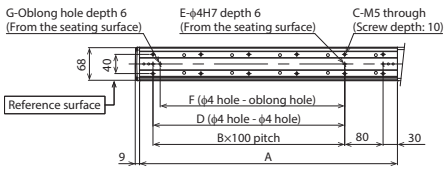
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

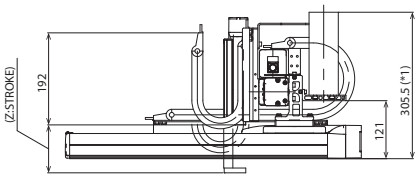
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

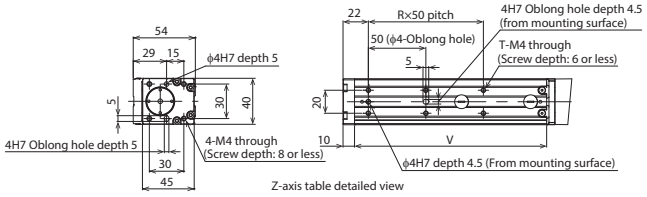


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.



Base mounting dimensions





Z-axis table detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Z: Stroke	50	75	100
P (*2)	-13.5	11.5	36.5
R	1	2	2
T	4	6	6
V	117	142	167

Cable track size	CT	CTM	CTL	CTXL
Q1	306	319	332	349
Q2	107.5	120.5	133.5	150.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBH2□□S

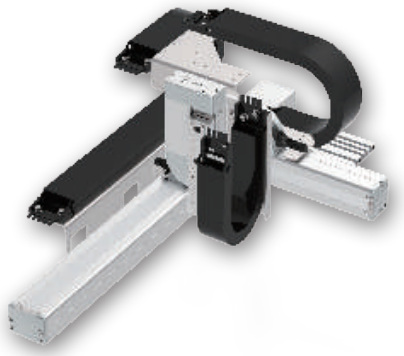
RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7C (Straight)
Y-axis: SA6R (side-mounted) Z-axis: TA4R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBH2□ □S	WA	□ □	□ □	□BCJO□	□	□	□	□	□	□

- Configuration Direction: 1 to 4 — Refer to Robot Type Descriptions on page 3
- Speed Type: HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Stroke: 5: 50mm * ~ (Every 25mm)
- Options: Refer to Options table (1) on the next page.
- * In case stroke like 75mm is selected, indicate "7" without 0.5.
- Controller: PM1, PM2 — Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring / Second Wiring / Third Wiring — Refer to Cable Track table below.
- Options: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHM type: X high speed/ Y high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	1.5

■ HHH type: X high speed/ Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50			100			150			200		
Z-axis stroke (mm)		50	75	100	50	75	100	50	75	100	50	75	100
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA7C Y-axis : SA6R Z-axis : TA4R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6R	RCP6-TA4R
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 50mm)	50 ~ 100mm (Every 25mm)
Max speed *	HHM	420mm/s	560mm/s	260mm/s
	HHH			350mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHM	16mm	12mm	5mm
	HHH			10mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.110.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake*	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

* Please check the Options reference pages to confirm each option.

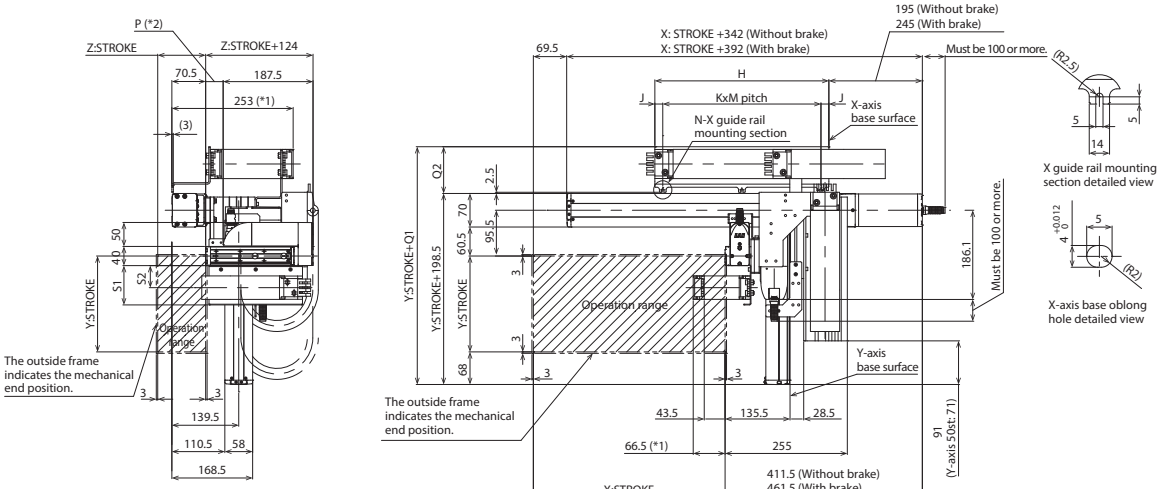
Type	Option code	Reference page
Foot plate	**FTP**	See P.134

Dimensions

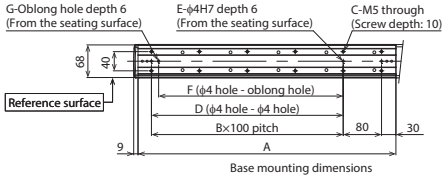
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

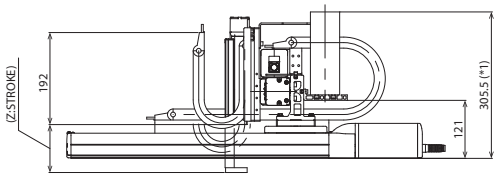
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.
*2: A negative number for P means that the edge of the motor unit is located frontward past the end face of the table.

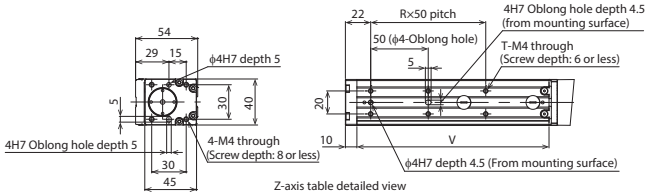


Base mounting dimensions



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P. 134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.



Z-axis table detailed view

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Z: Stroke	50	75	100
P (*2)	-13.5	11.5	36.5
R	1	2	2
T	4	6	6
V	117	142	167

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBH3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA7C (Straight)
Y-axis: SA6C (straight), Z-axis: TA4C (straight)

■ Model Specification Items

IK3 — P6BBH3□ □S — WA — □ □ — □ □ — □B□ — □ — □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBH3□ □S	WA	□ □	□ □	□B□	□	□	□	□	□	□
	Speed Type	Encoder Type	Stroke	Stroke	Options	Controller PM1 PM2	Cable Length	First Wiring	Second Wiring	Third Wiring	Options

Configuration Direction: 1 to 4 — Refer to Robot Type Descriptions on page 3

Speed Type: HHM: X High Speed/Y High Speed/Z Medium Speed; HHH: X High Speed/Y High Speed/Z High Speed

Encoder Type: WA: Battery-less Absolute

Stroke: 5: 50mm ~ (Every 50mm)

Stroke: 5: 50mm * ~ (Every 25mm)

Options: Refer to Options table (1) on the next page.

Controller PM1 PM2: Refer to Applicable Controllers table below.

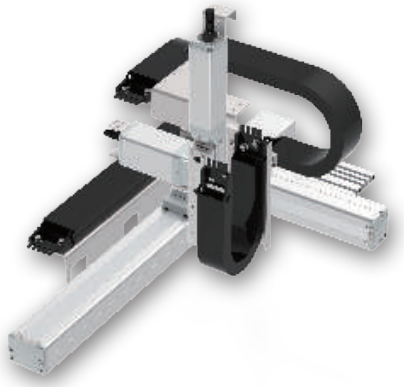
Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m

First Wiring / Second Wiring / Third Wiring: Refer to Cable Track table below.

Options: Refer to Options table (2) on the next page.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HHM type: X high speed/ Y high speed/Z medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	2
0.3	2
0.5	1.5

■ HHH type: X high speed/ Y high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)
0.1	1
0.3	1
0.5	1

* When X, Y and Z axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50			100			150			200		
Z-axis stroke (mm)		50	75	100	50	75	100	50	75	100	50	75	100
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA7C Y-axis : SA6C Z-axis : TA4C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA7C	RCP6-SA6C	RCP6-TA4C
Stroke		50 ~ 800mm (Every 50mm)	50 ~ 200mm (Every 50mm)	50 ~ 100mm (Every 25mm)
Max speed *	HHM	420mm/s	560mm/s	260mm/s
	HHH			350mm/s
Motor size		56□ Stepper motor	42□ Stepper motor	35□ Stepper motor
Ball screw lead	HHM	16mm	12mm	5mm
	HHH			10mm
Drive system		Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	Ball screw ϕ8mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake*	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

* Please check the Options reference pages to confirm each option.

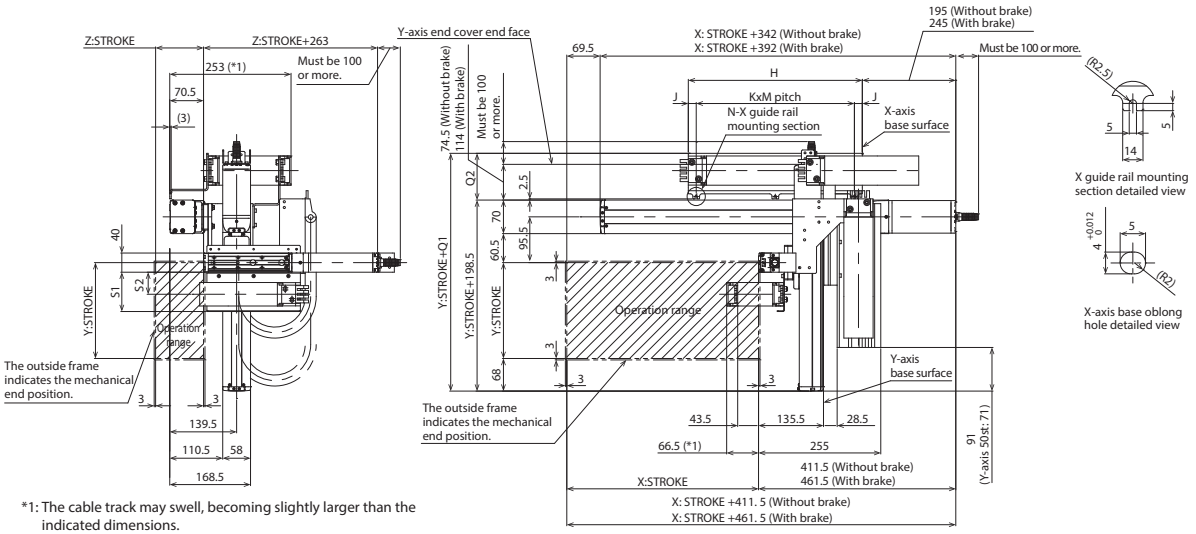
Type	Option code	Reference page
Foot plate	**FTP**	See P.134

Dimensions

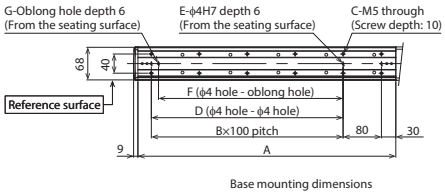
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

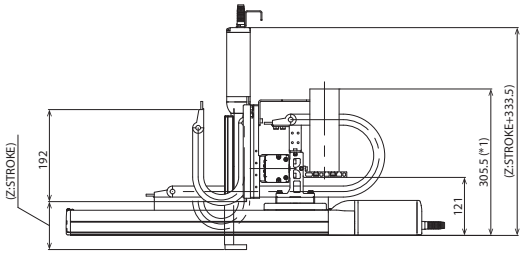
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

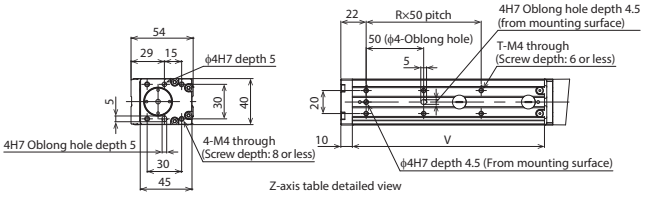


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions





Z-axis table detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P. 134)
Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	0	0	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
G	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	188	213	238	263	288	313	338	363	388	413	438	463	488	513	538	563
J	16.5	16.5	14	16.5	16.5	16.5	14	16.5	14	16	15	66.5	44	56.5	69	16
K	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2	3
M	155	180	210	115	127.5	140	155	165	180	127	136	110	200	200	200	177
N	2	2	2	3	3	3	3	3	3	4	4	4	3	3	3	4

Z: Stroke	50	75	100
R	1	2	2
T	4	6	6
V	117	142	167

Cable track size	CT	CTM	CTL	CTXL
Q1	283	296	309	326
Q2	84.5	97.5	110.5	127.5
S1	82	94	–	–
S2	46	52.5	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBG1□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8R (side-mounted)
Y-axis: SA7R (side-mounted) Z-axis: TA6R (side-mounted)

■ Model Specification Items

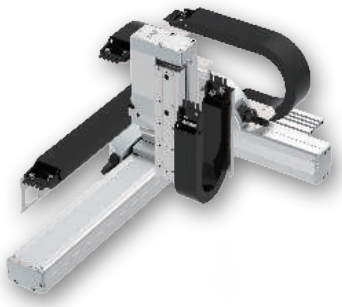
IK3 — P6BBG1□ □S — WA — □ □ — □ □ — □BCJO□ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable
IK3	P6BBG1□ □S	WA	□ □	□ □	□BCJO□	□	□ — □ — □ — □

- **Configuration Direction**: 1 to 4. Refer to Robot Type Descriptions on page 3
- **Speed Type**: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed
- **Encoder Type**: WA: Battery-less Absolute
- **Stroke**: 5: 50mm ~ (Every 50mm)
- **Stroke**: 5: 50mm * ~ (Every 25mm)
- **Options**: Refer to Options table on the next page.
- **Controller**: PM1, PM2. Refer to Applicable Controllers table below.
- **Cable Length**: 1L : 1m; 3L : 3m; 5L : 5m; □L : □m
- **First Wiring**, **Second Wiring**, **Third Wiring**. Refer to Cable Track table below.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ **HSL type: X high speed/ Y ultra high speed/Z low speed**

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	4	3
0.3	4	3
0.5	4	3

■ **HSM type: X high speed/ Y ultra high speed/Z medium speed** (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	2.5	2
0.3	2.5	2
0.5	2.5	2

■ **HSH type: X high speed/ Y ultra high speed/Z high speed**

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	1.5	1
0.3	1.5	1
0.5	1.5	1

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50					100					150					200				
Z-axis stroke (mm)	50	75	100	125	150	50	75	100	125	150	50	75	100	125	150	50	75	100	125	150
50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	250				
Z-axis stroke (mm)	50	75	100	125	150
50	○	○	○	○	○
100	○	○	○	○	○
150	○	○	○	○	○
200	○	○	○	○	○
250	○	○	○	○	○
300	○	○	○	○	○
350	○	○	○	○	○
400	○	○	○	○	○
450	○	○	○	○	○
500	○	○	○	○	○
550	○	○	○	○	○
600	○	○	○	○	○
650	○	○	○	○	○
700	○	○	○	○	○
750	○	○	○	○	○
800	○	○	○	○	○
850	○	○	○	○	○
900	○	○	○	○	○
950	○	○	○	○	○
1000	○	○	○	○	○
1050	○	○	○	○	○
1100	○	○	○	○	○

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7R Z-axis : TA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8R	RCON-PCF	P-159
	Y-axis : SA7R Z-axis : TA6R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected *2 Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8R	RCP6-SA7R	RCP6-TA6R
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 250mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	HSL	300mm/s	640mm/s	140mm/s
	HSM			280mm/s
	HSH			440mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	B	See P.134	○	○	Standard equipment *
Cable exit direction (Outside)	CJO	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	NM	See P.135	○	○	○
Slider section roller specification	SR	See P.135	○	○	Cannot be selected

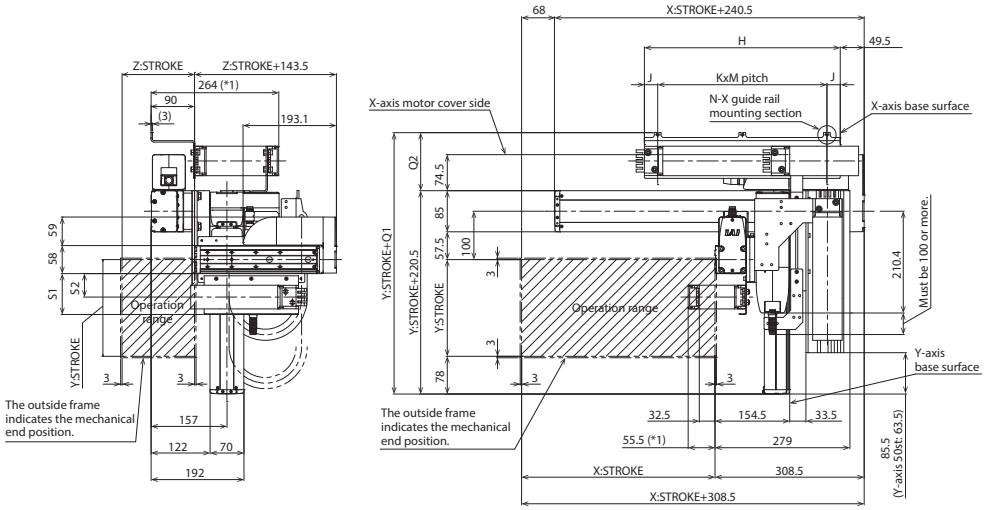
* Be sure to specify.

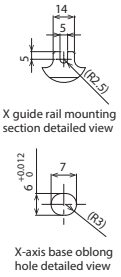
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

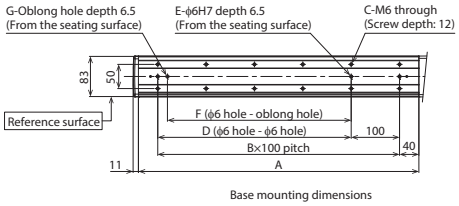
2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

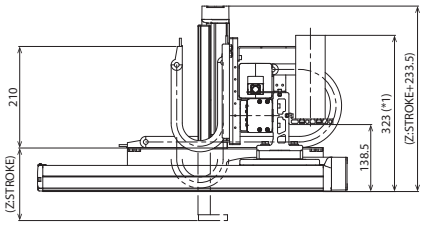


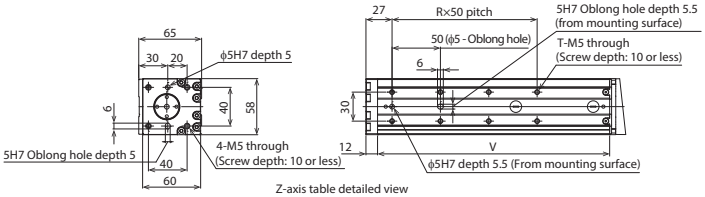


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions





Z-axis table detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Z: Stroke	50	75	100	125	150
R	1	2	2	3	3
T	4	6	6	8	8
V	140	165	190	215	240

Cable track size	CT	CTM	CTL	CTXL
Q1	328	341	354	371
Q2	107.5	120.5	133.5	150.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBG2□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8C (straight)
Y-axis: SA7R (side-mounted) Z-axis: TA6R (side-mounted)

■ Model Specification Items

IK3 — P6BBG2□ □S — WA — □ □ — □ □ — □BCJO□ — □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBG2□ □S	WA	□ □	□ □	□BCJO□	□	□	□	□	□	□

Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3.

Speed Type: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed

Encoder Type: WA: Battery-less Absolute

Stroke: 5: 50mm ~ (Every 50mm)

Stroke: 5: 50mm * ~ (Every 25mm)

Options: Refer to Options table (1) on the next page.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

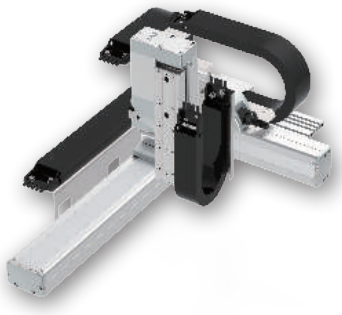
Controller: PM1, PM2. Refer to Applicable Controllers table below.

Cable Length: 1L: 1m, 3L: 3m, 5L: 5m, □L: □m

First Wiring / Second Wiring / Third Wiring: Refer to Cable Track table below.

Options: Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ **HSL type: X high speed/ Y ultra high speed/Z low speed**

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	4	3
0.3	4	3
0.5	4	3

■ **HSM type: X high speed/ Y ultra high speed/Z medium speed** (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	2.5	2
0.3	2.5	2
0.5	2.5	2

■ **HSH type: X high speed/ Y ultra high speed/Z high speed**

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	1.5	1
0.3	1.5	1
0.5	1.5	1

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50					100					150					200				
Z-axis stroke (mm)	50	75	100	125	150	50	75	100	125	150	50	75	100	125	150	50	75	100	125	150
50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	250				
Z-axis stroke (mm)	50	75	100	125	150
50	○	○	○	○	○
100	○	○	○	○	○
150	○	○	○	○	○
200	○	○	○	○	○
250	○	○	○	○	○
300	○	○	○	○	○
350	○	○	○	○	○
400	○	○	○	○	○
450	○	○	○	○	○
500	○	○	○	○	○
550	○	○	○	○	○
600	○	○	○	○	○
650	○	○	○	○	○
700	○	○	○	○	○
750	○	○	○	○	○
800	○	○	○	○	○
850	○	○	○	○	○
900	○	○	○	○	○
950	○	○	○	○	○
1000	○	○	○	○	○
1050	○	○	○	○	○
1100	○	○	○	○	○

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7R Z-axis : TA6R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8C	RCON-PCF	P-159
	Y-axis : SA7R Z-axis : TA6R	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7R	RCP6-TA6R
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 250mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	HSL	300mm/s	640mm/s	140mm/s
	HSM			280mm/s
	HSH			440mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Cable exit direction (Outside)	**CJO**	See P.134	Cannot be selected		Standard equipment *
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

* Please check the Options reference pages to confirm each option.

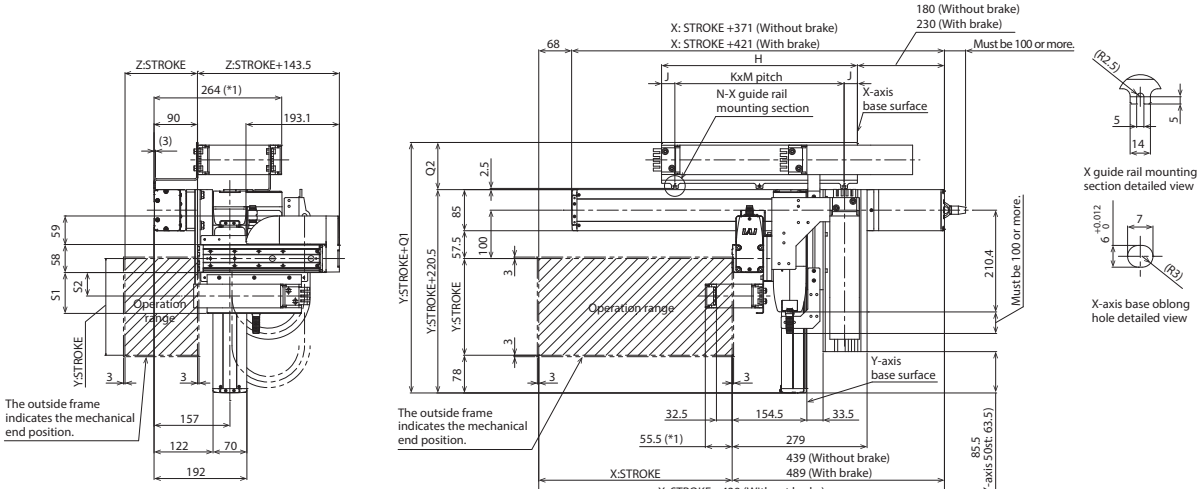
Type	Option code	Reference page
Foot plate	**FTP**	See P.134

Dimensions

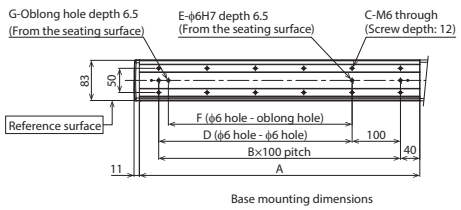
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

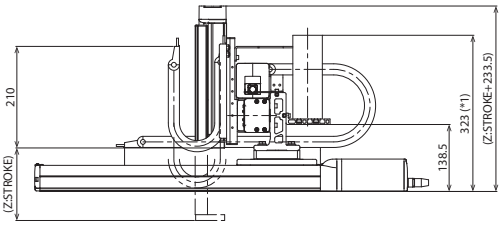
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

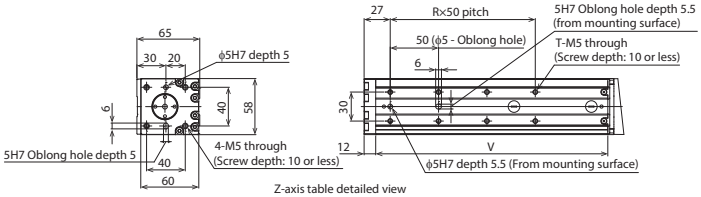


Base mounting dimensions



(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.



Z-axis table detailed view

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Z: Stroke	50	75	100	125	150
R	1	2	2	3	3
T	4	6	6	8	8
V	140	165	190	215	240

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK3-P6BBG3□□S

RCP6 3-axis XYB + Z-axis base mount configurations
X-axis: SA8C (straight)
Y-axis: SA7C (straight), Z-axis: TA6C (straight)

■ Model Specification Items

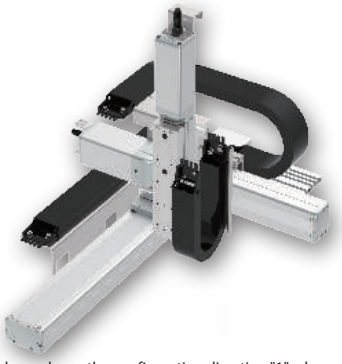
IK3 — P6BBG3□ □S — WA — □ □ — □ □ — □B□ — □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Controller	Cable				Options
IK3	P6BBG3□ □S	WA	□ □	□ □	□B□	□	□	□	□	□	□

- Type — Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3. Speed Type: HSL: X High Speed/Y Ultra High Speed/Z Low Speed; HSM: X High Speed/Y Ultra High Speed/Z Medium Speed; HSH: X High Speed/Y Ultra High Speed/Z High Speed
- Encoder Type: WA: Battery-less Absolute
- First Axis (X-axis) — Stroke: 5: 50mm ~ (Every 50mm)
- Second Axis (Y-axis) — Stroke: 5: 50mm * ~ (Every 25mm)
- Third Axis (Z-axis) — Options: Refer to Options table (1) on the next page.
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable — Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m. First Wiring, Second Wiring, Third Wiring. Refer to Cable Track table below.
- Options: Refer to Options table (2) on the next page.

* In case stroke like 75mm is selected, indicate "7" without 0.5.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ HSL type: X high speed/ Y ultra high speed/Z low speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	4	3
0.3	4	3
0.5	4	3

■ HSM type: X high speed/ Y ultra high speed/Z medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	2.5	2
0.3	2.5	2
0.5	2.5	2

■ HSH type: X high speed/ Y ultra high speed/Z high speed

Acceleration/deceleration (G) \ Y-axis (mm)	50~200 (Every 50mm)	250
0.1	1.5	1
0.3	1.5	1
0.5	1.5	1

* When X, Y and Z axes all have the same acceleration/deceleration. When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

X-axis stroke (mm) \ Y-axis stroke (mm)	50					100					150					200				
Z-axis stroke (mm)	50	75	100	125	150	50	75	100	125	150	50	75	100	125	150	50	75	100	125	150
50	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
150	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
200	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
250	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
950	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1000	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

X-axis stroke (mm) \ Y-axis stroke (mm)	250				
Z-axis stroke (mm)	50	75	100	125	150
50	○	○	○	○	○
100	○	○	○	○	○
150	○	○	○	○	○
200	○	○	○	○	○
250	○	○	○	○	○
300	○	○	○	○	○
350	○	○	○	○	○
400	○	○	○	○	○
450	○	○	○	○	○
500	○	○	○	○	○
550	○	○	○	○	○
600	○	○	○	○	○
650	○	○	○	○	○
700	○	○	○	○	○
750	○	○	○	○	○
800	○	○	○	○	○
850	○	○	○	○	○
900	○	○	○	○	○
950	○	○	○	○	○
1000	○	○	○	○	○
1050	○	○	○	○	○
1100	○	○	○	○	○

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7C Z-axis : TA6C	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8C	RCON-PCF	P-159
	Y-axis : SA7C Z-axis : TA6C	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second and third axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)	Third wiring (Z-axis side)
Without cable track (cable only)	N	See P.136	–	–	–
Cable track S size (inner width: 38mm)	CT		○	○	○
Cable track M size (inner width: 50mm)	CTM		○	○	○
Cable track L size (inner width: 63mm)	CTL		○	○	Cannot be selected *1
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *2	

*1 Only the first and second wiring can be selected
*2 Only the first wiring can be selected

Specifications

Item		X-axis	Y-axis	Z-axis
Axis configuration		RCP6-SA8C	RCP6-SA7C	RCP6-TA6C
Stroke		50 ~ 1100mm (Every 50mm)	50 ~ 250mm (Every 50mm)	50 ~ 150mm (Every 25mm)
Max speed *	HSL	300mm/s	640mm/s	140mm/s
	HSM			280mm/s
	HSH			440mm/s
Motor size		56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor
Ball screw lead	HSL	20mm	24mm	3mm
	HSM			6mm
	HSH			12mm
Drive system		Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10
Positioning repeatability		±0.01mm		
Base material		Aluminum		
Ambient operating temperature, humidity		0~40°C, 85% RH or less (non-condensing)		

* The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

* Please check the Options reference pages to confirm each option.

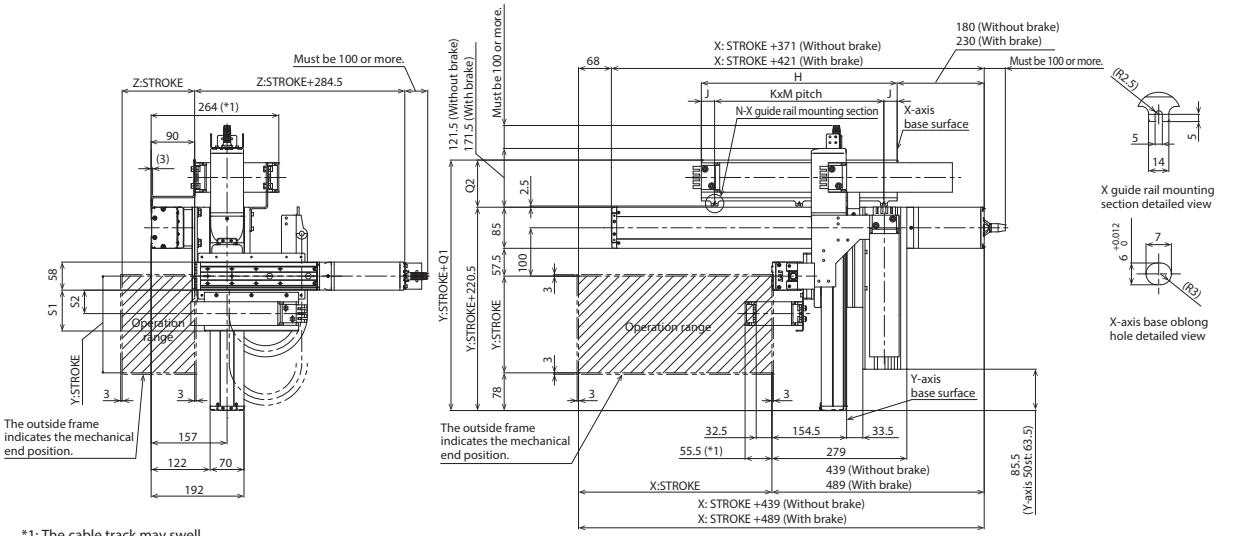
Type	Option code	Reference page
Foot plate	**FTP**	See P.134

Dimensions

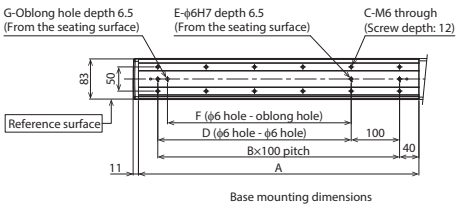
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

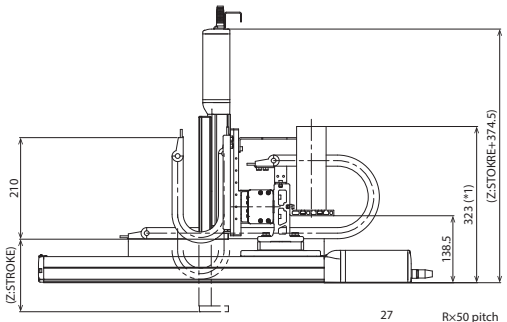
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first, second and third wirings all with cable tracks.
Note 3. For details on the cable track and cable track moving end bracket, refer to P.136.

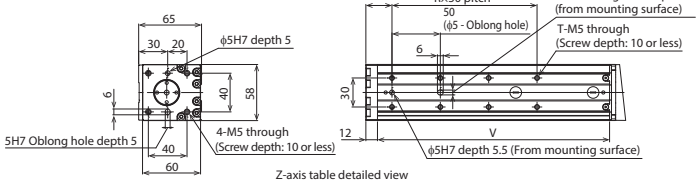


*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions





Z-axis table detailed view

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer. Also, the moving end of the Z-axis cable track is to be fixed to a plate or the like mounted on the Z-axis table by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Z: Stroke	50	75	100	125	150
R	1	2	2	3	3
T	4	6	6	8	8
V	140	165	190	215	240

Cable track size	CT	CTM	CTL	CTXL
Q1	305	318	331	348
Q2	84.5	97.5	110.5	127.5
S1	84.5	96.5	–	–
S2	48.5	55	–	–

* Dimensions Q1, Q2, S1 and S2 change depending on the size of the cable track.

IK4-P6BBB1□□S

RCP6 2-axis XYB + ZR unit configurations
X-axis: SA8R (side-mounted)
Y-axis: SA7R (side-mounted)

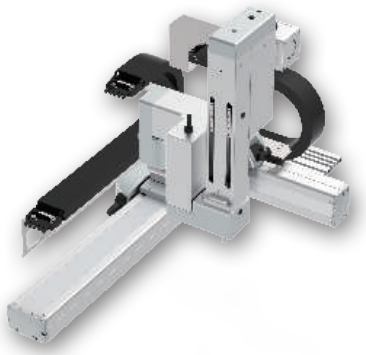
■ Model Specification Items

Series — Type — Encoder Type — First Axis (X-axis) — Second Axis (Y-axis) — Third Axis (Z-axis) — Fourth Axis (R-axis) — Controller — Cable

IK4 — P6BBB1□□S — WA — □□ — □□ — □B□ — □ — □ — □ — □ — □

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: MM: X Medium Speed/Y Medium Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on the next page.
- Stroke: 10: 100mm, 15: 150mm
- Options: Refer to Options table on the next page.
- Stroke: 18 : ±180deg., 36L : ±360deg. (Equipped with home limit switch)
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring, Second Wiring: Refer to Cable Track table below.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed (Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	3.5	
0.3	2	1

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (Max. 15m)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *1

*1 Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-SA8R	RCP6-SA7R	TTPIK-AZR	
Stroke	50 ~ 1100mm (Every 50mm)	50 ~ 300mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	300mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	10mm	8mm	12mm	–
Drive system	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

Options

* Please check the Options reference pages to confirm each option.

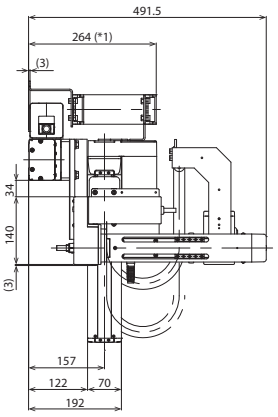
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	B	See P.134	○	○	Standard equipment *
Slider cover	CO	See P.134	Cannot be selected		○
Non-motor end specification	NM	See P.135	○	○	○
Slider section roller specification	SR	See P.135	○	○	Cannot be selected

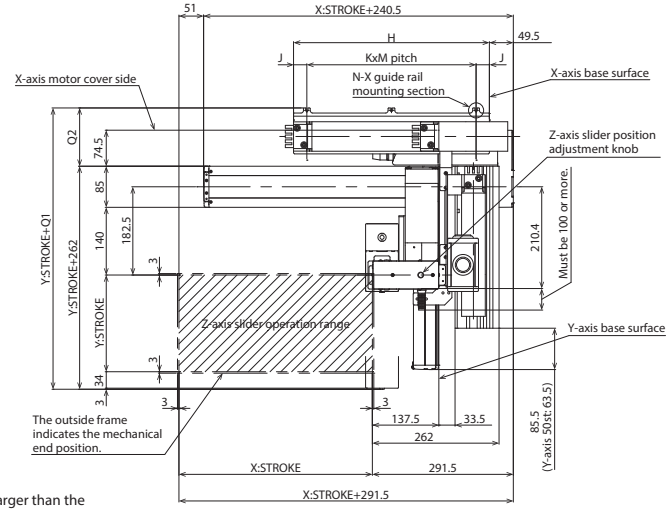
* Be sure to specify.

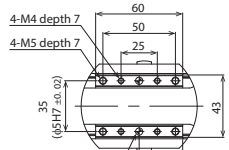
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

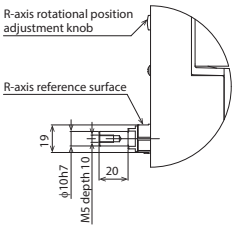
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.





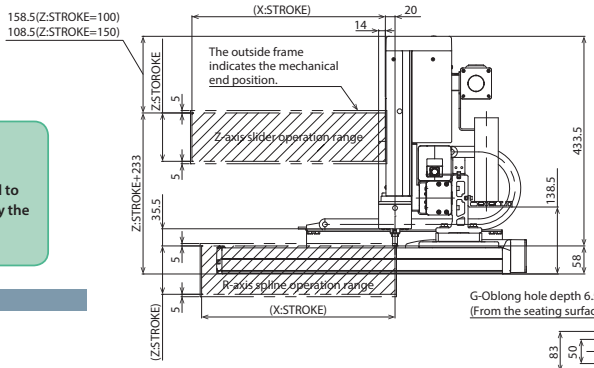


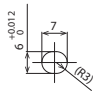
Z-axis slider detailed view



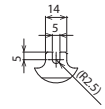
Detailed view of R-axis spline tip

*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

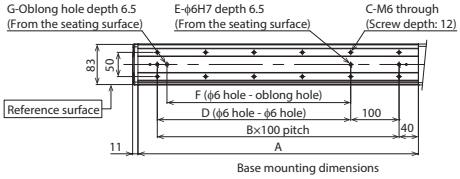




X-axis base oblong hole detailed view



X guide rail mounting section detailed view



Base mounting dimensions

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8R	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
	Z-axis	MCON-C/CG	P-153
	R-axis	MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8R	RCON-PCF	P-159
	Y-axis : SA7R Z-axis , R-axis	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	369.5	382.5	395.5	412.5
Q2	107.5	120.5	133.5	150.5

* Dimensions Q1 and Q2 change depending on the size of the cable track.

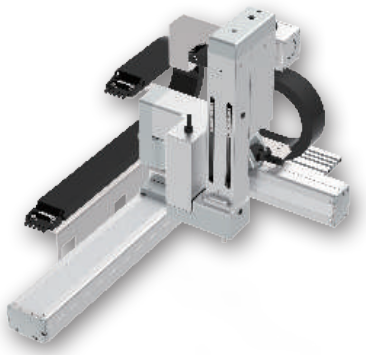
IK4-P6BBB2□□S

RCP6 2-axis XYB + ZR unit configurations
X-axis: SA8C (straight)
Y-axis: SA7R (side-mounted)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)		Second Axis (Y-axis)		Third Axis (Z-axis)		Fourth Axis (R-axis)		Controller	Cable			Options
IK4	P6BBB2□ □S	WA	□	□	□	□	□B	□	□		□	□	□	□	□
	Configuration Direction / Speed Type	Encoder Type	Stroke	Options	Stroke		Options		Stroke		Controller	Cable Length	First Wiring	Second Wiring	Options
	1 to 4 Refer to Robot Type Descriptions on page 3 / MM: X Medium Speed/Y Medium Speed	WA: Battery-less Absolute	5: 50mm ~ (Every 50mm)	Refer to Options table (1) on the next page.	10: 100mm 15: 150mm		Refer to Options table (1) on the next page.		18 : ±180deg. 36L : ±360deg. (Equipped with home limit switch)		PM1 PM2 Refer to Applicable Controllers table below.	1L : 1m 3L : 3m 5L : 5m □L : □m	Refer to Cable Track table below.		Refer to Options table (2) on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	3.5	
0.3	2	1

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (Max. 15m)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *1

*1 Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-SA8C	RCP6-SA7R	TTPIK-AZR	
Stroke	50 ~ 1100mm (Every 50mm)	50 ~ 300mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	300mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	10mm	8mm	12mm	–
Drive system	Ball screw φ16mm rolled C10	Ball screw φ12mm rolled C10	Ball screw φ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	B	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected	
Cable exit direction (Right)	CJR	See P.134	○		
Cable exit direction (Left)	CJL	See P.134	○		
Cable exit direction (Bottom)	CJB	See P.134	○		
Slider cover	CO	See P.134	Cannot be selected		○
Non-motor end specification	NM	See P.135	○	○	○
Slider section roller specification	SR	See P.135	○	○	Cannot be selected

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Options (2)

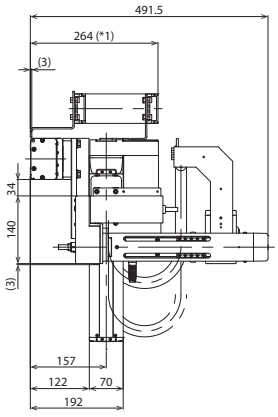
* Please check the Options reference pages to confirm each option.

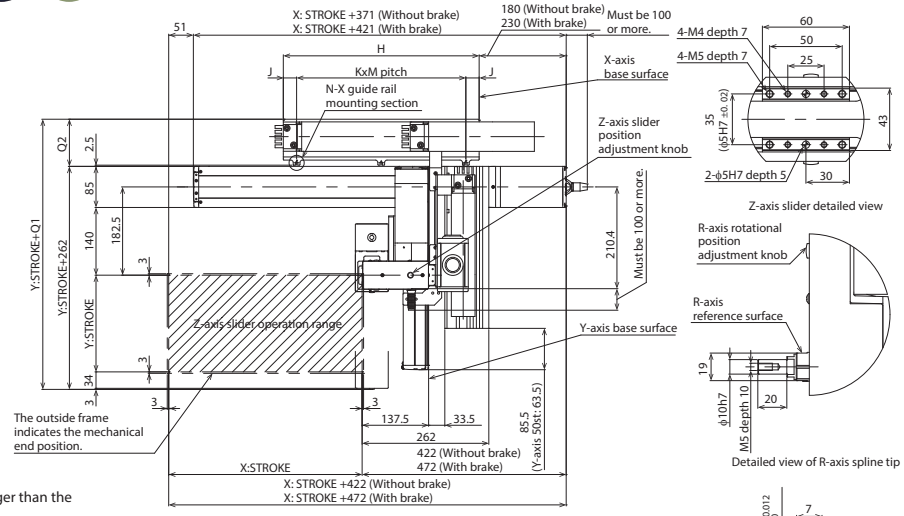
Type	Option code	Reference page
Foot plate	FTP	See P.134

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.

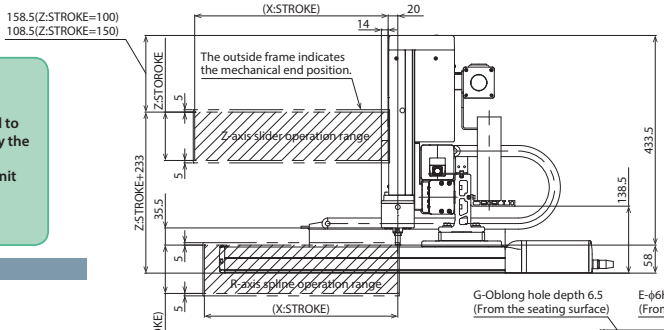


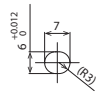


Z-axis slider detailed view

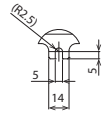
Detailed view of R-axis spline tip

*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

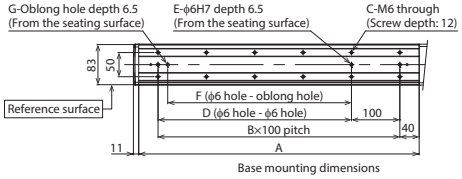




X-axis base oblong hole detailed view



X guide rail mounting section detailed view



Base mounting dimensions

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7R	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
	Z-axis	MCON-C/CG	P-153
	R-axis	MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8C	RCON-PCF	P-159
	Y-axis : SA7R Z-axis , R-axis	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	346.5	359.5	372.5	389.5
Q2	84.5	97.5	110.5	127.5

* Dimensions Q1 and Q2 change depending on the size of the cable track.

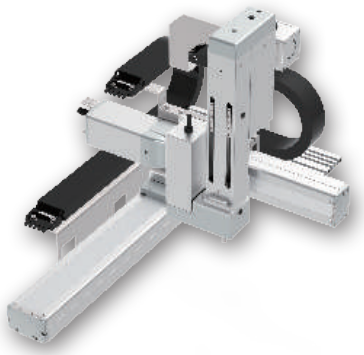
IK4-P6BBB3□□S

RCP6 2-axis XYB + ZR unit configurations
X-axis: SA8C (straight)
Y-axis: SA7C (straight)

■ Model Specification Items

Series	Type	Encoder Type	First Axis (X-axis)		Second Axis (Y-axis)		Third Axis (Z-axis)		Fourth Axis (R-axis)	Controller	Cable			Options
IK4	P6BBB3□□S	WA	□□		□□		□B□		□	□	□	□	□	□
	Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3	Speed Type: MM: X Medium Speed/Y Medium Speed		Stroke: 5: 50mm ~ (Every 50mm)		Options: Refer to Options table (1) on the next page.		Stroke: 10: 100mm 15: 150mm			Controller: PM1 PM2 Refer to Applicable Controllers table below.	Cable Length: 1L : 1m 3L : 3m 5L : 5m □L : □m	First Wiring	Second Wiring	Options: Refer to Options table (2) on the next page.
		Encoder Type: WA: Battery-less Absolute					Options: Refer to Options table (1) on the next page.		Stroke: 18 : ±180deg. 36L : ±360deg. (Equipped with home limit switch)			Refer to Cable Track table below.		

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~200 (Every 50mm)	250~300 (Every 50mm)
0.1	3.5	
0.3	2	1

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○
	850	○	○	○	○	○	○	○	○	○	○	○	○
	900	○	○	○	○	○	○	○	○	○	○	○	○
	950	○	○	○	○	○	○	○	○	○	○	○	○
	1000	○	○	○	○	○	○	○	○	○	○	○	○
	1050	○	○	○	○	○	○	○	○	○	○	○	○
	1100	○	○	○	○	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	1L	1m
	3L	3m
	5L	5m
	□L	Specified length (Max. 15m)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis lateral)	Second wiring (Y-axis lateral)
Without cable track (cable only)	N	See P.136	–	–
Cable track S size (inner width: 38mm)	CT		○	○
Cable track M size (inner width: 50mm)	CTM		○	○
Cable track L size (inner width: 63mm)	CTL		○	○
Cable track XL size (inner width: 80mm)	CTXL		○	Cannot be selected *1

*1 Only the first wiring can be selected

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-SA8C	RCP6-SA7C	TTPIK-AZR	
Stroke	50 ~ 1100mm (Every 50mm)	50 ~ 300mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	300mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ High thrust stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	10mm	8mm	12mm	–
Drive system	Ball screw ϕ16mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

Options (1)

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	B	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	CJT	See P.134	○	Cannot be selected	
Cable exit direction (Right)	CJR	See P.134	○		
Cable exit direction (Left)	CJL	See P.134	○		
Cable exit direction (Bottom)	CJB	See P.134	○		
Slider cover	CO	See P.134	Cannot be selected		○
Non-motor end specification	NM	See P.135	○	○	○
Slider section roller specification	SR	See P.135	○	○	Cannot be selected

* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s). Please contact IAI for more information.

Options (2)

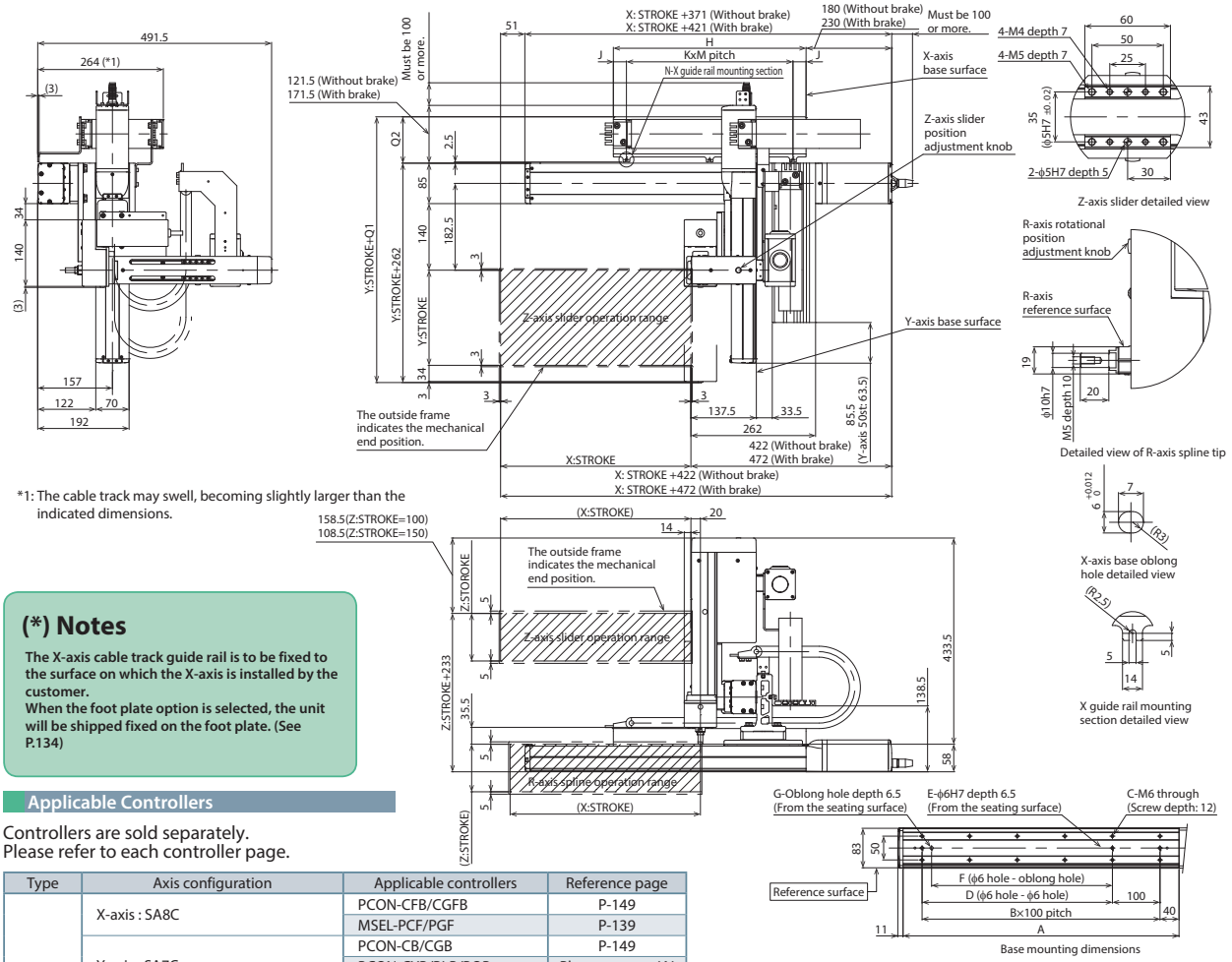
* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page
Foot plate	FTP	See P.134

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com
2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes

The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.
When the foot plate option is selected, the unit will be shipped fixed on the foot plate. (See P.134)

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : SA8C	PCON-CFB/CGFB	P-149
		MSEL-PCF/PGF	P-139
	Y-axis : SA7C Z-axis R-axis	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2	X-axis : SA8C	RCON-PCF	P-159
	Y-axis : SA7C, Z-axis , R-axis	RCON-PC	

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
A	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	0	0	80	180	180	280	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
G	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
H	230	255	280	305	330	355	380	405	430	455	480	505	530	555	580	605	630	655	680	705	730	755
J	30	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	22.5	27.5	77.5	52.5	65	77.5	52.5	27.5	77.5	22.5	55	27.5
K	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4
M	170	200	225	125	137.5	150	162.5	175	187.5	200	145	150	125	150	150	150	175	200	175	165	155	175
N	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	346.5	359.5	372.5	389.5
Q2	84.5	97.5	110.5	127.5

* Dimensions Q1 and Q2 change depending on the size of the cable track.

IK4-P6BBF1□□S

RCP6 2-axis XYB + ZR unit configurations
X-axis: WSA14R (side-mounted)
Y-axis: SA7R (side-mounted)

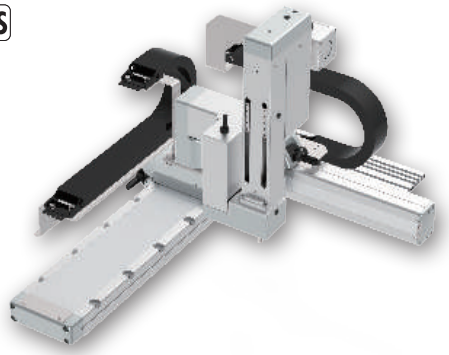
■ Model Specification Items

IK4 – P6BBF1□□S – WA – □□ – □□ – □B□ – □ – □ – □ – □ – □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Fourth Axis (R-axis)	Controller	Cable		
IK4	P6BBF1□□S	WA	□□	□□	□B□	□	□	□	□	□

- Series: IK4
- Type: P6BBF1□□S
  - Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
  - Speed Type: MM: X Medium Speed/Y Medium Speed
- Encoder Type: WA: Battery-less Absolute
- First Axis (X-axis): Stroke: 5:50mm ~ (Every 50mm)
- Second Axis (Y-axis): Options: Refer to Options table on the next page. Stroke: 10: 100mm, 15: 150mm
- Third Axis (Z-axis): Options: Refer to Options table on the next page.
- Fourth Axis (R-axis): Stroke: 18 : ±180deg., 36L : ±360deg. (Equipped with home limit switch)
- Controller: Controller PM1, PM2. Refer to Applicable Controllers table below.
- Cable: Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m; First Wiring; Second Wiring. Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~300 (Every 50mm)	350	400
0.1	5	3	2
0.3	3	–	–

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)
Without cable track (cable only)	**N**	See P.136	–	–
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *1

*1 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately. Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA14R Y-axis : SA7R Z-axis R-axis	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification.
When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected. Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-WSA14R	RCP6-SA7R	TTPIK-AZR	
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 400mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	210mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ Stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	8mm	8mm	12mm	–
Drive system	Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

Options

* Please check the Options reference pages to confirm each option.

Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake	**B**	See P.134	○	○	Standard equipment *
Slider cover	**CO**	See P.134	Cannot be selected		○
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

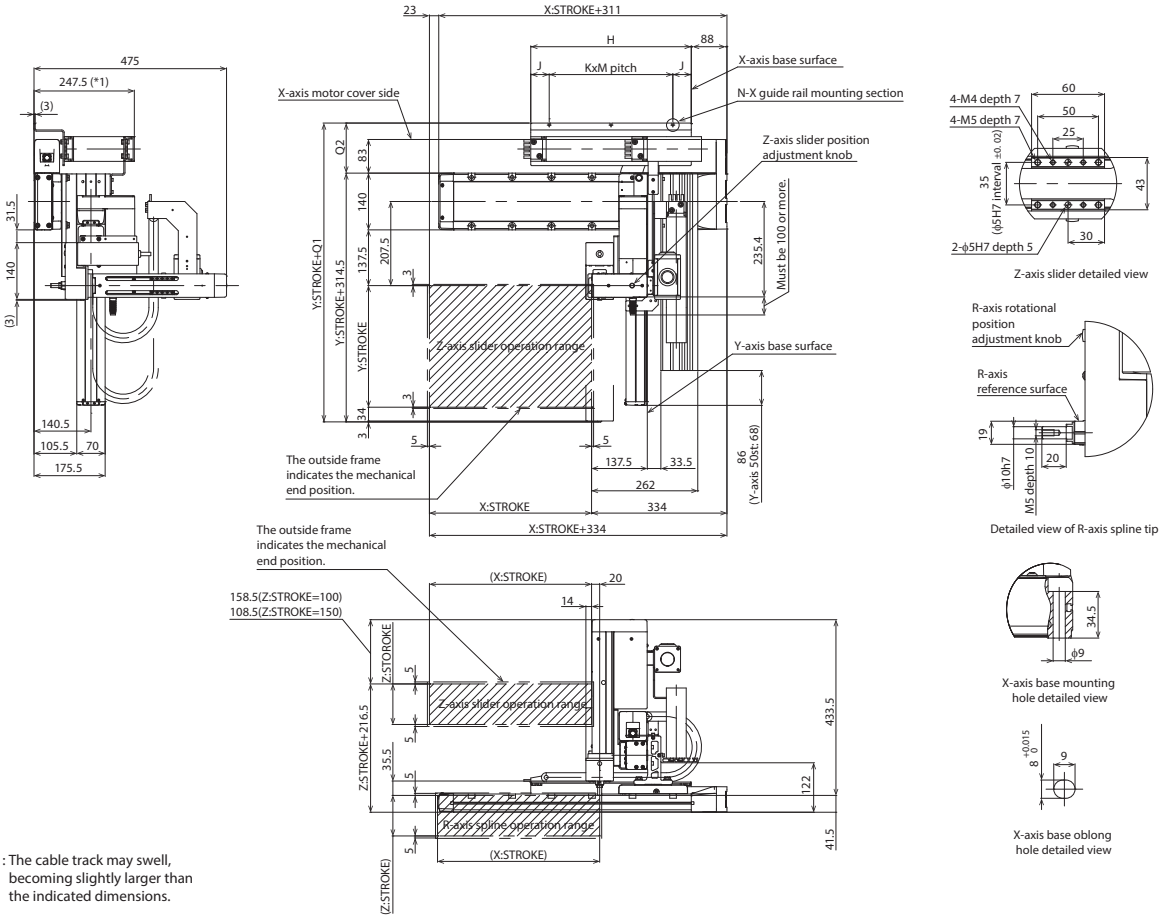
* Be sure to specify.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD 3D CAD

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

(*) Notes The X-axis cable track guide rail is to be fixed to the surface on which the X-axis is installed by the customer.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596
J	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	43	48	45.5	43	43	45.5	43
K	1	1	2	2	2	2	2	2	3	3	3	3	3	4	4	4
M	130	155	90	102.5	115	127.5	140	152.5	110	120	125	135	145	115	120	127.5
N	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5

Cable track size	CT	CTM	CTL	CTXL
Q1	425	438	451	468
Q2	110.5	123.5	136.5	153.5

* Dimensions Q1 and Q2 change depending on the size of the cable track.

IK4-P6BBF2□□S

RCP6 2-axis XYB + ZR unit configurations
X-axis: WSA14C (straight)
Y-axis: SA7R (side-mounted)

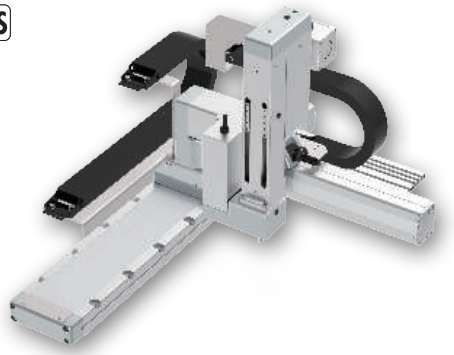
■ Model Specification Items

IK4 — P6BBF2□ □S — WA — □□ — □□ — □B□ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Fourth Axis (R-axis)	Controller	Cable		
IK4	P6BBF2□ □S	WA	□□	□□	□B□	□	□	□	□	□

Configuration Direction	Speed Type	Encoder Type	Stroke	Options	Stroke	Options	Stroke	Controller	Cable Length	First Wiring	Second Wiring
1 to 4 Refer to Robot Type Descriptions on page 3	MM: X Medium Speed/Y Medium Speed	WA: Battery-less Absolute	5: 50mm ↑ (Every 50mm)	Refer to Options table on the next page.	10:100mm 15:150mm	Refer to Options table on the next page.	18 : ±180deg. 36L : ±360deg. (Equipped with home limit switch)	PM1 PM2 Refer to Applicable Controllers table below.	1L : 1m 3L : 3m 5 : 5m □L : □m	Refer to Cable Track table on the next page.	

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~300 (Every 50mm)	350	400
0.1	5	3	2
0.3	3	–	–

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)
Without cable track (cable only)	**N**	See P.136	–	–
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *1

*1 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA14C Y-axis : SA7R Z-axis R-axis	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-WSA14C	RCP6-SA7R	TTPIK-AZR	
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 400mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	210mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ Stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	8mm	8mm	12mm	–
Drive system	Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke. For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia. Please refer to P.138 for more information.

Options

* Please check the Options reference pages to confirm each option.

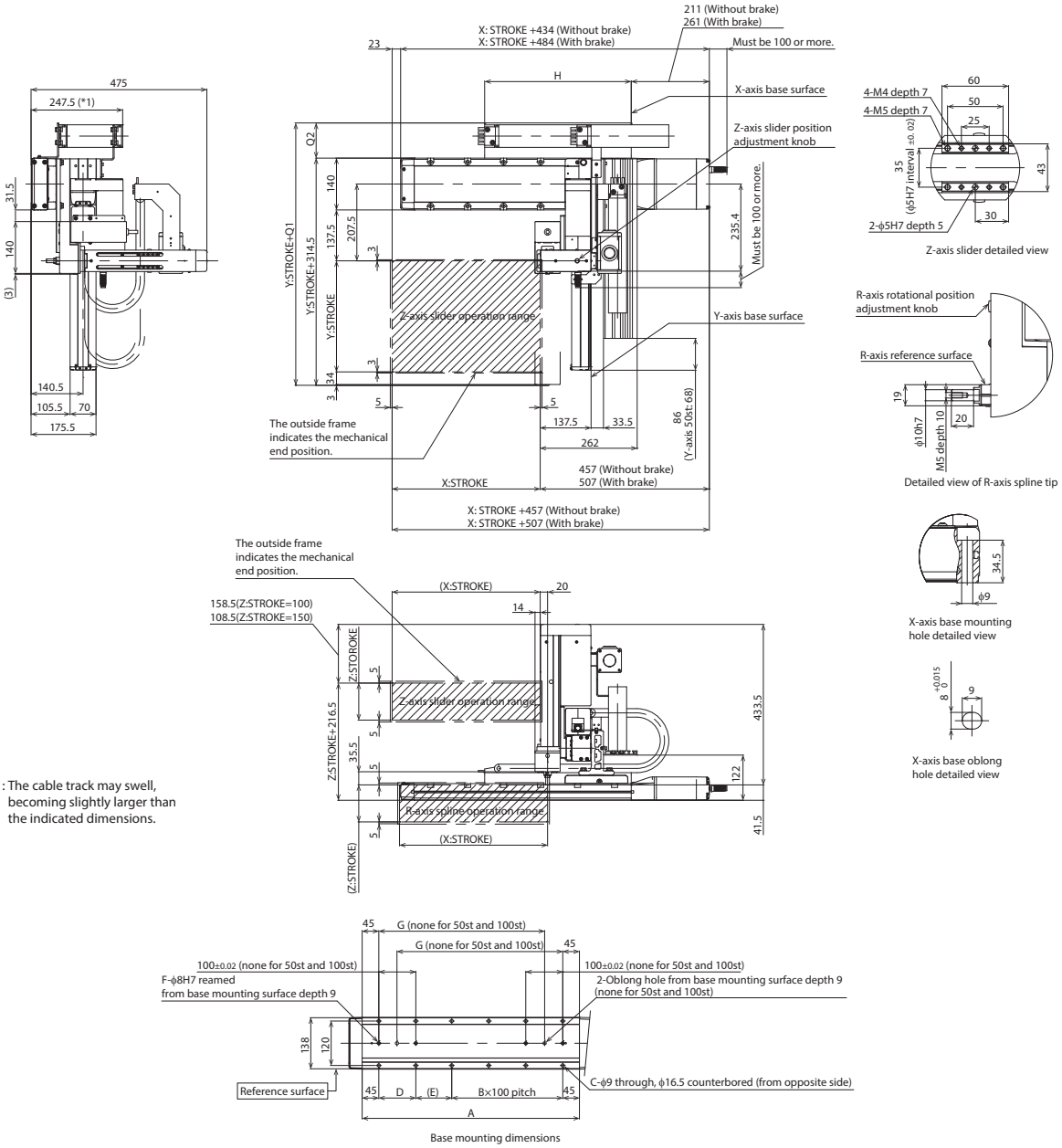
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake *	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Slider cover	**CO**	See P.134	Cannot be selected		○
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

* Be sure to specify.
* Brake option for X-axis increases the length of the motor unit. Please contact IAI for more information.

Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	397.5	409.5	424.5	442.5
Q2	83	95	110	128

* Dimensions Q1 and Q2 change depending on the size of the cable track.

IK4-P6BBF3□□S

RCP6 2-axis XYB + ZR unit configurations
X-axis: WSA14C (straight)
Y-axis: SA7C (straight)

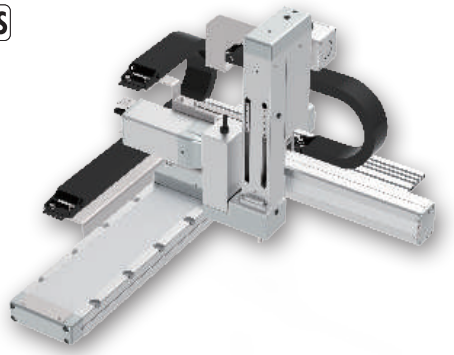
■ Model Specification Items

IK4 — P6BBF3□ □S — WA — □ □ — □ □ — □B□ — □ — □ — □ — □ — □

Series	Type	Encoder Type	First Axis (X-axis)	Second Axis (Y-axis)	Third Axis (Z-axis)	Fourth Axis (R-axis)	Controller	Cable		
IK4	P6BBF3□ □S	WA	□ □	□ □	□B□	□	□	□	□	□

- Configuration Direction: 1 to 4. Refer to Robot Type Descriptions on page 3
- Speed Type: MM: X Medium Speed/Y Medium Speed
- Encoder Type: WA: Battery-less Absolute
- Stroke: 5: 50mm ~ (Every 50mm)
- Options: Refer to Options table on the next page.
- Stroke: 10: 100mm, 15: 150mm
- Options: Refer to Options table on the next page.
- Stroke: 18 : ±180deg., 36L : ±360deg. (Equipped with home limit switch)
- Controller: PM1, PM2. Refer to Applicable Controllers table below.
- Cable Length: 1L : 1m, 3L : 3m, 5L : 5m, □L : □m
- First Wiring, Second Wiring: Refer to Cable Track table on the next page.

RoHS



The photograph above shows the configuration direction "1" where all axes have cable tracks.
Please refer to P.3 for other configuration directions.

Payload by Acceleration

■ MM type: X medium speed/Y medium speed

(Unit: kg)

Acceleration/deceleration (G) \ Y-axis stroke (mm)	50~300 (Every 50mm)	350	400
0.1	5	3	2
0.3	3	–	–

* When X, Y, Z and R axes all have the same acceleration/deceleration.
When there is significant vibration, decrease the speed and acceleration/deceleration as required.

Stroke

Y-axis stroke (mm)		50				100				150			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		200				250				300			
Z-axis stroke (mm)		100		150		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○	○	○	○	○

Y-axis stroke (mm)		350				400			
Z-axis stroke (mm)		100		150		100		150	
R-axis operation range (deg.)		±180	±360	±180	±360	±180	±360	±180	±360
X-axis stroke (mm)	50	○	○	○	○	○	○	○	○
	100	○	○	○	○	○	○	○	○
	150	○	○	○	○	○	○	○	○
	200	○	○	○	○	○	○	○	○
	250	○	○	○	○	○	○	○	○
	300	○	○	○	○	○	○	○	○
	350	○	○	○	○	○	○	○	○
	400	○	○	○	○	○	○	○	○
	450	○	○	○	○	○	○	○	○
	500	○	○	○	○	○	○	○	○
	550	○	○	○	○	○	○	○	○
	600	○	○	○	○	○	○	○	○
	650	○	○	○	○	○	○	○	○
	700	○	○	○	○	○	○	○	○
	750	○	○	○	○	○	○	○	○
	800	○	○	○	○	○	○	○	○

Cable Length

Type	Cable code	Length
Standard type	**1L**	1m
	3L	3m
	5L	5m
	□L	Specified length (15m max.)

Note 1. All-axis standard cable is used.
Note 2. The length of the second, third, and fourth axis cable is from the exit of the cable track. A separate robot cable is included for wiring inside the cable track.
Note 3. The standard lengths are 1m, 3m and 5m, but other lengths can be specified in 1m increments up to 15m.

Cable Track

Type	Model	Reference page	First wiring (X-axis side)	Second wiring (Y-axis side)
Without cable track (cable only)	**N**	See P.136	–	–
Cable track S size (inner width: 38mm)	**CT**		○	○
Cable track M size (inner width: 50mm)	**CTM**		○	○
Cable track L size (inner width: 63mm)	**CTL**		○	○
Cable track XL size (inner width: 80mm)	**CTXL**		○	Cannot be selected *1

*1 Only the first wiring can be selected

Applicable Controllers

Controllers are sold separately.
Please refer to each controller page.

Type	Axis configuration	Applicable controllers	Reference page
PM1	X-axis : WSA14C Y-axis : SA7C Z-axis R-axis	PCON-CB/CGB	P-149
		PCON-CYB/PLB/POB	Please contact IAI
		MCON-C/CG	P-153
		MCON-LC/LCG	
		MSEL	P-139
PM2		RCON-PC	P-159

* Operation is possible with the high output setting specification. When connecting to the MCON controller, "HIGH OUTPUT SETTING SPECIFICATION" must be selected.
Please contact IAI regarding use with the high-output setting disabled.

Specifications

Item	X-axis	Y-axis	Z-axis	R-axis
Axis configuration	RCP6-WSA14C	RCP6-SA7C	TTPIK-AZR	
Stroke	50 ~ 800mm (Every 50mm)	50 ~ 400mm (Every 50mm)	100, 150mm	180deg., 360deg.
Max. speed *1	210mm/s	280mm/s	400mm/s	1,000deg/s *2
Allowable moment of inertia *2	–			0.01kg·m²
Motor size	56□ Stepper motor	56□ Stepper motor	42□ Stepper motor	42□ Stepper motor
Ball screw lead	8mm	8mm	12mm	–
Drive system	Ball screw ϕ12mm rolled C10	Ball screw ϕ12mm rolled C10	Ball screw ϕ10mm rolled C10	–
Positioning repeatability	±0.01mm			±0.01 deg.
Base material	Aluminum			
Ambient operating temperature, humidity	0~40°C, 85% RH or less (non-condensing)			

*1 The maximum speed may not be reached if the travel distance is short or acceleration is low. Maximum speed may change depending on the stroke.
For details, refer to the Maximum Speed by Stroke table on P.137.
*2 Angular velocity and acceleration/deceleration differ depending on allowable moment of inertia.
Please refer to P.138 for more information.

Options

* Please check the Options reference pages to confirm each option.

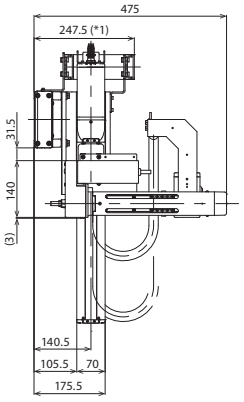
Type	Option code	Reference page	X-axis	Y-axis	Z-axis
Brake*	**B**	See P.134	○	○	Standard equipment *
Cable exit direction (Top)	**CJT**	See P.134	○	Cannot be selected	
Cable exit direction (Right)	**CJR**	See P.134	○		
Cable exit direction (Left)	**CJL**	See P.134	○		
Cable exit direction (Bottom)	**CJB**	See P.134	○		
Slider cover	**CO**	See P.134	Cannot be selected		○
Non-motor end specification	**NM**	See P.135	○	○	○
Slider section roller specification	**SR**	See P.135	○	○	Cannot be selected

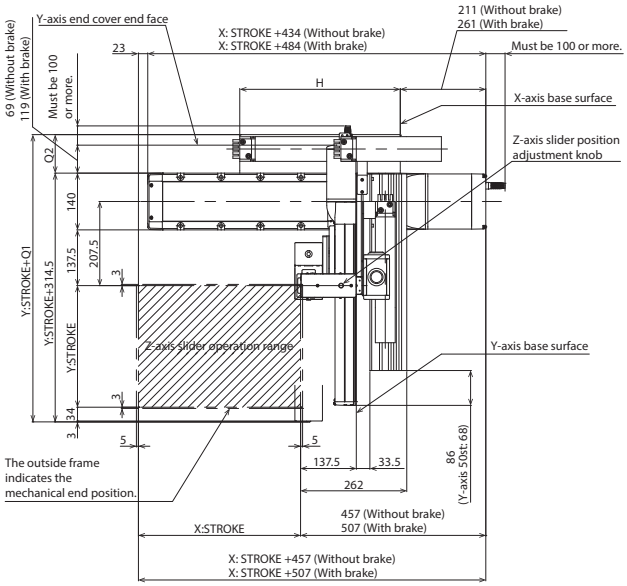
* Outside as standard. Be sure to specify.
* Brake option for X- and/or Y-axes increases the length of the motor unit(s).
Please contact IAI for more information.

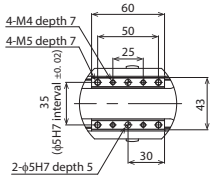
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

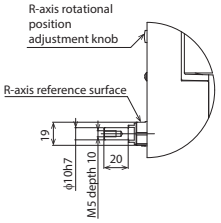
Note 1. The configuration position in the figure is home.
Note 2. The diagram shows first and second wirings with cable tracks.
Note 3. Refer to P.136 for the details of the cable tracks.



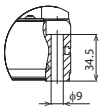




Z-axis slider detailed view

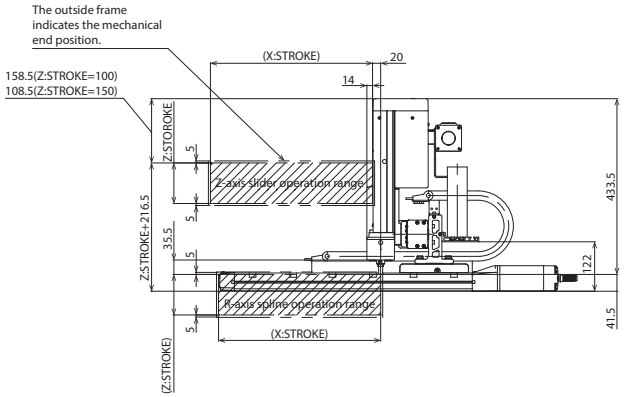


Detailed view of R-axis spline tip

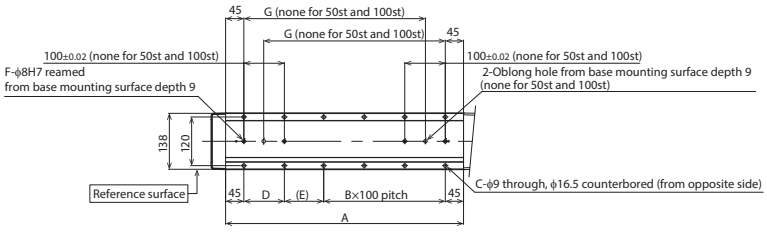


X-axis base mounting hole detailed view

X-axis base oblong hole detailed view



*1: The cable track may swell, becoming slightly larger than the indicated dimensions.



Base mounting dimensions

■ Dimensions by Stroke

X: Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
A	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987
B	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100
E	147	197	47	97	47	97	47	97	47	97	47	97	47	97	47	97
F	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
G	–	–	198	248	298	348	398	448	498	548	598	648	698	748	798	848
H	221	246	271	296	321	346	371	396	421	446	471	496	521	546	571	596

Cable track size	CT	CTM	CTL	CTXL
Q1	397.5	409.5	424.5	442.5
Q2	83	95	110	128

* Dimensions Q1 and Q2 change depending on the size of the cable track.

Brake

Option Code B

Description This is a holding mechanism that prevents the slider from falling and damaging any attached fittings when the power or servo is turned off.
As the Z-axis is designed to be used vertically, a brake will be equipped as a standard feature.
For axes other than the Z-axis, please use the brake option as required.

Slider Cover (IK4 dedicated)

Option Code CO

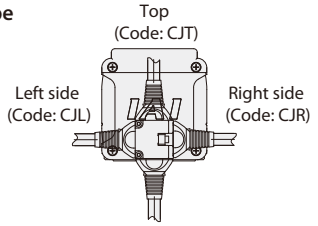
Description Equips the IK4 (rotational axis specification) with a slider cover for when the Z-axis slider is not in use.

Cable Exit Direction

Option Code CJT / CJR / CJL / CJB / CJO

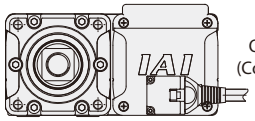
Description This option allows you to change the exit direction of the motor-encoder cable to top, bottom, left, or right.

Straight motor type



* When viewed from the actuator rear side (motor side).

Side-mounted motor type



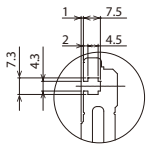
* When viewed from the actuator front side.

Foot Plate

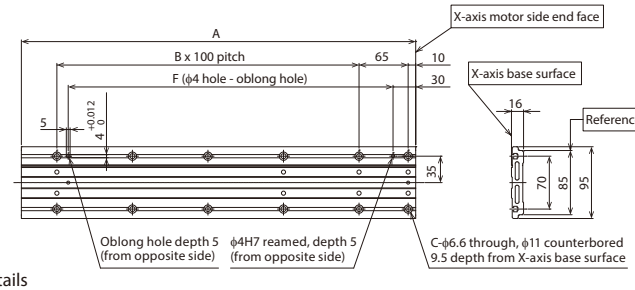
Option Code FTP

Description X-axis can be installed from the top with this Foot Plate.

IK2-P6XBD2□□S
IK2-P6XBD3□□S



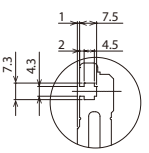
Foot plate T-slot details



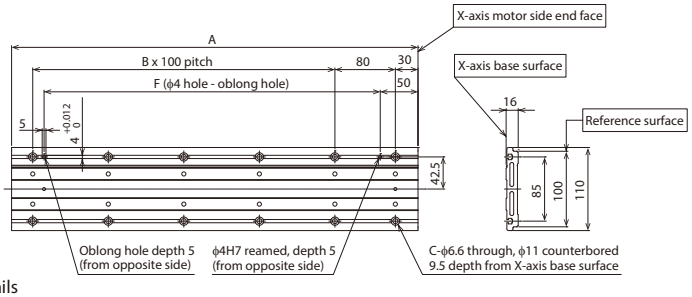
Foot plate mounting dimensions

X-axis stroke	A	B	C	F
50	172	0	4	30
100	222	1	6	130
150	272	1	6	130
200	322	2	8	230
250	372	2	8	230
300	422	3	10	330
350	472	3	10	330
400	522	4	12	430
450	572	4	12	430
500	622	5	14	530
550	672	5	14	530
600	722	6	16	630
650	772	6	16	630
700	822	7	18	730
750	872	7	18	730
800	922	8	20	830

IK2-P6XBC2□□S
IK2-P6XBC3□□S
IK3-P6BBC2□□S
IK3-P6BBC3□□S
IK3-P6BBH2□□S
IK3-P6BBH3□□S



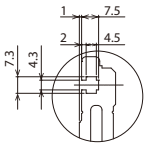
Foot plate T-slot details



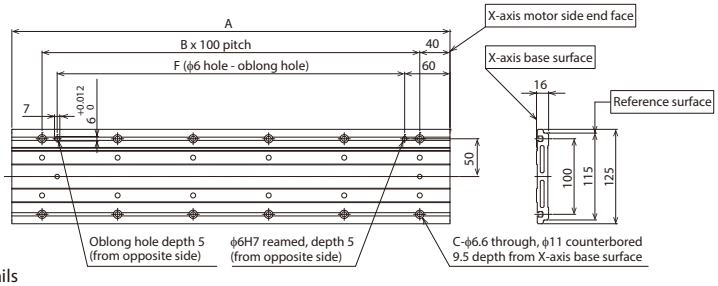
Foot plate mounting dimensions

X-axis stroke	A	B	C	F
50	188	0	4	45
100	238	1	6	145
150	288	1	6	145
200	338	2	8	245
250	388	2	8	245
300	438	3	10	345
350	488	3	10	345
400	538	4	12	445
450	588	4	12	445
500	638	5	14	545
550	688	5	14	545
600	738	6	16	645
650	788	6	16	645
700	838	7	18	745
750	888	7	18	745
800	938	8	20	845

IK2-P6XBB2□□S
IK2-P6XBB3□□S
IK3-P6BBB2□□S
IK3-P6BBB3□□S
IK3-P6BBG2□□S
IK3-P6BBG3□□S
IK4-P6BBB2□□S
IK4-P6BBB3□□S



Foot plate T-slot details

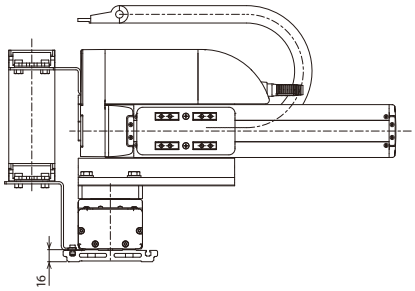


Foot plate mounting dimensions

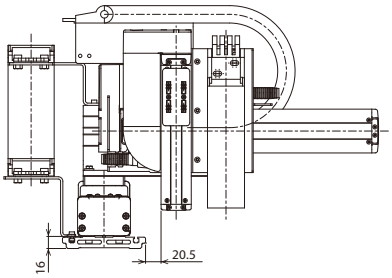
X-axis stroke	A	B	C	F
50	230	1	4	60
100	280	2	6	160
150	330	2	6	160
200	380	3	8	260
250	430	3	8	260
300	480	4	10	360
350	530	4	10	360
400	580	5	12	460
450	630	5	12	460
500	680	6	14	560
550	730	6	14	560
600	780	7	16	660
650	830	7	16	660
700	880	8	18	760
750	930	8	18	760
800	980	9	20	860
850	1030	9	20	860
900	1080	10	22	960
950	1130	10	22	960
1000	1180	11	24	1060
1050	1230	11	24	1060
1100	1280	12	26	1160

* Please refer to the dimensions below when mounting.

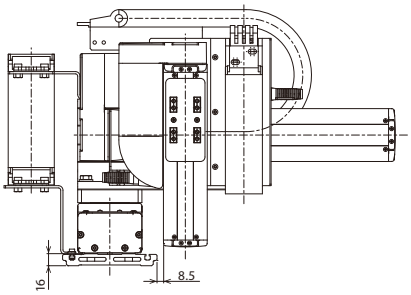
■IK2-P6XBD2□□S
IK2-P6XBD3□□S
IK2-P6XBC2□□S
IK2-P6XBC3□□S
IK2-P6XBB2□□S
IK2-P6XBB3□□S



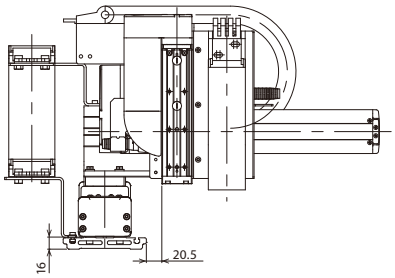
■IK3-P6BBC2□□S
IK3-P6BBC3□□S



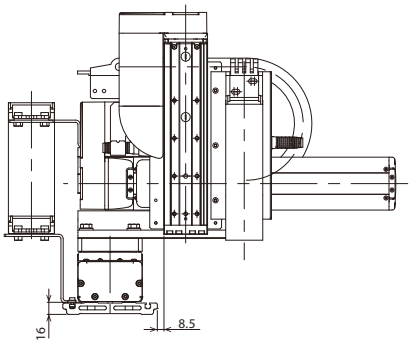
■IK3-P6BBB2□□S
IK3-P6BBB3□□S



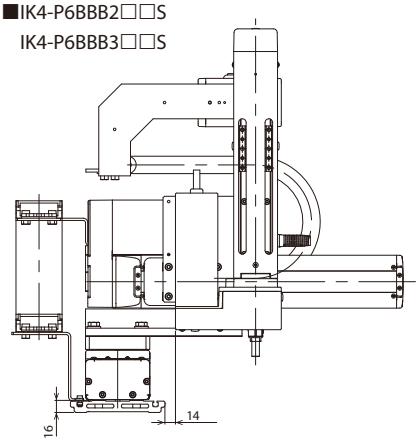
■IK3-P6BBH2□□S
IK3-P6BBH3□□S



■IK3-P6BBG2□□S
IK3-P6BBG3□□S



■IK4-P6BBB2□□S
IK4-P6BBB3□□S



Non-motor End Specification

Option Code **NM**

Description The normal home position is set by the slider and rod on the motor side, however there is the option for the home position to be on the other side to accommodate variations in equipment layout, etc. (Please note that changing the home position after the actuators are shipped may require the products to be sent back to IAI for re-setting.)

Slider Roller Specification

Option Code **SR**

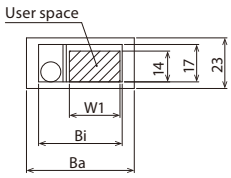
Description The slider of the standard slider type specification is changed to the same roller structure as the cleanroom type. When using the slider roller spec., the appearance and dimensions of the slider cover will be the same as the cleanroom type.
Changing to roller specification will make the external view and dimensions of the slider cover the same as the cleanroom type.

Appendix

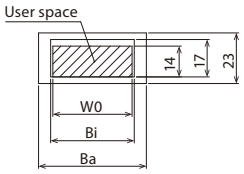
●Cable Track

2-axis configurations | Cable storage | Detailed view

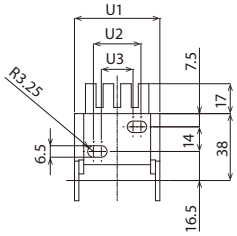
Cable track size	CT	CTM	CTL	CTXL
U1	48.5	60.5	75	–
U2	27	39.5	48	–
U3	18	30.5	–	–
Ba	49	61	76	94
Bi	38	50	63	80
W0	36	48	61	78
W1	23	35	48	65



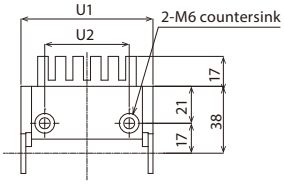
X-Y, Y-Z cable track sectional view



Y-Y, Z-Z cable track sectional view



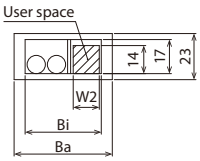
Y-Y, Z-Z cable track moving end detailed view (CT, CTM)



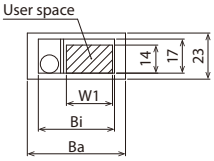
Y-Y, Z-Z cable track moving end detailed view (CTL)

3-axis configurations | Cable storage | Detailed view

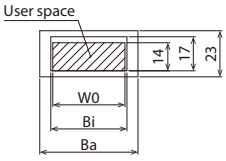
Cable track size	CT	CTM	CTL	CTXL
U1	48.5	60.5	–	–
U2	27	39.5	–	–
U3	18	30.5	–	–
Ba	49	61	76	94
Bi	38	50	63	80
W0	36	48	61	78
W1	23	35	48	65
W2	13	25	38	55



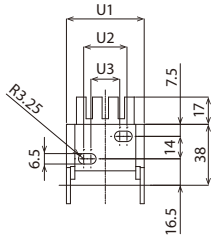
X-Y cable track sectional view



Y-Z cable track sectional view



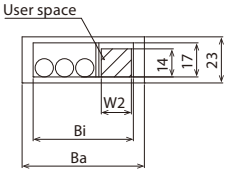
Z-Z cable track sectional view



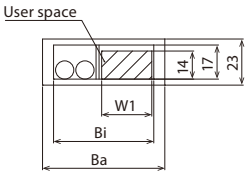
Z-Z cable track moving end detailed view

4-axis configurations | Cable storage | Detailed view

Cable track size	CT	CTM	CTL	CTXL
Ba	49	61	76	94
Bi	38	50	63	80
W1	13	25	38	–
W2	–	15	28	45



X-Y cable track sectional view



Y-ZR cable track sectional view

Bigger user space is available by ordering as a special specification, if it is insufficient. Please refer to each controller page.

●Cable Length

Cable code	Length	RCP6 2-axis IK2-P6	RCP6 3-axis IK3-P6	RCP6 4-axis IK4-P6
1L	1m	○	○	○
2L	2m	○	○	○
3L	3m	○	○	○
4L	4m	○	○	○
5L	5m	○	○	○
6L	6m	○	○	○
7L	7m	○	○	○
8L	8m	○	○	○
9L	9m	○	○	○
10L	10m	○	○	○
11L	11m	○	○	○
12L	12m	○	○	○
13L	13m	○	○	○
14L	14m	○	○	○
15L	15m	○	○	○

Table of Maximum Speed by Stroke

Only models and axes whose maximum speed varies depending on the stroke are listed.
For models and axes not listed below, there is no change in the maximum speed depending on the stroke. Please refer to the product pages.
However, the maximum speed may not be reached if the stroke is short or the acceleration is low.

■ **IK2-P6XBD1□□S X-axis: SA6R**
■ **IK2-P6XBD2□□S X-axis: SA6C**
■ **IK2-P6XBD3□□S X-axis: SA6C**

(Unit: mm/s)

Speed type \ Stroke	50~750 (Every 50mm)	800 (mm)
SS	640	575

■ **IK2-P6XBC1□□S X-axis: SA7R**
■ **IK2-P6XBC2□□S X-axis: SA7C**
■ **IK2-P6XBC3□□S X-axis: SA7C**

(Unit: mm/s)

Speed type \ Stroke	50~700 (Every 50mm)	750 (mm)	800 (mm)
MM	280	275	245
HH	560		500
SS	640		

■ **IK2-P6XBB1□□S X-axis: SA8R**
■ **IK2-P6XBB2□□S X-axis: SA8C**
■ **IK2-P6XBB3□□S X-axis: SA8C**

(Unit: mm/s)

Speed type \ Stroke	50~900 (Every 50mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)
MM	300	285	260	235	220
HH	400				
SS	650				

■ **IK2-P6XBE1□□S X-axis: WSA16R**
■ **IK2-P6XBE2□□S X-axis: WSA16C**
■ **IK2-P6XBE3□□S X-axis: WSA16C**

(Unit: mm/s)

Speed type \ Stroke	50~1050 (Every 50mm)	1100 (mm)
MH	210	205
HH	365	

■ **IK2-P6YBD1□□S Y-axis: SA6R**
■ **IK2-P6YBD2□□S Y-axis: SA6C**
■ **IK2-P6YBD3□□S Y-axis: SA6C**

(Unit: mm/s)

Speed type \ Stroke	50~650 (Every 50mm)	700 (mm)	750 (mm)	800 (mm)
SM	800	735	650	575
SH				

■ **IK2-P6YBI1□□S Y-axis: SA6R**
■ **IK2-P6YBI2□□S Y-axis: SA6C**
■ **IK2-P6YBI3□□S Y-axis: SA6C**

(Unit: mm/s)

Speed type \ Stroke	50~650 (Every 50mm)	700 (mm)	750 (mm)	800 (mm)
SH	800	735	650	575

■ **IK3-P6BBE1□□S X-axis: WSA16R**
■ **IK3-P6BBE2□□S X-axis: WSA16C**
■ **IK3-P6BBE3□□S X-axis: WSA16C**

(Unit: mm/s)

Speed Type \ Stroke	50 ~ 1050 (Every 50mm)	1100 (mm)
MHL	210	205
MHM		
MHH		
MHS		

■ **IK4-P6BBB1□□S X-axis: SA8R**
■ **IK4-P6BBB2□□S X-axis: SA8C**
■ **IK4-P6BBB3□□S X-axis: SA8C**

(Unit: mm/s)

Speed Type \ Stroke	50 ~ 900 (Every 50mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)
MM	300	285	260	235	220

R-Axis Allowable Moment of Inertia, and Angular Velocity and Angular Acceleration/Deceleration

R-axis allowable moment of inertia	Set angular velocity	Set acceleration/deceleration
0.010kg·m²	300 deg/s	0.10 G (1,000 deg/s²)
0.008kg·m²	400 deg/s	0.18 G (1,778 deg/s²)
0.006kg·m²	500 deg/s	0.28 G (2,778 deg/s²)
0.005kg·m²	600 deg/s	0.30 G (2,940 deg/s²)
0.004kg·m²	800 deg/s	
0.003kg·m² or less	1,000deg/s	

MSEL

RCP6/RCP5/RCP4/RCP3/RCP2
Program Controller

Features

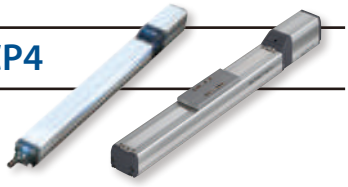
1 Control maximum of 4 axes available with stepper motor mounted ROBO Cylinder

It is also available for interpolation operation, widening the range of possible applications

Example of combinations

Available to connect 4 axes at maximun

2 Available to connect ROBO Cylinders RCP6/RCP5/RCP4



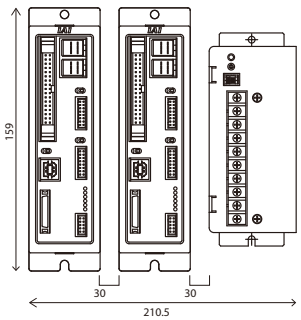
By applying PowerCON, it is now possible to perform interpolation operation with ROBO Cylinders RCP6/RCP5/RCP4, which are applicable for high-output driver, but were not feasible with the program controller PSEL in the past.

3 Reduced wiring/space saving

Until now, with 4 axes controlled for the actuator, 2 controllers (PSEL) for 2-axis control and a 24 V power supply were required.
Using MSEL with a built-in power supply, 4-axis control is possible with 1 controller. As a result, wiring is reduced and space is saved.

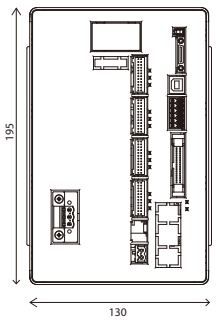
In 4-axis controlling of actuator

Conventional Product **PSEL 2 units + PS241 (24 V power supply)**



Cable Reduction
Applicable for 100 ~230VAC
with built-in power source

New product **MSEL 1 unit**



4 Equipped with expansion I/O slot

In addition to standard IO (IN 16 points / OUT 16 points), one slot is available as the expansion I/O slot. The expansion I/O is available to select from either a PIO (IN 16 points / OUT 16 points) or one of the various available communication boards.

List of Models

Program controller available for operation of RCP6/RCP5/RCP4/RCP3/RCP2 series actuator. A single unit can handle various forms of control.

Type name		PC	PG
Type		Standard type	Safety Category type
External view			
Max. number of controlled axes		4	
No. of positions		30,000 points	
Power supply		Single-phase 100~230VAC	
Safety Category		B	3 *1
Battery-less absolute Incremental Simple absolute	1-axis	○	
	2-axis	○	
	3-axis	○	
	4-axis	○	

*1: To comply with the safety category, the customer will need to install a safety circuit external to the controller.

Model Specification Items

MSEL – [ ] – [ ] – [ ] [ ] [ ] – [ ] [ ] [ ] – [ ] [ ] [ ] – 4 – [ ] – [ ]

Series / Type / Number of Connected Axes / (Axis 1): Motor Type, Encoder Type, Options / (Axis 2 to Axis 4): Motor Type, Encoder Type, Options / Standard I/O Type / Expansion I/O Type / I/O Cable Length / Power Supply Voltage / Simple Absolute Unit / Controller Mounting Specification

PC	Standard type
PG	Safety Category type

1	1-axis specification
2	2-axis specification
3	3-axis specification
4	4-axis specification

B	Brake

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute specification

* Battery-less absolute and incremental cannot be used together with simple absolute. When using simple absolute, all axes need to be used with simple absolute.

20P	20□
20SP	20□
28P	28□
28SP	28□
35P	35□
42P	42□
42SP	42□
56P	56□

(Example) 20P: Supports 20□ stepper motor

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute specification

* Battery-less absolute and incremental cannot be used together with simple absolute. When using simple absolute, all axes need to be used with simple absolute.

20P	20□
20SP	20□
28P	28□
28SP	28□
35P	35□
42P	42□
42SP	42□
56P	56□

(Example) 20P: Supports 20□ stepper motor

Notes

While the motor type specified in the actuator model number and the controller model number usually matches, there are some models where the actuator and controller motor types do not match.
Be sure to check the corresponding models listed below during selection.

<28SP corresponding actuator>

● Controller motor type [28SP]
…RCP2-RA3C

NP	NPN specification
PN	PNP specification

B	Brake

E	Not used
NP	Expansion PIO board (NPN specification)
PN	Expansion PIO board (PNP specification)
DV	DeviceNet board
DV2	DeviceNet board (with 2-way connector)
CC	CC-Link board
CC2	CC-Link board (with 2-way connector)
PR	PROFIBUS-DP board
EP	EtherNet/IP board
EC	EtherCAT board
PRT	PROFINET IO board
SE1	RS232C connection board
SE2	RS485 connection board
IA	IA Net connection board

* If DV2 or CC2 is selected, a 2-way connector is supplied for branch wiring.
* When using EIOU (please contact IAI for more information), an IA Net connection board is required.

0	No cable
2	2m (Standard)
3	3m
5	5m

4	100~230VAC

ABB	With absolute data backup battery box
ABBN	Without absolute data backup battery box
(Blank)	Battery-less absolute or incremental

* Make sure to select ABB/ABBN when selecting simple absolute type "SA".

(Blank)	Screw mounting specification
DN	DIN rail mounting specification

When connecting an actuator with the motor type 56SP, 60P, or 86P.

List of Models

Type name	PCF	PGF
Type	56SP/60P/86P motor-compatible type	Safety Category compliant, 56SP/60P/86P motor-compatible type
External view		
Max. number of controlled axes	4	
No. of positions	30,000 points	
Power supply	Single-phase 100~230VAC	
Safety Category	B	3 *1

Standard price

1 Base price		+	2 56SP, 60P, 86P actuator quantity		+	3 Quantity of simple absolute encoders		=	Price
Number of axes	Price		Number of axes	Price		Number of axes	Price		Standard price by specification
1-axis specification	○		1-axis	○		1-axis	○		
2-axis specification	○		2-axis	○		2-axis	○		
3-axis specification	○					3-axis	○		
4-axis specification	○								

*1: To comply with the safety category, the customer will need to install a safety circuit external to the controller.

Model Specification Items

MSEL – □ – □ – □ WAI □ – □ □ □ – □ □ □ – □ – □ – □ – 4 – □ – □

Series | Type | Number of Connected Axes | (Axis 1): Motor Type, Encoder Type, Options | (Axis 2): Motor Type, Encoder Type, Options | (Axis 3 to Axis 4): Motor Type, Encoder Type, Options | Standard I/O Type | Expansion I/O Type | I/O Cable Length | Power Supply Voltage | Simple Absolute Unit | Controller Mounting Specification

Type

PCF	56SP/60P/86P motor-compatible type
PGF	Safety Category compliant, 56SP/60P/86P motor-compatible type

Number of Connected Axes

1	1-axis specification
2	2-axis specification
3	3-axis specification
4	4-axis specification

(Axis 1) Motor Type

56SP	56□
60P	60□
86P	86□

(Example) 20P: Supports 20□ stepper motor

(Axis 1) Encoder Type

20P	20□
20SP	20□
28P	28□
28SP	28□
35P	35□
42P	42□
42SP	42□
56P	56□
56SP	56□
60P	60□
86P	86□

(Example) 20P: Supports 20□ stepper motor

(Axis 1) Options

B	Brake

(Axis 2) Motor Type

20P	20□
20SP	20□
28P	28□
28SP	28□
35P	35□
42P	42□
42SP	42□
56P	56□

(Example) 20P: Supports 20□ stepper motor

(Axis 2) Encoder Type

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute specification

* When connecting a 56SP, 60P or 86P actuator, a simple absolute unit cannot be selected.

(Axis 2) Options

B	Brake

(Axis 3 to Axis 4) Motor Type

E	Not used
NP	Expansion PIO board (NPN specification)
PN	Expansion PIO board (PNP specification)
DV	DeviceNet board
DV2	DeviceNet board (with 2-way connector)
CC	CC-Link board
CC2	CC-Link board (with 2-way connector)
PR	PROFIBUS-DP board
EP	EtherNet/IP board
EC	EtherCAT connection specification
PRT	PROFINET IO connection specification
SE1	RS232C connection board
SE2	RS485 connection board
IA	IA Net connection board

* If DV2 or CC2 is selected, a 2-way connector is supplied for branch wiring.
* When using EIOU (please contact IAI for more information), an IA Net connection board is required.

(Axis 3 to Axis 4) Encoder Type

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute specification

* Battery-less absolute and incremental cannot be used together with simple absolute. When using simple absolute, all axes need to be used in simple absolute.

(Axis 3 to Axis 4) Options

B	Brake

Standard I/O Type

NP	NPN specification
PN	PNP specification

Expansion I/O Type

0	No cable
2	2m (Standard)
3	3m
5	5m

I/O Cable Length

ABB	With absolute data backup battery box
ABBN	Without absolute data backup battery box
(Blank)	Battery-less absolute or incremental

* Make sure to select ABB/ABBN when selecting simple absolute type "SA".

Power Supply Voltage

4	100~230VAC

Simple Absolute Unit

Controller Mounting Specification

(Blank)	Screw mounting specification
DN	DIN rail mounting specification

Options

Teaching pendant
(See P. 145)
<Model: TB-02-□>
* Supported versions
PC/PG: Ver.1.10 or later
PCF/PGF: Ver.1.60 or later

Options

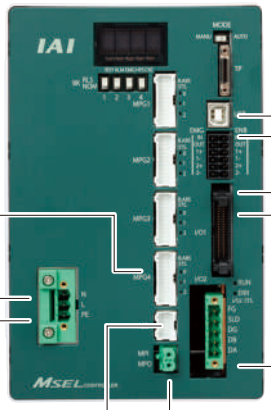
PC compatible software
(See P. 146)
<Model: IA-101-X-MW-JS>
(With RS232C cable
+ connector conversion cable)
<Model: IA-101-X-USBS>
(With USB cable + dummy plug)
* Supported versions
PC/PG: Ver.12.00.01.00 or later
PCF/PGF: Ver.13.02.00.00 or later

Accessories

Dummy plug
(See P. 145)
<Model: DP-4S>
(Included with MSEL-PG/PGF/
included with IA-101-X-USBS)

Accessories

Connector conversion cable
(See P. 145)
<Model: CB-SEL-SJS002>
(Included with TB-01-SJ/
TB-02-S/IA-101-X-MW-JS)



Emergency stop switch

Enable switch

Accessories

PIO flat cable
(See P. 148)
<Model: CB-PAC-PIO020>
Standard: 2m

100~230VAC

PLC

Options

Remote I/O unit
(Please contact IAI for more details)
<Model: EIOU-1-□-□>

Protective grounding

Electromagnetic contactor

Accessories

Connection cable
<Model: CB-MSEL-AB005>
(Included with MSEL-ABB)

Options

Absolute data backup battery box
(See P. 145)
<Model: MSEL-ABB>

Replacement battery
(See P. 145)
<Model: AB-7>

* If the simple absolute type is selected for a controller model, an absolute data backup battery box will be included. (See P. 145 for dimensions)

Expansion PIO/various field networks

Included with expansion PIO specification

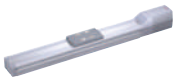
PIO flat cable
(See P. 148)
<Model: CB-PAC-PIO020>
Standard: 2m

PROFIBUS DeviceNet PROFINET
CC-Link EtherNet/IP EtherCAT

<Connectable actuators>

* Emergency stop switch, enable switch, electromagnetic contactor, and other devices may be connected and wired as necessary. The factory setting (short-circuit bridge) with no external devices connected still operates properly.

Integrated Motor-encoder Cable
(See P. 148)
<Model: CB-PSEP-MPA□□□>
Standard: 1 m/3 m/5 m
Supplied with the actuator



Actuator RCP2 Series

Integrated Motor-encoder Cable
(See P. 148)
<Model: CB-RPSEP-MPA□□□>
Standard: 1 m/3 m/5 m
Supplied with the actuator

Actuator RCP2 compact rotary

Integrated Motor-encoder Cable
(See P. 148)
<Model: CB-APSEP-MPA□□□>
Standard: 1 m/3 m/5 m
Supplied with the actuator

Actuator RCP3 Series

Integrated Motor-encoder Cable
(See P. 147)
<Model: CB-CA-MPA□□□>
<Model: CB-CA-MPA□□□-RB>
Standard: 1 m/3 m/5 m
Supplied with the actuator

Actuator RCP4 Series

* Excluding SA3/RA3

Integrated Motor-encoder Cable
(See P. 147)
<Model: CB-CAN-MPA□□□>
<Model: CB-CAN-MPA□□□-RB>
Standard: 1 m/3 m/5 m
Supplied with the actuator

Actuator RCP5 Series

Integrated Motor-encoder Cable
(See P. 147)
<Model: CB-CAN-MPA□□□>
<Model: CB-CAN-MPA□□□-RB>
Standard: 1 m/3 m/5 m
Supplied with the actuator

Actuator RCP6 Series

Basic Controller Specifications

Specification item			Description
Power supply input voltage			Single-phase 100~230 VAC ±10%
Power supply current			2.9A typ. (100 VAC), 1.4A typ. (200 VAC), 1.2A typ. (230 VAC)
Power frequency range			50/60Hz ±5%
Motor type			Stepper motor (servo control)
Supported encoders			Incremental Encoder/Battery-Less Absolute Encoder
Data storage device			FlashROM/FRAM
Number of program steps			9,999
Number of positions			30,000
Number of programs			255
Number of multi-tasks			16
Operation mode	Serial communication		○
	Program		○
SIO interface	Communication method		RS232 (asynchronous communication)
	Baud rate		9.6, 19.2, 38.4, 57.6, 76.8, 115.2kbps
	Live wire connection	TP port	×
		USB	○
Standard PIO interface	Input specification	Number of input points	16 points
		Input voltage	24VDC ± 10%
		Input current	7mA/circuit
		ON voltage	Min.16VDC
		OFF voltage	Max.5VDC
		Leak current	Allowable leak current: 1mA max.
		Isolation method	Photocoupler insulation
	Output specification	Number of output	16 points
		Load voltage	24VDC ± 10%
		Max. current	100mA/1 point, 400mA/8 points (Note 1)
		Saturated voltage	Max.3V
		Leak current	Max.0.1mA
		Isolation method	Photocoupler insulation
Applicable expansion I/O interface			Expansion PIO NPN specification (16IN/16OUT)
			Expansion PIO PNP specification (16IN/16OUT)
			CC-Link (remote device station), DeviceNet, PROFIBUS-DP, PROFINET IO, EtherCAT, EtherNet/IP, IA Net, RS232C, RS485
Calendar/clock function	Retention time		Approx. 10 days
	Charging time		Approx. 100 hours (full charge) data retention is possible even if the batteries are not fully charge
Protection function			Overcurrent, abnormal temperature, fan speed degradation monitoring, encoder disconnection, etc.
Operating temperature range			0 to 40°C
Operating humidity range			85% RH max. (no condensation or freezing)
Installation	Mounting direction		Vertical mounting (exhaust-side top)
	Mounting method		Screw mounted or DIN rail mounted
Rush current			15A typ. (100 VAC), 30A typ. (200 VAC): 5ms max. (Ambient temperature 25°C/No cycling of the power)
Air cooling method			Forced air cooling
External dimensions			Width 130mm x Height 195mm x Depth 125mm
Mass			Approx. 1400g

Note 1: The total load current is 400mA for every eight points from standard I/O No. 316. (The maximum current per point is 100mA.)

PIO Signal Chart

Pin Layouts for Standard PIO Connector/Expansion PIO Connector

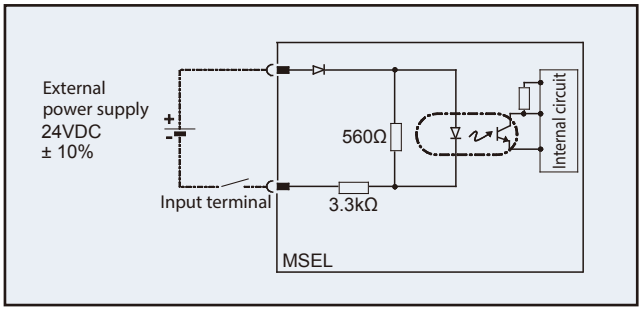
Pin No.	Category	Assignment	Pin No.	Category	Assignment
1A	24V	P24	1B	Output	OUT0
2A	24V	P24	2B		OUT1
3A	-	-	3B		OUT2
4A	-	-	4B		OUT3
5A	Input	IN0	5B		OUT4
6A		IN1	6B		OUT5
7A		IN2	7B		OUT6
8A		IN3	8B		OUT7
9A		IN4	9B		OUT8
10A		IN5	10B		OUT9
11A		IN6	11B		OUT10
12A		IN7	12B		OUT11
13A		IN8	13B		OUT12
14A		IN9	14B		OUT13
15A		IN10	15B		OUT14
16A		IN11	16B		OUT15
17A		IN12	17B	-	-
18A		IN13	18B	-	-
19A		IN14	19B	0V	N
20A		IN15	20B	0V	N

Standard I/O (NPN Specification) Internal Circuit

[Input] External input specification (NPN specification)

Item	Specification
Input voltage	24VDC ±10%
Input current	7mA, 1 circuit
ON/OFF voltage	ON voltage: min. 16.0VDC; OFF voltage: max. 5.0VDC
Insulation method	Photocoupler insulation

* The port numbers in the circuit diagram below are the default port numbers set at time of shipping.
* The allowable leakage current when input is off is 1mA or less.

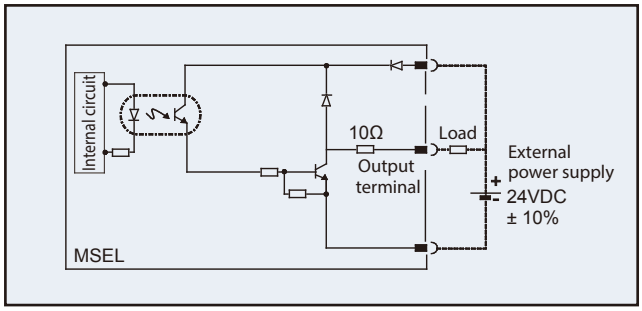


* Please refer to the instruction manual for standard I/O (PNP specification).

[Output] External output specification (NPN specification)

Item	Specification	
Load voltage	24VDC ±10%	TD62084 (equivalent) used
Maximum load current	100mA/1 point, 400mA/8 points (Note)	
Leakage current	0.1mA max./point	
Insulation method	Photocoupler insulation	

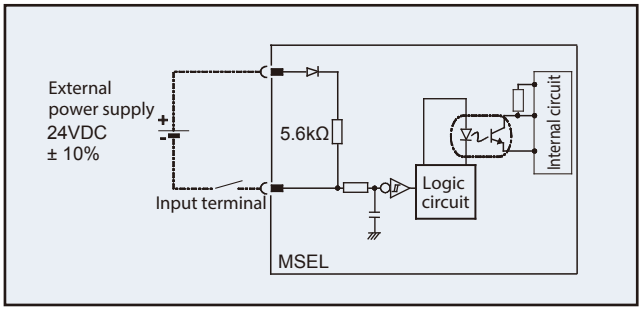
* The port numbers in the circuit diagram below are the default port numbers set at time of shipping.
Note: The total load current is 400mA for every eight points from standard I/O No. 316.
(The maximum current per point is 100mA.)



Expansion I/O (NPN Specification) Internal Circuit

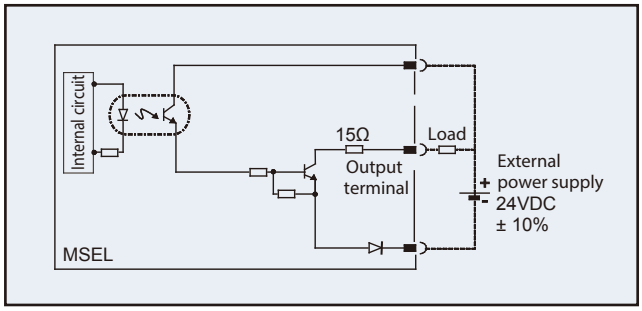
[Input] External input specification

Item	Specification
Number of input	16 points
Input voltage	24VDC ±10%
Input current	4mA, 1 circuit
ON/OFF voltage	ON voltage: 18VDC min. (3.5mA) OFF voltage: 6VDC max. (1mA)
Insulation method	Photocoupler insulation

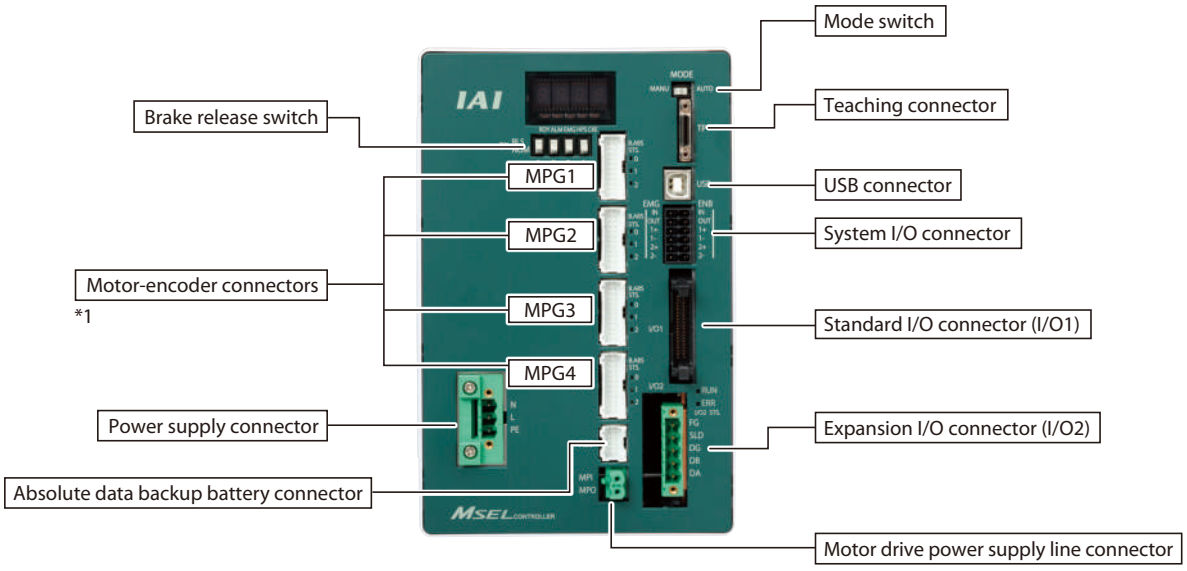


[Output] External output specification

Item	Specification
Number of output	16 points
Rated load current	24VDC ±10%
Max. current	50mA, 1 circuit
Insulation method	Photocoupler insulation



Name of Each Component

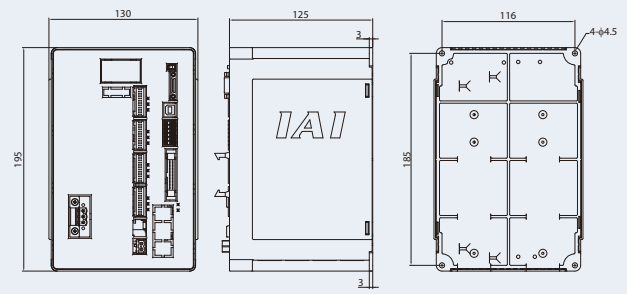


*1: Do not connect a motor to the wrong MPG1, MPG2, MPG3, or MPG4 connector. This may lead to malfunction or failure.

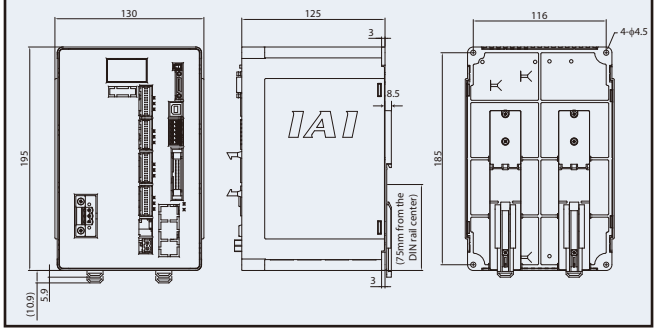
External dimensions

Controller

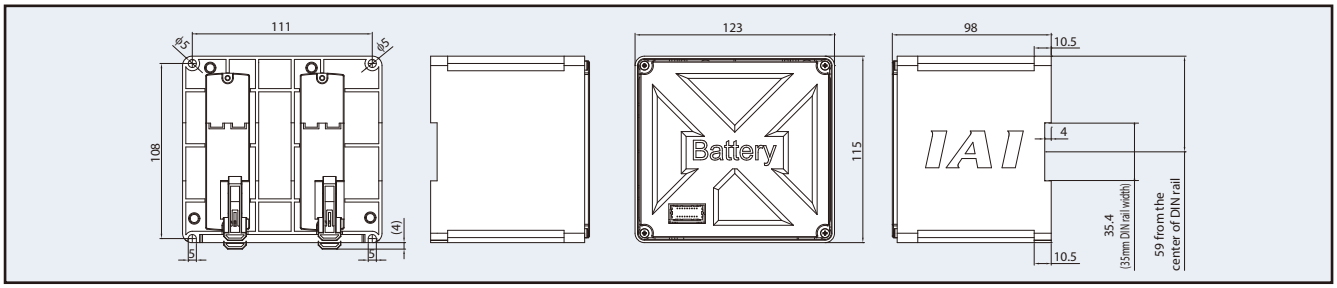
Screw mounting specification



DIN rail mounting specification



Absolute data backup battery box



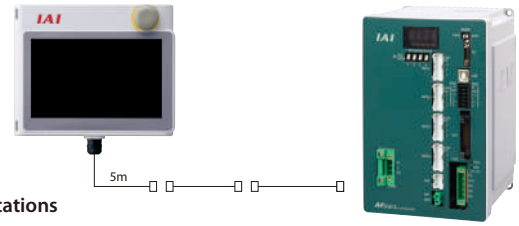
Options

Teaching pendant

Features A teaching device equipped with functions such as program and position input, trial operation, monitoring, etc.

Model **TB-02-□**

Configuration



Specifications

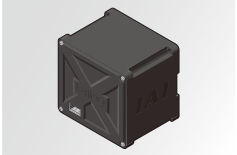
Rated voltage	24V DC
Power consumption	3.6W or less (150mA or less)
Ambient operating temperature	0 to 40°C
Ambient operating humidity	20~85% RH (no condensation)
Environmental resistance	IP20
Mass	470g (TB-02 unit only)

Absolute data backup battery box

Overview If the simple absolute type is selected with the code ABB, the absolute data backup battery box is included with the controller. However, if the battery box is ordered as a separate unit, batteries will not be included, only the box itself. If the battery is needed, please purchase it separately (Model: AB-7).

Model **MSEL-ABB** (battery sold separately)

External Dimensions **See P. 145**



* Cable that connects the absolute data backup battery box and MSEL (Model: CB-MSEL-AB005) is included with the box.

Dummy plug

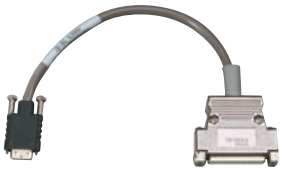
Features Required when operating safety category specification (MSEL-PG/PGF) units or when operated using a USB cable. (MSEL-PG/PGF type, PC software IA-101-X-USBS accessory)

Model **DP-4S**

Connector conversion cable

Features Converts a teaching pendant or RS232C cable D-sub 25-pin connector to an MSEL teaching connector. (TB-01-SJ, TB-02-S, IA-101-X-MW-JS accessory)

Model **CB-SEL-SJS002**



Replacement battery

Overview Replacement battery for the absolute data backup battery box.

Model **AB-7**

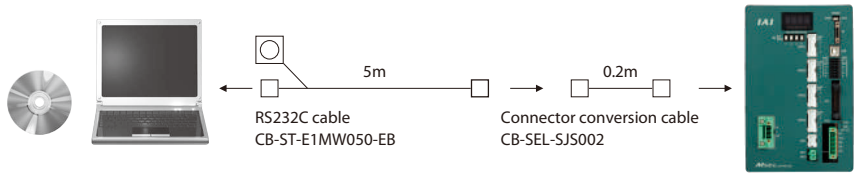
* The number of required absolute batteries is the same as the number of axes.

PC compatible software (Windows only)

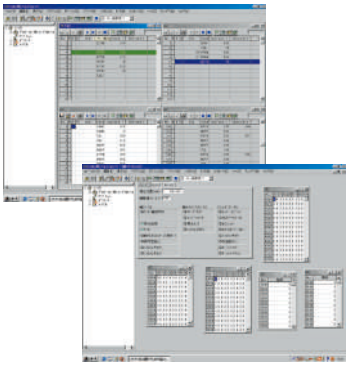
Features This is start-up support software which comes equipped with functions such as program/position input, trial operation, monitoring, etc. The functions required for debugging have been significantly improved to shorten the start-up time.

Model **IA-101-X-MW-JS** (With RS232C cable + connector conversion cable)

Configuration

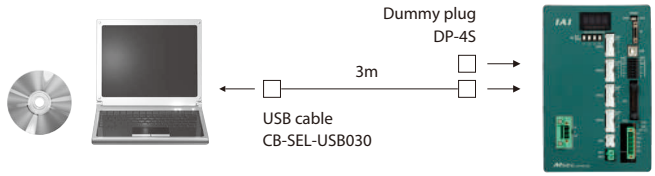


Compatible with Windows XP SP2 or later/Vista/7/8



Model **IA-101-X-USBS** (With USB cable + dummy plug)

Configuration



MSEL-PC/PG is supported by Ver.12.00.01.00 or later.

CB-ST-E1MW050-EB cannot be used "when building an enable system using the system I/O connector and an external power supply." or "when building a redundant safety circuit". (The use of CB-ST-A2MW050-EB is required.)

Maintenance Parts

When placing an order for a replacement cable, please use the model name shown below. (* For connectable actuators, please contact IAI for more information.)

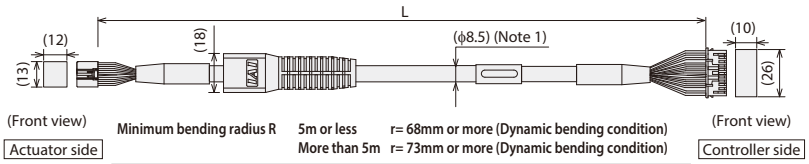
■ Table of compatible cables

	Model name		Integrated Motor-encoder Cable	Integrated Motor-encoder Robot Cable
①	RCP6/RCP6CR/RCP5/RCP5CR/RCP5W (Models other than (3))		CB-CAN-MPA□□□	CB-CAN-MPA□□□-RB
②	RCP4	SA3/RA3/GR		
③	RCP6/RCP6CR RCP5 RCP5W	SA8/RRA8 RA7 (High thrust specification)/RA8/RA10 WSA16/WRA16	CB-CFA3-MPA□□□	CB-CFA3-MPA□□□-RB
④	RCP4/RCP4CR/RCP4W (Models other than (2), (5), (6))		CB-CA-MPA□□□	CB-CA-MPA□□□-RB
⑤	RCP4	RA6C (High thrust specification)	CB-CFA2-MPA□□□	CB-CFA2-MPA□□□-RB
⑥	RCP4W	RA7C (High thrust specification)		
⑦	RCP3		–	CB-APSEP-MPA□□□
⑧	RCP2	GRSS/GRLS/GRST/GRHM/GRHB/SRA4R/ SRGS4R/SRGD4R		
⑨		RTBS/RTBSL RTCS/RTCSL	–	CB-RPSEP-MPA□□□
⑩	RCP2CR RCP2W	GRS/GRM GR3SS/GR3SM	CB-CAN-MPA□□□	CB-CAN-MPA□□□-RB
⑪		RTBS/RTBSL RTCS/RTCSL/RTB/RTBL/RTC/RTCL/RTBB/ RTBBL/RTCB/RTCBL		
⑫	RCP2 RCP2CR RCP2W	RA10/HS8 RA8	CB-CFA-MPA□□□	CB-CFA-MPA□□□-RB
⑬	RCP2W	SA16C		
⑭	RCP2 (Models other than (8)~(13))		–	CB-PSEP-MPA□□□

	Model name	PIO flat cable
⑮	PCON-CB·CGB/CFB·CGFB	CB-PAC-PIO□□□

Model: CB-CAN-MPA□□□/CB-CAN-MPA□□□-RB

* Please indicate the cable length (L) in □□□,
e.g.) 080 = 8m, maximum 20m



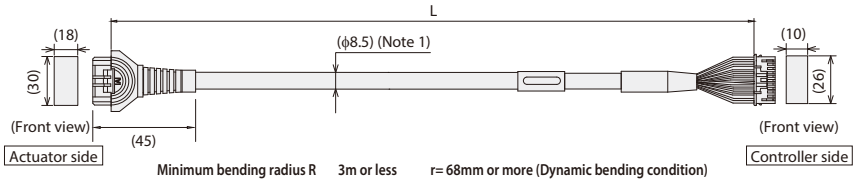
* The robot cable is designed for flex-resistance:
Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is 5m or more, ϕ9.1 cable diameter applies
for both non-robot cables and robot cables.

Pin No.	Signal name	Pin No.	Signal name
3	ϕA/U	1	ϕA
5	VMM/V	2	VMM
10	ϕ_A/W	3	ϕB
9	ϕB/-	4	VMM
4	VMM/-	5	ϕ_A
15	ϕ_B/-	6	ϕ_B
8	LS+/BK+	7	LS+
14	LS-/BK-	8	LS-
12	-/A+	11	SA(mABS)
17	-/A-	12	SB(mABS)
1	A+/B+	13	A+
6	A-/B-	14	A-
11	B+/Z+	15	B+
16	B-/Z-	16	B-
20	BK+/LS+	9	BK+
2	BK-/LS-	10	BK-
21	LS_GND	17	VCC
7	VPS	19	GND
15	VCC	18	VPS
13	GND	20	LS_GND
19	—	22	—
22	BAT+	21	—(CFvcc)
23	—	23	—
24	FG	24	FG

Model: CB-CFA3-MPA□□□/ CB-CFA3-MPA□□□-RB

* Please indicate the cable length (L) in □□□,
e.g.) 080 = 8m, maximum 20m



* The robot cable is designed for flex-resistance:
Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is over 3m, ϕ9.1 cable diameter applies
for a non-robot cable and ϕ10 for a robot cable.

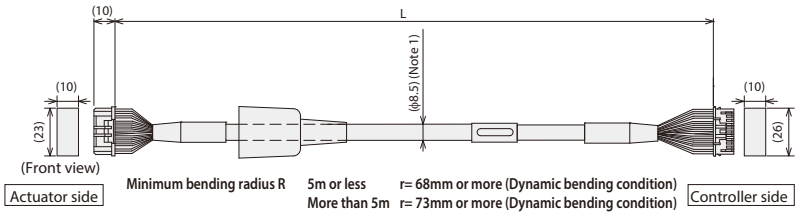
Actuator side
1-1827863-1
(AMP)

Controller side
PADP-24V-1-S
(J.S.T.MFG.CO.,LTD.)

Pin No.	Signal name	Pin No.	Signal name
A1	ϕA	1	ϕA
B1	VMM	2	VMM
A2	ϕ_A	5	ϕ_A
B2	ϕB	3	ϕB
A3	VMM	4	VMM
B3	ϕ_B	6	ϕ_B
A4	LS+	7	LS+
B4	LS-	8	LS-
A6	SA [mABS]	11	SA [mABS]
B6	SB [mABS]	12	SB [mABS]
A7	A+	13	A+
B7	A-	14	A-
A8	B+	15	B+
B8	B-	16	B-
A5	BK+	9	BK+
B5	BK-	10	BK-
A9	LS_GND	20	LS_GND
B9	VPS	18	VPS
A10	VCC	21	VCC
B10	GND	19	GND
A11	—	17	—
B11	FG	22	—
		23	—
		24	FG

Model: CB-CA-MPA□□□/CB-CA-MPA□□□-RB

* Please indicate the cable length (L) in □□□,
e.g.) 080 = 8m, maximum 20m



* The robot cable is designed for flex-resistance:
Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is 5m or more, ϕ9.1 cable diameter applies
for a non-robot cable and ϕ10 for a robot cable.

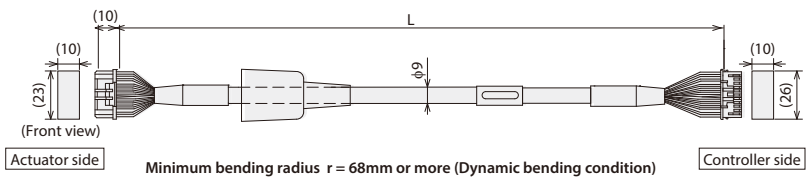
Actuator side
1-1827863-1
(AMP)

Controller side
PADP-24V-1-S
(J.S.T.MFG.CO.,LTD.)

Pin No.	Signal name	Pin No.	Signal name
A1	ϕA	1	ϕA
B1	VMM	2	VMM
A2	ϕ_A	5	ϕ_A
B2	ϕB	3	ϕB
A3	VMM	4	VMM
B3	ϕ_B	6	ϕ_B
A4	LS+	7	LS+
B4	LS-	8	LS-
A6	—	11	—
B6	—	12	—
A7	A+	13	A+
B7	A-	14	A-
A8	B+	15	B+
B8	B-	16	B-
A5	BK+	9	BK+
B5	BK-	10	BK-
A9	LS_GND	20	LS_GND
B9	VPS	18	VPS
A10	VCC	17	VCC
B10	GND	19	GND
A11	—	21	—
B11	FG	22	—
		23	—
		24	FG

Model: CB-CFA2-MPA□□□/CB-CFA2-MPA□□□-RB

* Please indicate the cable length (L) in □□□,
e.g.) 080 = 8m, maximum 20m



* The robot cable is designed for flex-resistance:
Please use the robot cable if the cable needs to be installed through the cable track.

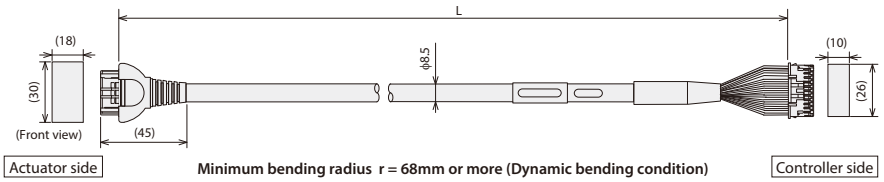
Actuator side
1-1827863-1(AMP)

Controller side
PADP-24V-1-S (J.S.T.MFG.CO.,LTD.)

Pin No.	Signal name	Pin No.	Signal name
A1	ϕA	1	ϕA
B1	VMM	2	VMM
A2	ϕ_A	5	ϕ_A
B2	ϕB	3	ϕB
A3	VMM	4	VMM
B3	ϕ_B	6	ϕ_B
A4	LS+	7	LS+
B4	LS-	8	LS-
A6	—	11	—
B6	—	12	—
A7	A+	13	A+
B7	A-	14	A-
A8	B+	15	B+
B8	B-	16	B-
A5	BK+	9	BK+
B5	BK-	10	BK-
A9	LS_GND	20	LS_GND
B9	VPS	18	VPS
A10	VCC	21	VCC
B10	GND	19	GND
A11	—	17	—
B11	FG	22	—
		23	—
		24	FG

Model: CB-APSEP-MPA□□□

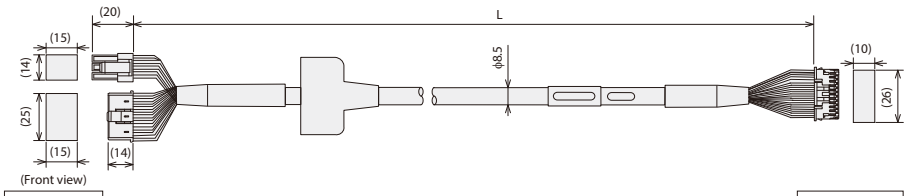
* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m



Actuator side Terminal number		Controller side Terminal number
A1	[PCON](ACON)	1
B1	[ϕA] (U)	2
A2	[VMM](V)	5
B2	[ϕ/A] (W)	3
A3	[ϕB] (-)	4
B3	[VMM](-)	6
A4	[ϕ/B] (-)	7
B4	[LS+](BK+)	8
A6	[LS-](BK-)	11
B6	[-](A+)	12
A7	[-](A-)	13
B7	[A+](B+)	14
A8	[A-](B-)	15
B8	[B+](Z+)	16
A5	[B-](Z-)	9
B5	[BK+](LS+)	10
A9	[BK-](LS-)	20
B9	GNDLS	18
A10	[VPS](VPS)	17
B10	[VCC](VCC)	19
A11	[GND](GND)	21
B11	NC	24
	Shield [FG] (FG)	22
	NC	23
	NC	

Model: CB-PSEP-MPA□□□ * Only the robot cable is available for this model.

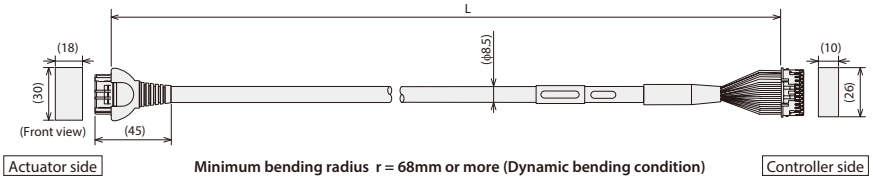
* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m



Actuator side Terminal number		Controller side Terminal number
1	[ϕA]	1
2	[VMM]	2
4	[ϕB]	3
5	[VMM]	4
3	[ϕ/A]	5
6	[ϕ/B]	6
16	[BK+]	9
17	[BK-]	10
5	NC	11
6	NC	12
13	[LS+]	7
14	[LS-]	8
1	[A+]	13
2	[A-]	14
3	[B+]	15
4	[B-]	16
10	[VCC]	17
11	[VPS]	18
9	[GND]	19
12	(Spare)	20
15	NC	21
7	NC	22
8	NC	23
18	Shield [FG]	24

Model: CB-RPSEP-MPA□□□ * Only the robot cable is available for this model.

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m

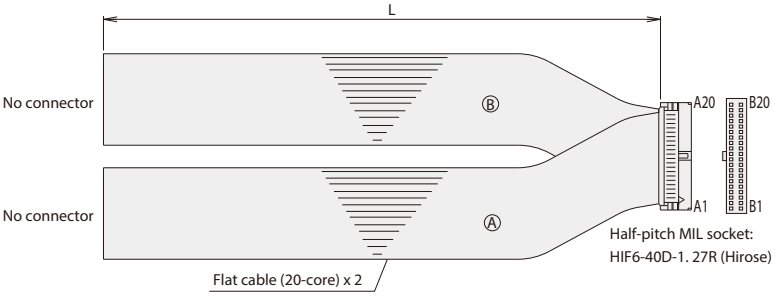


Actuator side Terminal number		Controller side Terminal number
A1	[ϕA]	1
B1	[VMM]	2
A2	[ϕ/A]	5
B2	[ϕB]	3
A3	[VMM]	4
B3	[ϕ/B]	6
A6	[LS+]	7
B6	[LS-]	8
A7	[A+]	13
B7	[A-]	14
A8	[B+]	15
B8	[B-]	16
A4	NC	-
B4	NC	-
A5	[BK+]	9
B5	[BK-]	10
A9	[GNDLS]	20
B9	[VPS]	18
A10	[VCC]	17
B10	[GND]	19
A11	NC	21
B11	Shield [FG] (FG)	24
	NC	22
	NC	23

MSEL/PCON-CA/MSEP-LC PIO flat cable

Model: CB-PAC-PIO□□□

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 10m



HIF6-40D-1.27R

No.	Signal name	Cable color	Wiring
A1	24V	Brown-1	Flat cable Ⓐ (pressure-welded) AWG28
A2	24V	Red-1	
A3	—	Orange-1	
A4		Yellow-1	
A5	IN0	Green-1	
A6	IN1	Blue-1	
A7	IN2	Purple-1	
A8	IN3	Gray-1	
A9	IN4	White-1	
A10	IN5	Black-1	
A11	IN6	Brown-2	
A12	IN7	Red-2	
A13	IN8	Orange-2	
A14	IN9	Yellow-2	
A15	IN10	Green-2	
A16	IN11	Blue-2	
A17	IN12	Purple-2	
A18	IN13	Gray-2	
A19	IN14	White-2	
A20	IN15	Black-2	

No.	Signal name	Cable color	Wiring
B1	OUT0	Brown-3	Flat cable Ⓑ (pressure-welded) AWG28
B2	OUT1	Red-3	
B3	OUT2	Orange-3	
B4	OUT3	Yellow-3	
B5	OUT4	Green-3	
B6	OUT5	Blue-3	
B7	OUT6	Purple-3	
B8	OUT7	Gray-3	
B9	OUT8	White-3	
B10	OUT9	Black-3	
B11	OUT10	Brown-4	
B12	OUT11	Red-4	
B13	OUT12	Orange-4	
B14	OUT13	Yellow-4	
B15	OUT14	Green-4	
B16	OUT15	Blue-4	
B17	—	Purple-4	
B18		Gray-4	
B19	0V	White-4	
B20	0V	Black-4	

PCON-CB/CFB

Position Controller for RCP6/RCP5/
RCP4 (PowerCON Applicable) /RCP3/RCP2

Features

1 High-resolution battery-less absolute encoder compatible

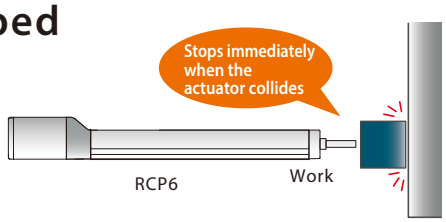
The RCP6 equipped with a high-resolution battery-less absolute encoder is supported. Since no battery is needed to retain position data, less space is required in the control panel, which in turn leads to lower cost of your equipment. The resolution is increased from 800 pulses /rev to 8,192 pulses/rev.

2 PowerCON Equipped

PowerCON (high-output driver) which can enable the stepper motor to perform at its maximum capacity is now installed. By using PowerCON, the output of the stepper motor is increased by 50%. It contributes to cycle time reduction and productivity improvement.

3 Collision Detection Function Equipped

This function stops the operation immediately when the actuator comes into contact with an object.
The actuator stops without crashing, so that damage to the actuator can be minimized.



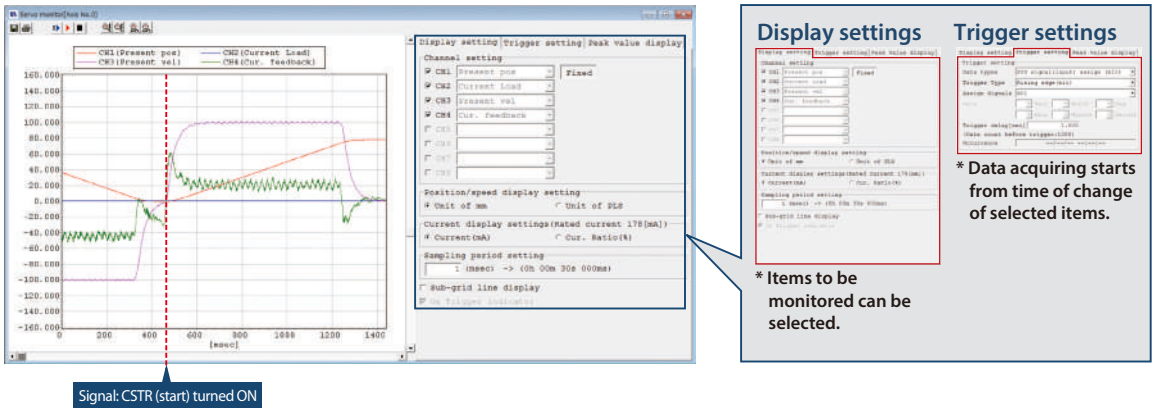
4 Enhanced Monitor Functions

The PC compatible software can display information about the actuator and controller in operation as waveforms.

*Information that can be displayed: Command current value, current speed/position, and PIO signals (start, positioning completion, alarm, etc.)

Using the trigger function, the end user can specify a particular moment, either a change in PIO signals or a designated moment during the actuator's operation time, to begin displaying the waveforms.

Monitor function screen (example)



List of Models

Model number			PCON-CB/CGB, CFB/CGFB								
External view											
I/O type		Positioner type	Pulse-train type	Field network type							
				DeviceNet	CC-Link	PROFIBUS-DP	CompoNet	MECHATROLINK I,II*1	MECHATROLINK III*1	EtherCAT	EtherNet/IP	PROFINET IO
I/O type model number		NP/PN	PLN/PLP	DV	CC	PR	CN	ML	ML3	EC	EP	PRT
PCON-CB/CGB	Battery-less absolute specification Incremental specification	○	○	○	○	○	○	○	○	○	○	○
	Simple absolute spec. With absolute battery	○	○	○	○	○	○	○	○	○	○	○
	Simple absolute spec. With absolute battery unit	○	–	○	○	○	○	○	○	○	○	○
	Simple absolute spec. Without absolute battery	○	–	○	○	○	○	○	○	○	○	○
PCON-CFB/CGFB	Battery-less absolute specification Incremental specification	○	–	○	○	○	○	○	○	○	○	○

*1 MECHATROLINK I/II is treated as an Intelligent I/O and supports only asynchronous commands. MECHATROLINK III is compatible with standard servo profiles.

Model Specification Items

<Controller>

PCON — [ ] — [ ] [ ] — [ ] — [ ] — **0** — [ ] — [ ]

Series / Type / Motor Type / Encoder Type / I/O Type / I/O Cable Length / Power Supply Voltage / Simple Absolute Specification / Controller Mounting Specification

Type

CB	Standard
CGB	Safety category compliant type
CFB	56SP/60P/86P motor-compatible type
CGFB	Safety category compliant, 56SP/60P/86P motor-compliant type

Motor Type

20P	20□	42SP	42□
20SP	20□	56P	56□
28P	28□	56SP	56□
28SP	28□	60P	60□
35P	35□	86P	86□
42P	42□		

(E.g.) 20P: 20□ stepper motor supported

Note

While the motor type specified in the actuator model number and the controller model number usually matches, there are some models where the actuator and controller motor types do not match.
Be sure to check the corresponding models listed below during selection.
<28SP target actuator>

● Controller motor type "28SP"
RCP2-RA3C

Encoder Type

WAI	Battery-less absolute specification Incremental specification
SA	Simple absolute speficication

I/O Type

NP	PIO (NPN)
PLN	Pulse train (NPN)
PN	PIO (PNP)
PLP	Pulse train (PNP)
DV	DeviceNet
CC	CC-Link
PR	PROFIBUS-DP
CN	CompoNet
ML	MECHATROLINK-I/II (Note 1)
ML3	MECHATROLINK III (Note 1)
EC	EtherCAT
EP	EtherNet/IP
PRT	PROFINET IO

(Note 1) There are some restrictions of the functionality. Please contact IAI for more details.

I/O Cable Length

0	No cable
2	2m
3	3m
5	5m

* When a field network specification is selected, the I/O cable length is "O".

Power Supply Voltage

0	24VDC

Simple Absolute Specification

(Blank)	Battery-less absolute specification Incremental specification
AB	Simple absolute specification (With absolute battery. No battery unit included)
ABU	Simple absolute specification (With absolute battery and battery unit)
ABUN	Simple absolute specification (Without absolute battery and battery unit)

* PCON-CFB/CGFB does not support a simple absolute specification.

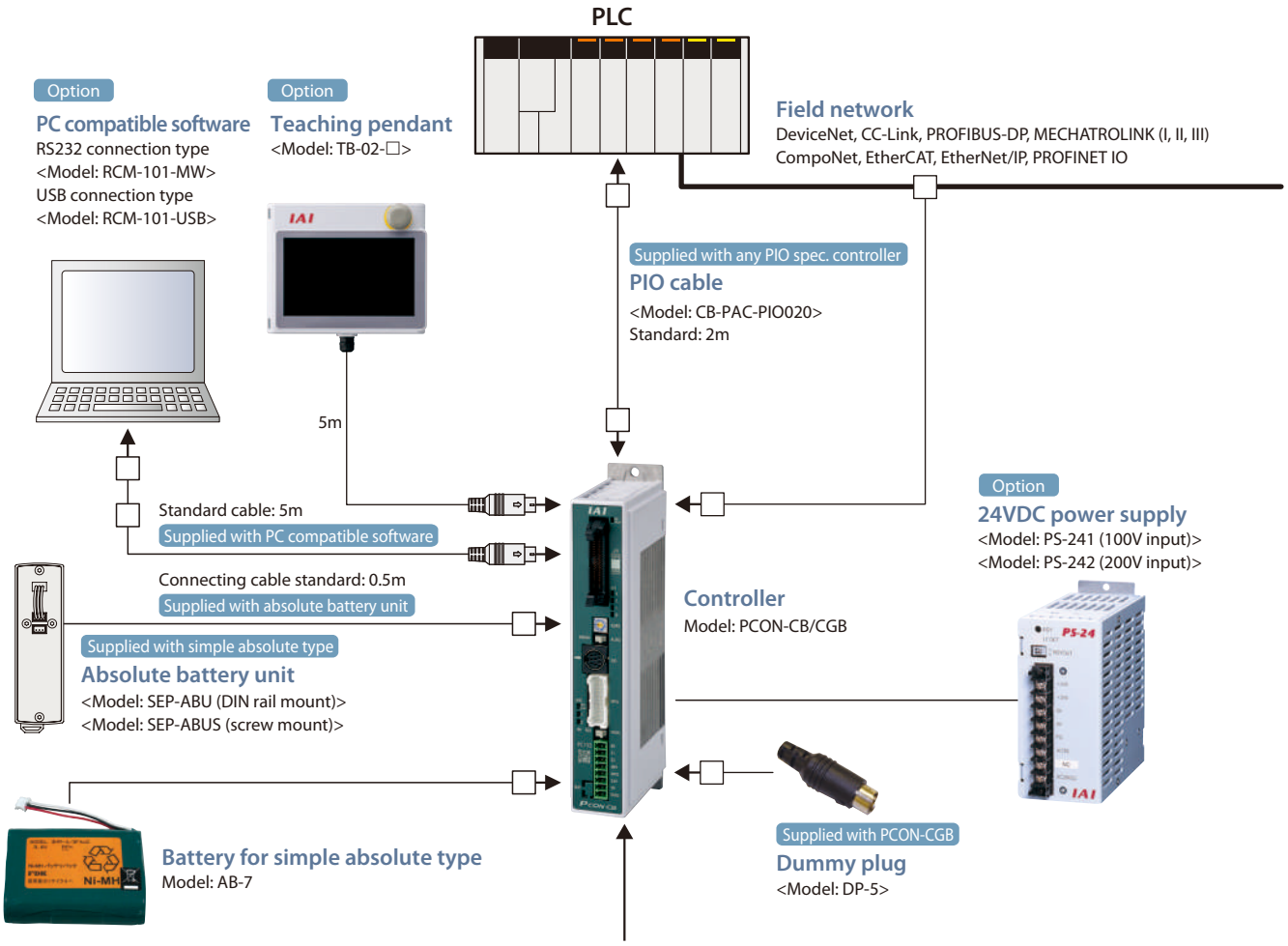
Controller Mounting Specification

(Blank)	Screw mounting specification
DN	DIN rail mounting specification

* The mounting type (screw or DIN rail) of the absolute battery unit and the controller must be the same.

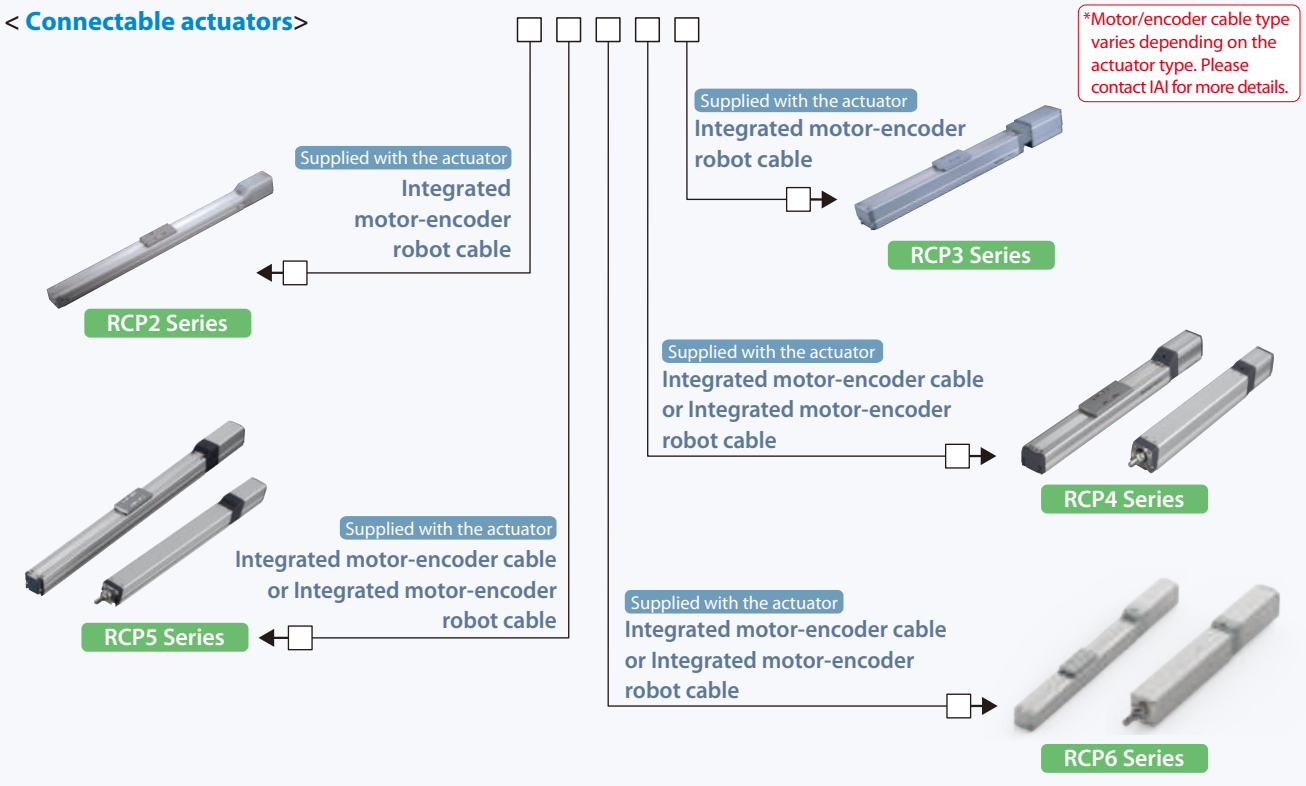
System Configuration

■ PowerCON150 <PCON-CB/CGB>

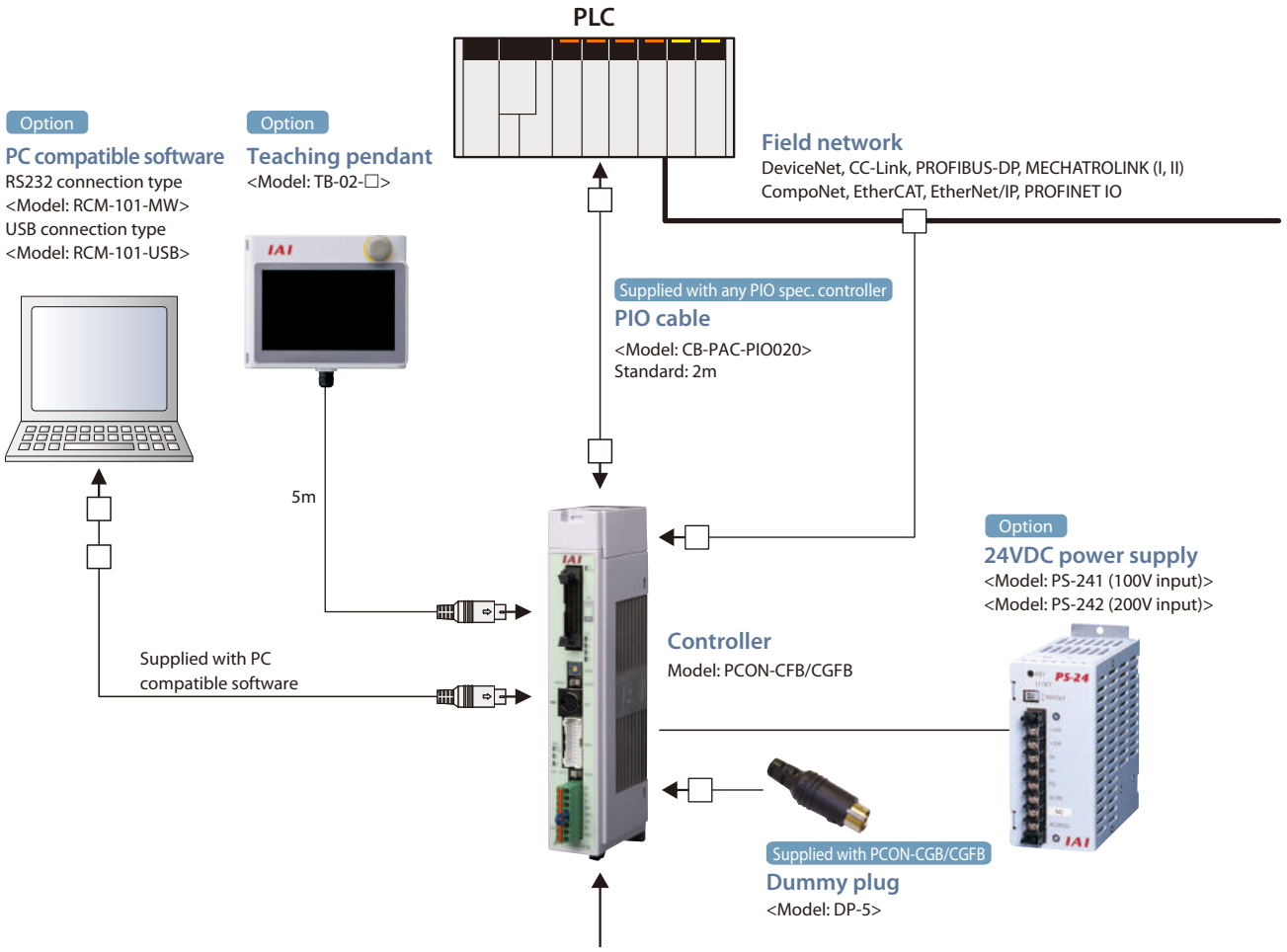


< Connectable actuators>

*Motor/encoder cable type varies depending on the actuator type. Please contact IAI for more details.



■ 56SP/60P/86P Motor Compatible <PCON-CFB/CGFB>



< Connectable actuators>

*Motor/encoder cable type varies depending on the actuator type. Please contact IAI for more details.

RCP2 Series
Supplied with the actuator
Integrated motor-encoder cable or Integrated motor-encoder robot cable

RCP4 Series
Supplied with the actuator
Integrated motor-encoder cable or Integrated motor-encoder robot cable

RCP5 Series
Supplied with the actuator
Integrated motor-encoder cable or Integrated motor-encoder robot cable

RCP6 Series
Supplied with the actuator
Integrated motor-encoder cable or Integrated motor-encoder robot cable

MCON-C/CG

CON Series
Position Controller
8-axis type

MCON-LC/LCG

CON Series
Position Controller
PLC function equipped type

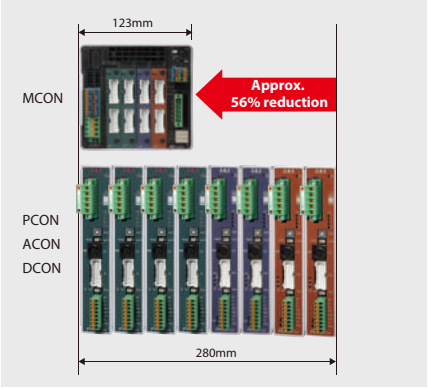
Features

MCON-C/CG, MCON-LC/LCG Common

1 Saves space and reduces cost

It saves space in the control panel and significantly reduces the total cost by combining 8* controllers into one.

* For MCON-C/CG

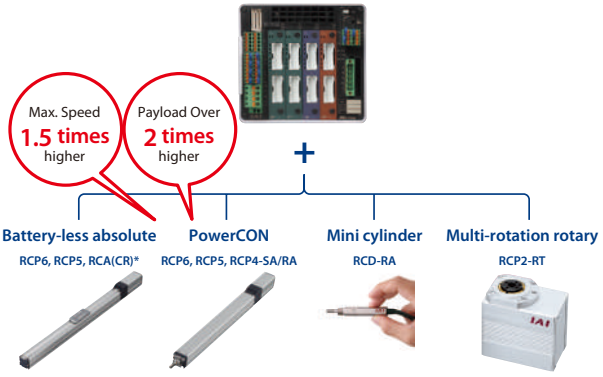


2 Accommodates a wide range of actuators

It corresponds to actuators with battery-less absolute encoders, ultra-compact mini-cylinders, multi-rotation rotaries and more, expanding the operable actuators from small to large.
In addition, it is equipped with the PowerCON (high-output driver), and achieves maximum speeds 1.5 times higher and maximum load capacities over 2 times higher than conventional models when used in combination with the RCP6/RCP5/RCP4 actuators.

Allows the installation of 7 types of driver boards

(1) Battery-less absolute/incremental driver boards for stepper motor
(2) Simple absolute driver board for stepper motor
(3) Battery-less absolute/incremental driver boards for PowerCON
(4) Simple absolute driver board for PowerCON
(5) Battery-less absolute/incremental driver boards for AC servo motor
(6) Simple absolute driver boards for AC servo motor
(7) Incremental driver boards for brush-less DC motor



* Some models are excluded.
Please refer to the catalog for details.

3 Many useful functions

Servo monitoring in AUTO mode function
· AUTO mode servo monitoring can now be performed using multi-axis controllers.
In addition, the monitoring can start from the moment that the condition of a selected signal changes. (Trigger function)

Calendar function
· With the addition of the clock function, the alarm history is displayed with the time of occurrence, making it easier for the alarm to be analyzed.

Smart tuning function
· The optimum acceleration and deceleration are set according to the payload to be carried.

Off-board tuning function (For AC servo motor)
· The optimum gain is set according to the payload.

Vibration control function (For AC servo motor)
· It reduces the shaking (vibration) of the workpiece attached to the slider.

Acceleration/deceleration mode specification
· The acceleration and deceleration patterns can be specified from the trapezoid pattern, first-order delay filter and S-shaped motion.

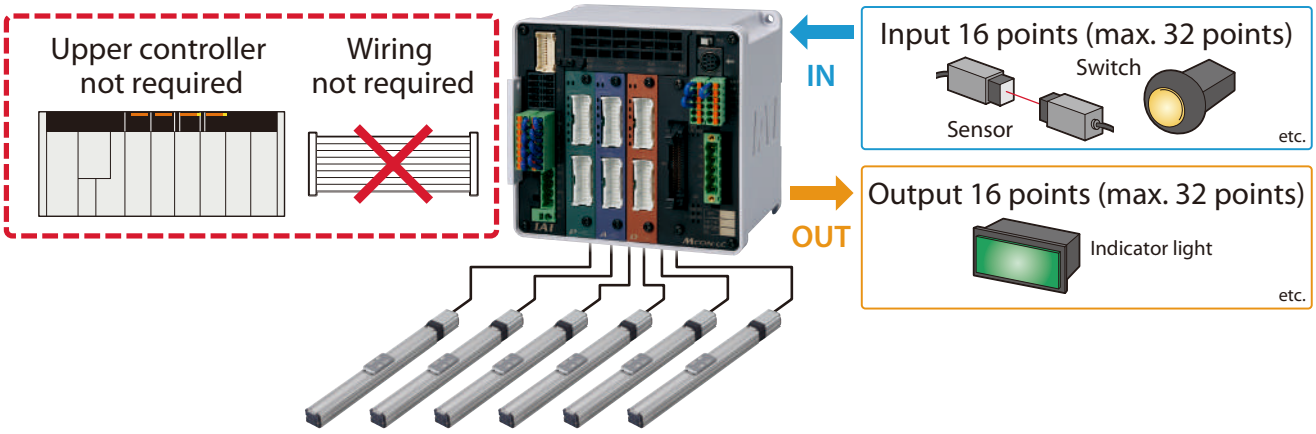
Axis name display function
· The axis name can be displayed in the PC compatible software and touch panel teaching box.

* Some functions cannot be used, depending on the network. Please refer to the instruction manual.

4 PLC function added

Capable of operating actuators by ladder programs and ON/OFF control of I/O (input and output) signals. Small-scale systems can be controlled by MCON-LC/LCG only. Load on the main PLC can be reduced by performing distributed control using MCON-LC/LCG for each procedure. In addition, it enables easier program simplification and troubleshooting.

* Please refer to the table below for more information about ladder programs.



LC-LADDER

● Features of ladder software

As MCON-LC/LCG can be controlled by ladder programs, those who are familiar with PLC can easily use it. In addition, "Dedicated Commands" for moving the actuator are available within the ladder program, making it even easier to control.

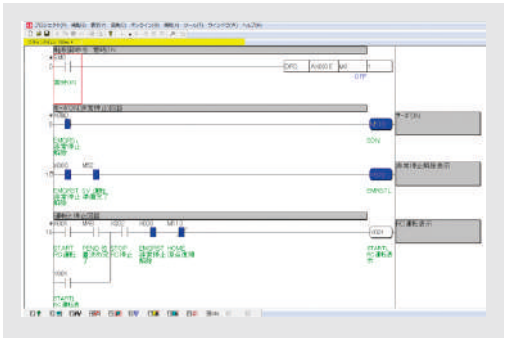
The editing software "LC-LADDER" can be used to easily write, monitor and debug ladder programs.

1 Program writing

Programs can be written using 27 types of basic command (contact command, output commands, etc.) and 53 types of application command (data comparison, arithmetic, logical, etc.).

3 Debug function

Run the program under the specified conditions to check the operation of the program.



2 Monitoring

The state when the program is run can be checked by respective functions.

4 Simulation

You can check the program on a PC (test run) without operating it on the controller.

Free of charge

* LC ladder can be downloaded for free here:

www.intelligentactuator.com/welcome-to-our-members-area/

MCON – □ – □ – □ – □ – □ – □ – □ – □ – (Details of the 3rd~8th axis) – □ – 0 – 0 – □

(1st axis: Top connector) / (2nd axis: Bottom connector)

Details of slot 0 / Details of slots 1~3

Series / Type / Number of Axes / Motor Type / Encoder Type / Options / Motor Type / Encoder Type / Options / I/O Type / I/O Cable Length / Power Supply Voltage / Simple Absolute Compatible

Type	
C	Standard type
CG	Safety category type

Number of Axes	
1	1-axis specification
2	2-axis specification
3	3-axis specification
4	4-axis specification
5	5-axis specification
6	6-axis specification
7	7-axis specification
8	8-axis specification

Options	
HA	Hi-accel./decel. supported
LA	Energy saver
T	High-output enabled specification

* HA/LA are for RCA only while T is for RCP6/RCP5/RCP4.
* RCP4-GR series and RCP4-ST series do not have a high-output enabled specification option (T).

Encoder Type	
WAI	Battery-less absolute/incremental (*1)
SA	Simple absolute (*1)
I	Incremental (*2)

(*1) Stepper motor/AC servo motor types only.
(*2) Brush-less DC motor type only.

Motor Type: Stepper motor		Servo motor		Brush-less DC motor type	
20P	20□	2	2W	3D	3W
20SP	20□	5	5W	D	Disabled axis
28P	28□	5S	5W	N *1	No connected axis
28SP	28□	10	10W		
35P	35□	20	20W		
42P	42□	20S	20W		
42SP	42□	30	30W		
56P	56□	A	Disabled axis		
P	Disabled axis	N *1	No connected axis		
N *1	No connected axis				

(*1) Please contact IAI for more information.

Notes

While the motor type specified in the actuator model number and the controller model number usually matches, there are some models where the actuator and controller motor types do not match.
Be sure to check the corresponding models listed below during selection.
<28SP/5S/20S target actuators>
● Motor Type "28SP" ··· RCP2-RA3C
● Motor Type "5S" ··· RCA2-RA2A□, RCA2-SA2A□
● Motor Type "20S" ··· RCA2-SA4□, RCA2-TA5□, RCA-RA3□, RCA-RG□3□, RCAW-RA3□

I/O Type	
DV	DeviceNet connection specification
CC	CC-Link connection specification
PR	PROFIBUS-DP connection specification
CN	CompoNet connection specification
EC	EtherCAT connection specification
EP	EtherNet/IP connection specification
PRT	PROFINET IO connection specification
SSN	SSCNET connection specification (Note 1)
ML3	MECHATROLINK III connection specification (Note 1)

(Note 1) There are some restrictions of the functionality. Please contact IAI for more details.

I/O Cable Length	
0	No cable

Power Supply Voltage	
0	24VDC

Simple Absolute Compatible	
ABB	With absolute data backup battery box (Simple absolute specification)
ABBN	Without absolute data backup battery box (Simple absolute specification)
(Blank)	Battery-less Absolute Incremental

* RCD series does not support a simple absolute specification.

MCON – □ – □ – □ – □ – □ – □ – □ – □ – (Details of the 3rd~6th axis) – □ – 0 – 0 – □ – □

(1st axis: Top connector) / (2nd axis: Bottom connector)

Details of slot 0 / Details of slots 1~2

Series / Type / Number of Axes / Motor Type / Encoder Type / Options / Motor Type / Encoder Type / Options / I/O Type / I/O Cable Length / Power Supply Voltage / Simple Absolute Compatible / Expansion I/O Type

Type	
LC	PLC function equipped type
LCG	Safety category type with PLC function

Number of Axes	
1	1-axis specification
2	2-axis specification
3	3-axis specification
4	4-axis specification
5	5-axis specification
6	6-axis specification

Options	
HA	Hi-accel./decel. supported
LA	Energy saver
T	High-output enabled specification

* HA/LA are for RCA only while T is for RCP6/RCP5/RCP4.
* RCP4-GR series and RCP4-ST series do not have a high-output enabled specification option (T).

Encoder Type	
WAI	Battery-less absolute/incremental (*1)
SA	Simple absolute (*1)
I	Incremental (*2)

(*1) Stepper motor/AC servo motor types only.
(*2) Brush-less DC motor type only.

Motor Type: Stepper motor		Servo motor		Brush-less DC motor type	
20P	20□	2	2W	3D	3W
20SP	20□	5	5W	D	Disabled axis
28P	28□	5S	5W	N *1	No connected axis
28SP	28□	10	10W		
35P	35□	20	20W		
42P	42□	20S	20W		
42SP	42□	30	30W		
56P	56□	A	Disabled axis		
P	Disabled axis	N *1	No connected axis		
N *1	No connected axis				

(*1) Please contact IAI for more information.

Notes

While the motor type specified in the actuator model number and the controller model number usually matches, there are some models where the actuator and controller motor types do not match.
Be sure to check the corresponding models listed below during selection.
<28SP/5S/20S target actuators>
● Motor Type "28SP" ··· RCP2-RA3C
● Motor Type "5S" ··· RCA2-RA2A□, RCA2-SA2A□
● Motor Type "20S" ··· RCA2-SA4□, RCA2-TA5□, RCA-RA3□, RCA-RG□3□, RCAW-RA3□

I/O Type	
NP	PIO specification (NPN type)

I/O Cable Length	
0	No cable
2	2m (Standard)
3	3m
5	5m

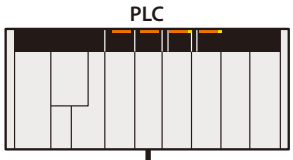
Power Supply Voltage	
0	24VDC

Simple Absolute Compatible	
ABB	With absolute data backup battery box (Simple absolute specification)
ABBN	Without absolute data backup battery box (Simple absolute specification)
(Blank)	Battery-less Absolute Incremental

* RCD series does not support a simple absolute specification.

Expansion I/O Type	
NP	PIO specification (NPN type)
DV	DeviceNet connection specification
CC	CC-Link connection specification
PR	PROFIBUS-DP connection specification
CN	CompoNet connection specification
EC	EtherCAT connection specification
EP	EtherNet/IP connection specification
PRT	PROFINET IO connection specification
(Blank)	No expansion I/O

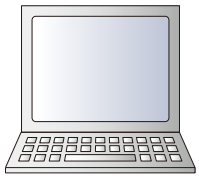
MCON-C/CG



Fieldbus
DeviceNet, CC-Link, PROFIBUS-DP, CompoNet, EtherCAT, EtherNet/IP, PROFINET IO, SSCNET, MECHATROLINK III

Options
PC compatible software
RS232 connection version
<Model: RCM-101-MW>
USB connection version
<Model: RCM-101-USB>

* MCON is supported by Ver.10.00.00.00 or later.



Options
Teaching pendant
<Model: TB-02-□>

5m

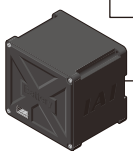
Supplied with MCON-CG
Dummy plug
<Model: DP-5>

* For the CG type, if you are not connecting the teaching tool to the SIO connector, please insert a dummy plug.

* To connect to a fieldbus, the communication needs to be set for the controller. Configuration requires the gateway parameter setting tool, which comes with the PC compatible software, or the TB-02. If you need the PC compatible software, please contact IAI. (Please contact IAI for more details)

* Customer to furnish the fieldbus connection cable.

Supplied with PC compatible software



The cable is supplied with the absolute data backup battery box. 0.5m

Options
Absolute data backup battery box
<Model: MSEP-ABB>
Replacement battery
<Model: AB-7>

* If the simple absolute specification is selected for a controller model, an absolute data backup battery box will be included. (Please contact IAI for more details about dimensions)

Options
24VDC power supply
<Model: PS-241 (100V input)>
<Model: PS-242 (200V input)>

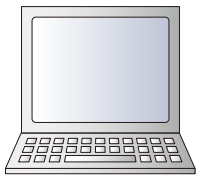
MCON-C/CG

Actuator RCP6/RCP5/RCP4/RCP3/RCP2 Series	Actuator RCA/RCA2 Series	Actuator RCD Series

MCON-LC/LCG

Options
PC compatible software
RS232 connection version
<Model: RCM-101-MW>
USB connection version
<Model: RCM-101-USB>

Download
LC-LADDER
(See P. 154)

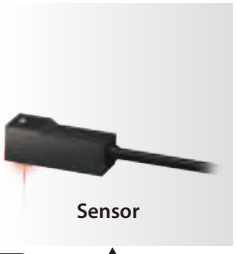


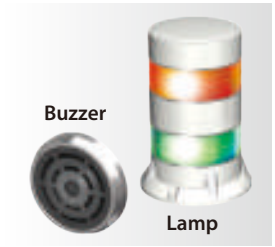
Options
Teaching pendant
<Model: TB-02-□>

5m

Supplied with MCON-LCG
Dummy plug
<Model: DP-5>

* MCON-LC configuration requires TB-02 or the gateway parameter setting tool which comes with the PC software. If you do not have this, please purchase the PC software.





* For the LCG type, if you are not connecting the teaching tool to the SIO connector, please insert a dummy plug.

Signal input

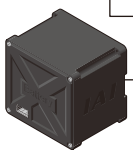
PIO flat cable
<Model: CB-PAC-PIO□□□>
Included in the controller for PIO specification

Signal output

* Either PIO specification or fieldbus specification can be selected for the controller.

Fieldbus
DeviceNet, CC-Link, PROFIBUS-DP, CompoNet, EtherCAT, EtherNet/IP, PROFINET IO

Supplied with PC software



The cable is supplied with the absolute data backup battery box. 0.5m

Options
Absolute data backup battery box
<Model: MSEP-ABB>
Replacement battery
<Model: AB-7>

* If the simple absolute specification is selected for a controller model, an absolute data backup battery box will be included. (Please contact IAI for more details about dimensions)

Options
24VDC power supply
<Model: PS-241 (100V input)>
<Model: PS-242 (200V input)>

MCON-LC/LCG

Actuator RCP6/RCP5/RCP4/ RCP3/RCP2 Series	Actuator RCA/RCA2 Series	Actuator RCD Series

Standard Price Table

Calculate the standard price of the MCON controller based on 1 base price by type and add 2 slot model price, 3 quantity of simple absolute, 4 quantity of batteries for simple absolute, 5 I/O type, and 6 expansion I/O type.

1 Base price by type

Select a standard type controller (MCON-C/CG) or PLC function equipped type (MCON-LC/LCG).

+

2 Slot model price

Add the price of the slot models specified in the 0~3 slots.

+

3 Quantity of simple absolute encoders

Add the price of the number of axes to be operated by the simple absolute.

1

Base price by type

Description	Model Specification Items	Price
Standard type	MCON-C	○
Safety Category type	MCON-CG	○
PLC function equipped type	MCON-LC	○
Safety Category type with PLC function	MCON-LCG	○

+

2

Slot model price (Add the total amount of slots to be used)

Details of slot			Model Specification Items	Price
Stepper motor	1-axis	Battery-less Absolute/ Incremental (For PowerCON)	☐PWAIT-N	○
		Simple absolute (For PowerCON)	☐PSAT-N	○
		Battery-less Absolute/ Incremental (For standard)	☐PWAI-N	○
		Simple absolute (For standard)	☐PSA-N	○
	2-axis	Simple absolute (For standard) + Simple absolute (For standard)	☐PSA-☐PSA	○
		Battery-less absolute/ Incremental (For standard) + Battery-less abs./ Incremental (For standard)	☐PWAI-☐PWAI	○
AC servo motor	1-axis	Battery-less Absolute/ Incremental (For standard)	☐WAI-N	○
		Simple absolute (For standard)	☐SA-N	○
	2-axis	Battery-less absolute/ Incremental (For standard) + Battery-less abs./ Incremental (For standard)	☐WAI-☐WAI	○
		Simple absolute (For standard) + Simple absolute (For standard)	☐SA-☐SA	○
Brush-less DC motor	1-axis	Incremental (For standard)	3DI-N	○
	2-axis	Incremental (For standard) + Incremental (For standard)	3DI-3DI	○

+

3

Quantity of simple absolute encoders

Number of axes	Price
1-axis	○
2-axis	○
3-axis	○
4-axis	○
5-axis	○
6-axis	○
7-axis	○
8-axis	○

* ☐ indicates the motor size.

4 Quantity of batteries for simple absolute encoders

Add the total battery price of simple absolute (model: ABB) for applicable axes.

5 I/O type

Select the I/O type of the controller.

(PLC function equipped type "NP" is the only option.

6 Expansion I/O type

Select the expansion I/O type of the controller.

(Not required for standard type controllers)

4

Quantity of batteries for simple absolute encoders	
Number of axes	Price
1-axis	○
2-axis	○
3-axis	○
4-axis	○
5-axis	○
6-axis	○
7-axis	○
8-axis	○

5

I/O type (NP is only available for the PLC function equipped types.)		
Type	Model Specification Items	Price
PIO specification (NPN specification)	NP	○
DeviceNet connection specification	DV	○
CC-Link connection specification	CC	○
PROFIBUS-DP connection specification	PR	○
CompoNet connection specification	CN	○
EtherCAT connection specification	EC	○
EtherNet/IP connection specification	EP	○
PROFINET IO connection specification	PRT	○
SSCNET connection specification	SSN	○
MECHATROLINK III connection specification	ML3	○

6

Expansion I/O type (PLC function equipped type only)		
Type	Model Specification Items	Price
PIO specification (NPN specification)	NP	○
DeviceNet connection specification	DV	○
CC-Link connection specification	CC	○
PROFIBUS-DP connection specification	PR	○
CompoNet connection specification	CN	○
EtherCAT connection specification	EC	○
EtherNet/IP connection specification	EP	○
PROFINET IO connection specification	PRT	○

Price
Standard price by specification

* No need to add 3 and 4 for the battery-less absolute type.

IAI
Quality and Innovation

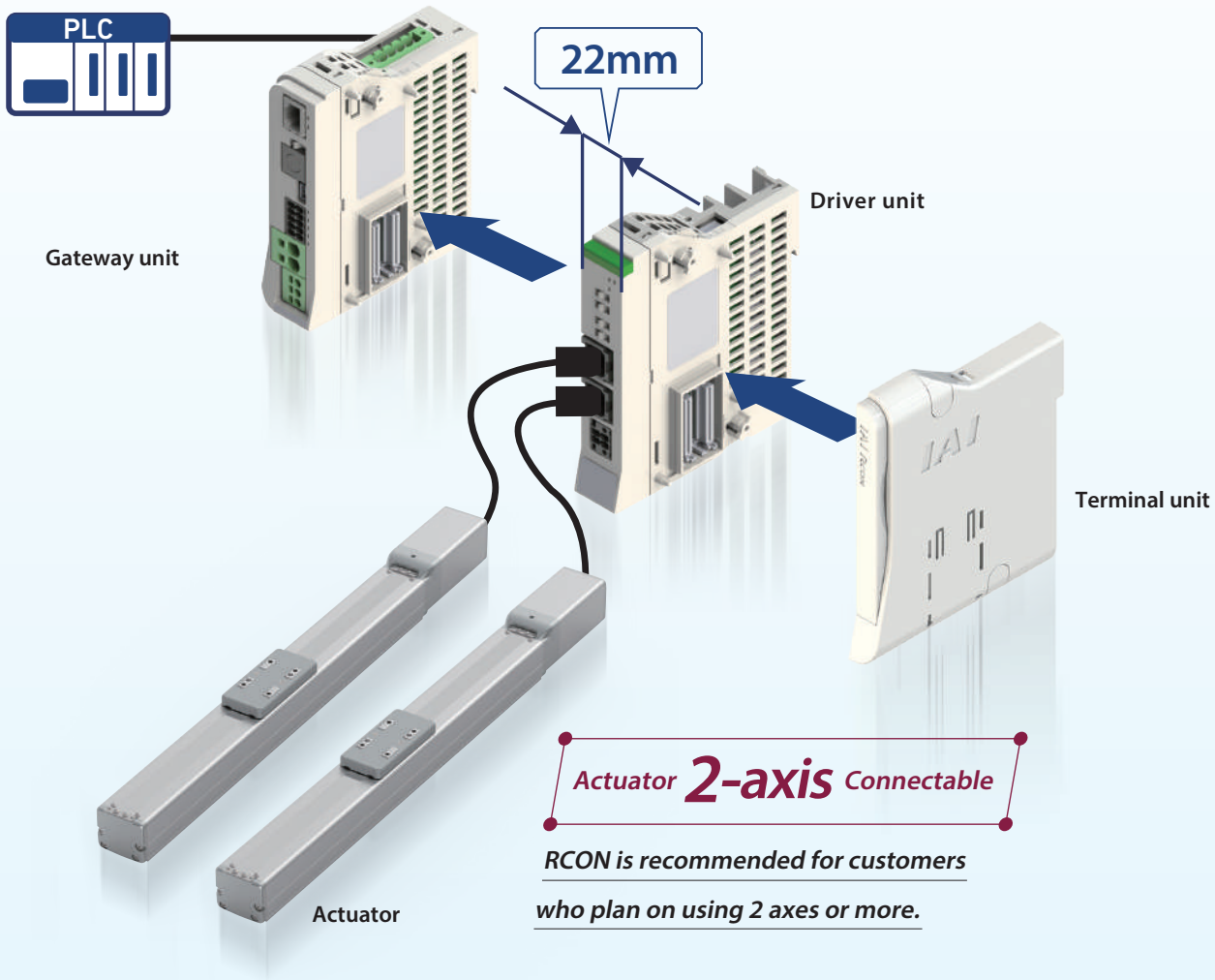
RCON

www.intelligentactuator.com

Saves space inside the control panel

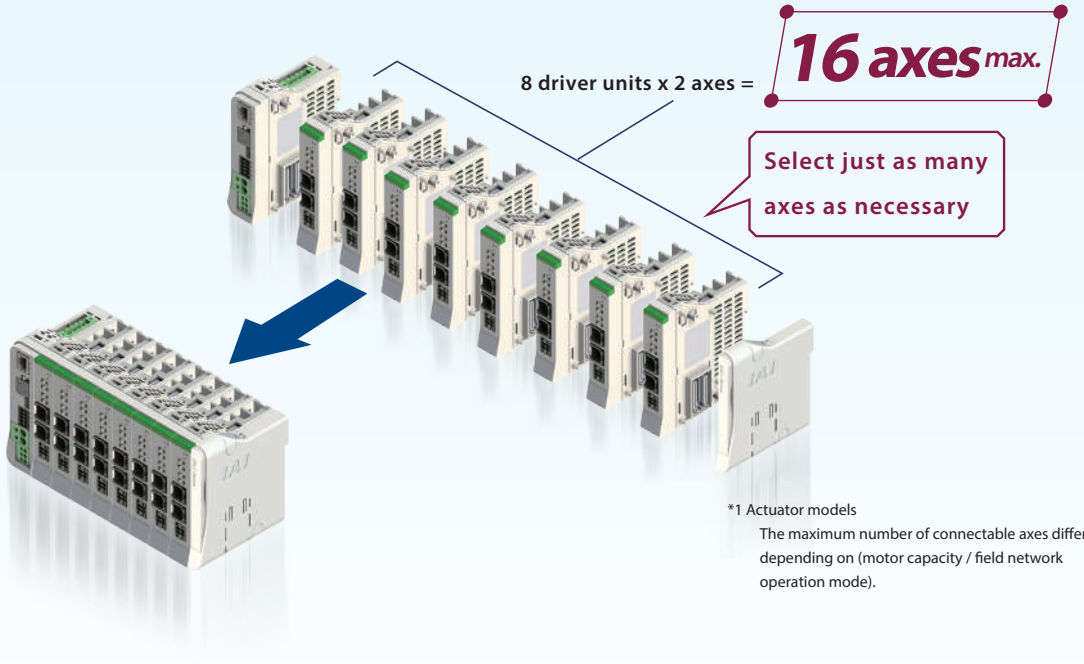
RCON is recommended for actuators with two axes or more.

Up to 2 axes of actuators can be connected to one RCON driver unit with 22mm width, making it ideal for saving space in the control panel.



Up to 16 axes[*1] of actuators can be connected.

There will be no wasted space as driver units can be added in just the amount necessary.



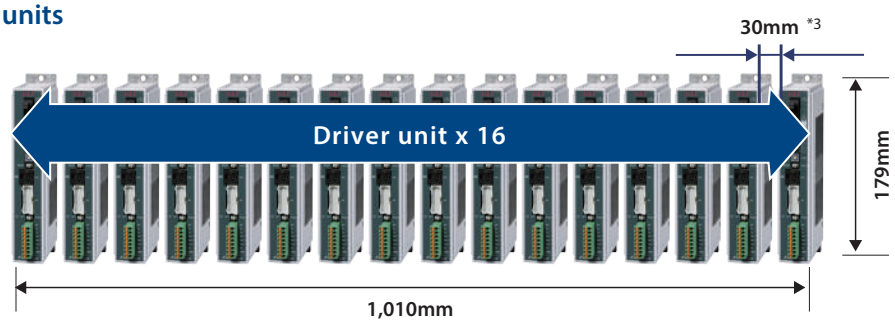
*1 Actuator models
The maximum number of connectable axes differs depending on (motor capacity / field network operation mode).

Saves up to 85%[*2] of control panel space.

*2 IAI product comparison

Up to about 85% of control panel space can be saved, compared with models that connect a 1-axis actuator to a single driver unit.

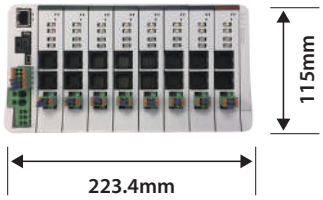
PCON-CB x 16 units



*3 Minimum distance required for natural heat dissipation of the controller

RCON x 16-axis connection specification

Saves space by 85%

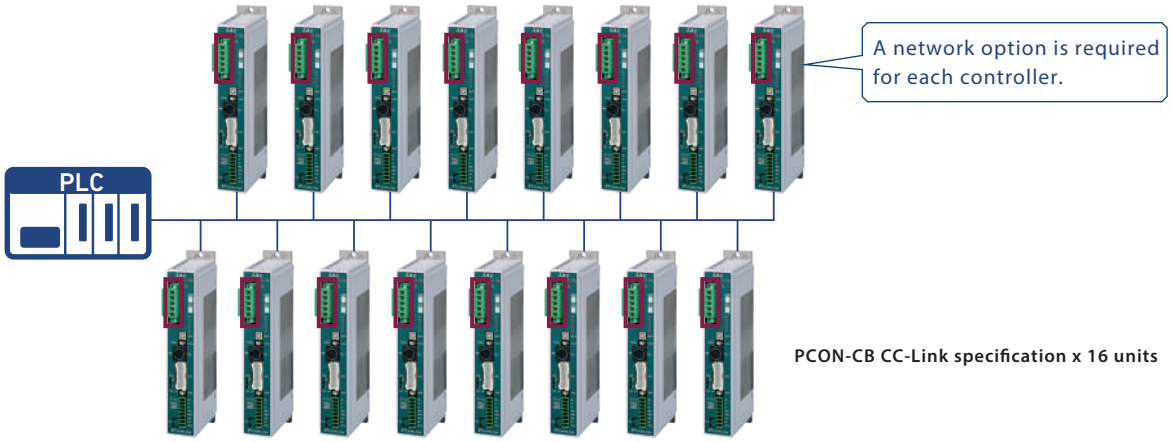


Reduces costs by as much as 60%[*4].

*4 IAI product comparison

The conventional type ([Comparison example] below) requires network options installed to match the number of controllers.
RCON can control driver units for up to 16 axes of actuators with a single gateway, allowing cost reductions up to 60% or so. It is especially recommended when using multiple axes.

Comparison example



PCON-CB CC-Link specification x 16 units

60% cost reduction

For RCON

RCON

CC-Link specification
high-output stepper
motor 16 axes

Seven high-performance functions that only IAI is capable of delivering

High function 1 Compatibility: No.1 in the industry with seven field network types supported

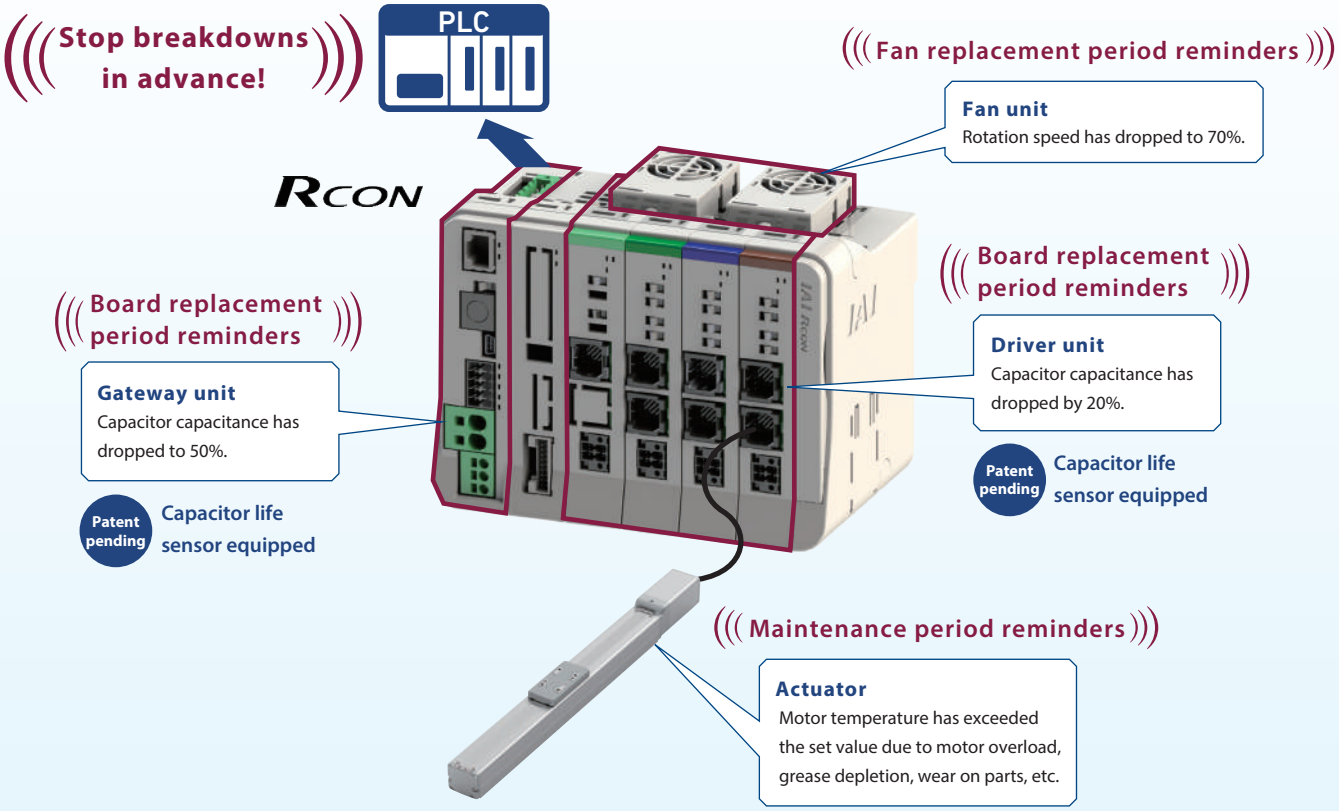
Can be connected to various field networks.

CC-Link　CC-Link IE Field　DeviceNet™　EtherNet/IP™

EtherCAT®　PROFIBUS®　PROFINET®

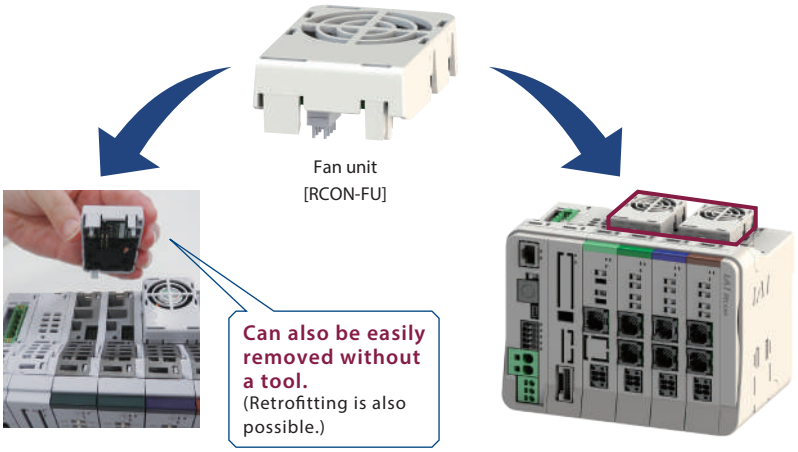
High function 2 Predictive maintenance/preventative maintenance function

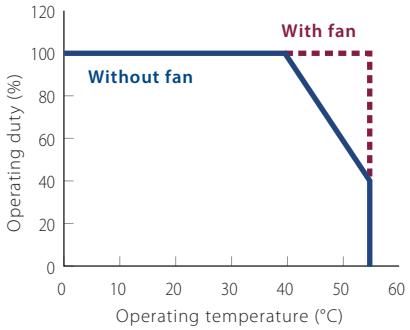
The RCON has a preventative maintenance function for the capacitor and a predictive maintenance function for the fan unit and actuator.



High function 3 Supports controller installation environment temperatures of 0 to 55°C

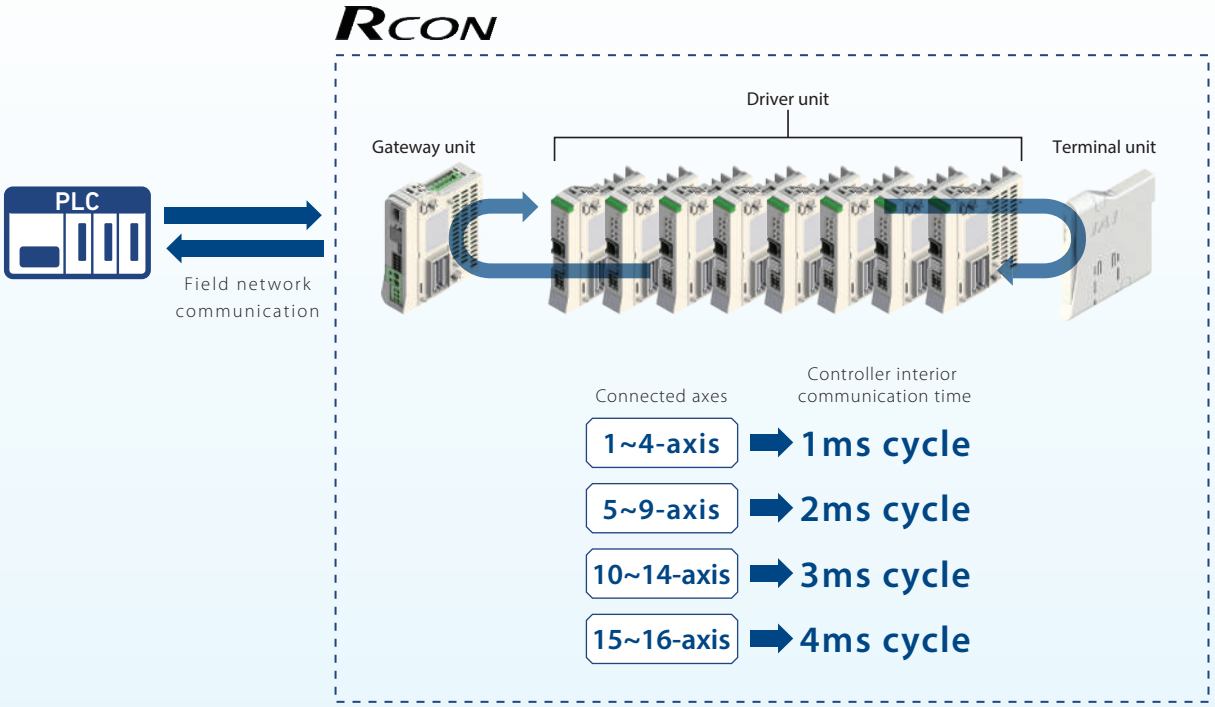
Install the optional fan unit to enable use in environments of 0 to 55°C without lowering actuator operating duty.
(one fan unit can be mounted across a driver unit and a terminal unit)





High function 4 Controller interior communication time is 4ms cycle

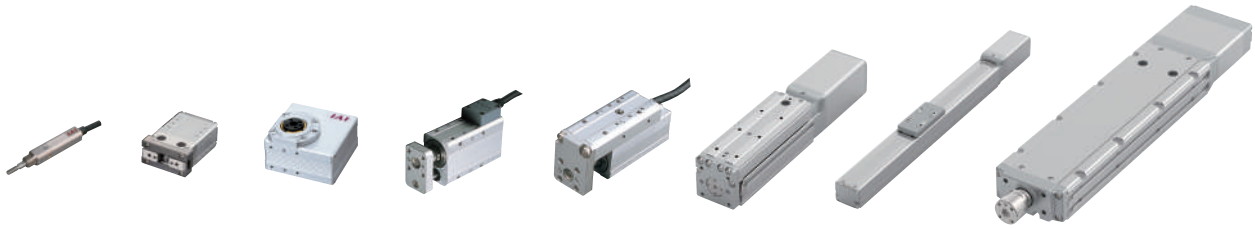
Controller interior communication time is 4ms even when 16 actuators are connected.



High function 5 No. 1 in the industry for number of supported actuators (332 IAI actuator models*).

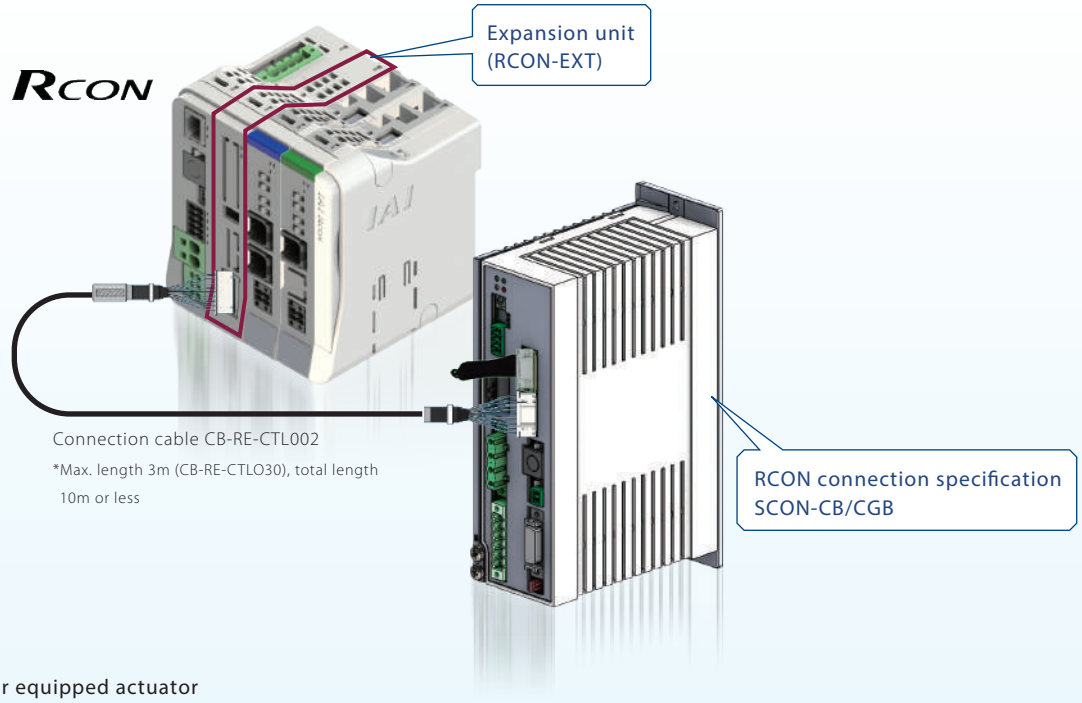
Compatible with RCP2/3/4/5/6, RCA/2, RCD, RCL Series

Supports actuators equipped with a Battery-less absolute encoder as well as those with simple absolute and incremental encoders.

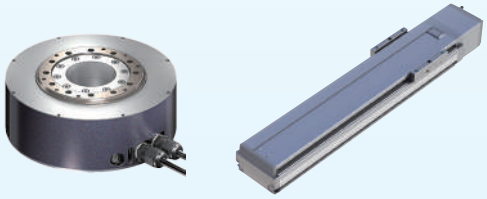


Compatible with RCS2/3/4, IS(D)B, SSPA, LSA, NS, DDA Series

When the SCON's RCON connection specification option (-RC) is selected, it can be connected to the RCON expansion unit (RCON-EXT) to operate an actuator equipped with a large-capacity motor.
One RCON-EXT can connect to multiple SCON-CB controllers.



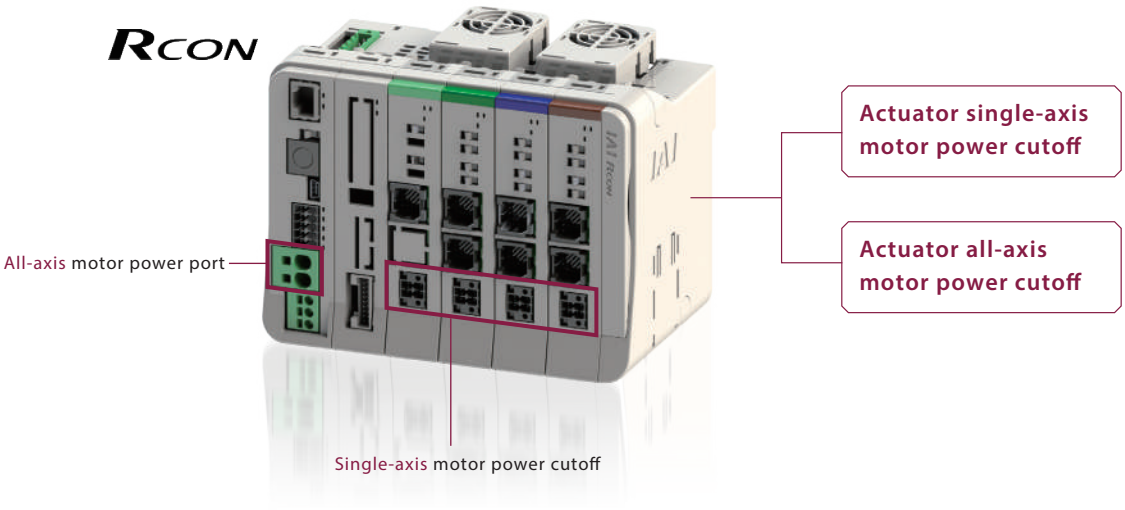
■ Large-capacity motor equipped actuator



* IAI General Catalog product series / type model
Note that servo press actuator models, LSA-W21H, EC Series, SCARA robots, TTA, ZR units and Wrist Units are not supported.
* As of December 2018

High function 6 Motor power cutoff method can be selected.

In accordance with customer safety function applications, the motor power (drive source) cutoff method at emergency stop can be selected through the RCON wiring method.

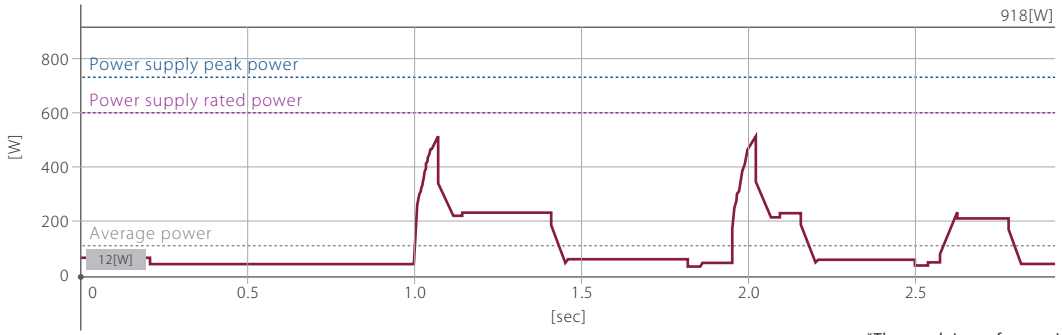


High function 7 Helps visualize equipment with 24V power monitor

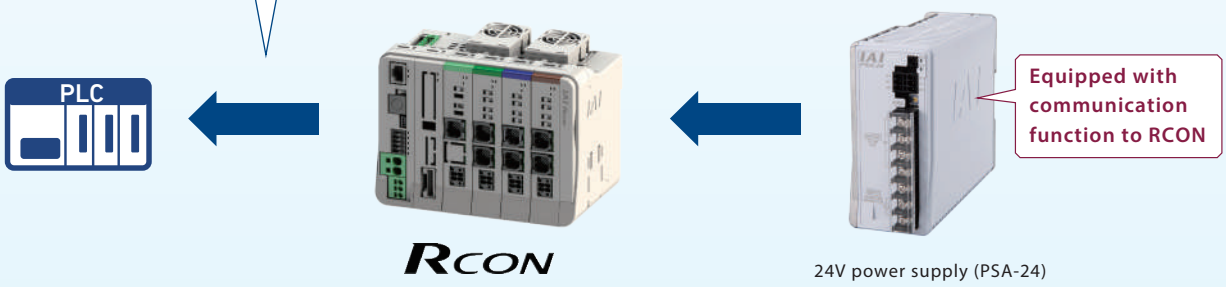
Visualize power consumption

The following IAI 24V power supply (PSA-24) monitoring can be output to a PLC via RCON.

● Output voltage ● Output current ● Power load factor ● Total energizing time
● Internal temperature ● Low fan speed warning



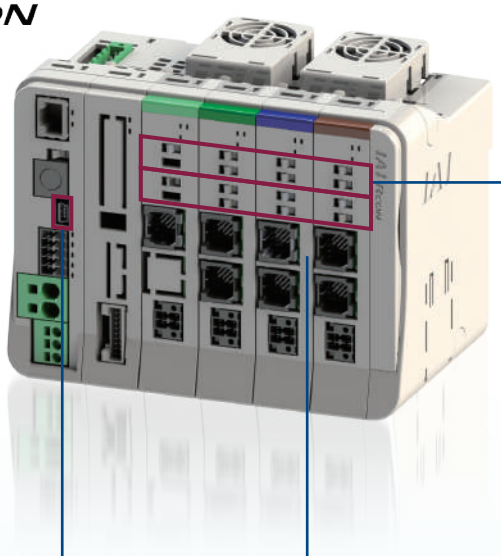
*The graph is a reference image.



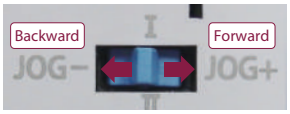
Enables easy start-up and maintenance.

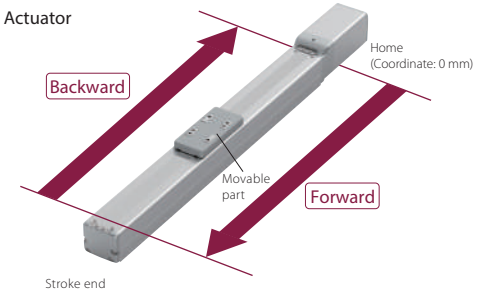
Even without a teaching pendant or PC teaching software, each axis can be moved forward/backward.

RCON



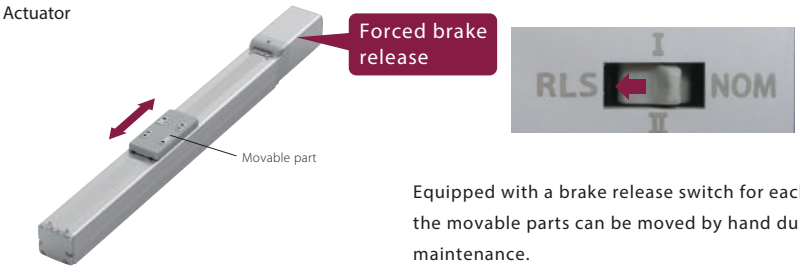
Each axis JOG (+/-) switch





JOG switch enabled in manual mode, with PC software/ teaching pendant manual operation windows closed.

Each axis brake release switch



Equipped with a brake release switch for each axis, the movable parts can be moved by hand during maintenance.

USB port

Connection to a PC is possible using a **commercial USB cable**.
Dedicated cables are not required.

*Compatible with miniUSB (mini-B).

Selection Method

Step 1 Actuator selection

<Selection example>


RCD Series

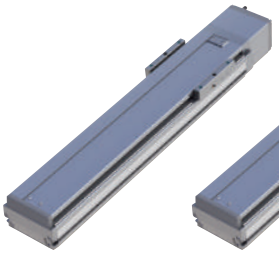

RCP4 Series

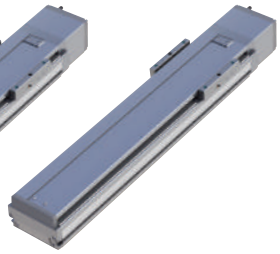

RCP2 Series


RCA2 Series

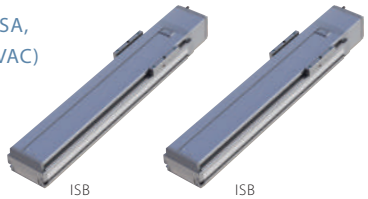

RCA2 Series


RCP6 Series


ISB Series


ISB Series

The actuator series are classified into two categories according to the table below.

Controller	Actuator
RCON  <24VDC>	RCP2/3/4/5/6, RCA/2, RCD, RCL Series (24VDC) <Selection example>  RCD, RCP4, RCP2, RCA2, RCA2, RCP6
SCON-CB  <100/200VAC>	RCS2/3/4, IS(D)B, SSPA, LSA, NS, DDA Series (100/200VAC) <Selection example>  ISB, ISB

Two categories

*Note that servo press actuator models, LSA-W21H, EC Series, SCARA robots, TTA, ZR units and Wrist Units cannot be connected.

Step 2 Gateway unit selection

Select the gateway unit model from the network type.

Network type	Gateway unit model
DeviceNet	RCON-GW/GWG-DV
CC-Link	RCON-GW/GWG-CC
CC-Link IE Field	RCON-GW/GWG-CIE
PROFIBUS	RCON-GW/GWG-PR
EtherCAT	RCON-GW/GWG-EC
EtherNet/IP	RCON-GW/GWG-EP
PROFINET	RCON-GW/GWG-PRT

<Selection example>
Select 1

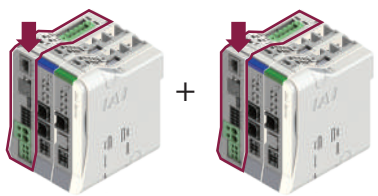
* GW: Gateway unit of standard specifications
GWG: Gateway unit of safety category type.
Contact IAI for additional safety category items (teaching pendant/TP adapter/dummy plug/cable, etc.)

Caution

Only one gateway unit can be connected per system.
When using two units or more, divide it into two.

× Gateway unit 

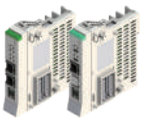
One gateway per system

○ Gateway unit + Gateway unit 

16 axes of actuators can be connected to one gateway unit.

Step 3 Driver unit selection

Select the driver unit model number and required number of units according to the series name and motor type of the actuator(s) to be connected to the RCON.

Actuator		RCON Driver unit			<Selection example>		
Series	Motor type	External view	Number of axes connected to actuator	Model	Classification	Required units	
RCP2 RCP3 RCP4 RCP5 RCP6	20P, 28P 35P, 42P 56P	Stepper motor 	2-axis specification	RCON-PC-2	 RCP4 RCP2	1	Select 2
			1-axis specification	RCON-PC-1	 RCP6	1	Select 2
	High thrust motor 56SP, 60P 86P		1-axis specification	RCON-PCF-1		-	
RCA RCA2 RCL	2 5 10 20, 20S 30	AC servo motor 	2-axis specification	RCON-AC-2	 RCA2 RCA2	1	Select 2
			1-axis specification	RCON-AC-1		-	
RCD	3D	DC brush-less motor 	2-axis specification	RCON-DC-2		-	
			1-axis specification	RCON-DC-1	 RCD	1	Select 2

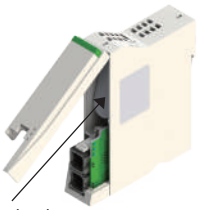
Step 4 Simple absolute unit selection

For actuators with simple absolute specification, select simple absolute units (RCON-ABU-A/P) for the required number of axes.

*Connect to the RCON controller using a cable (CB-ADPC-MPA005).
The cable is supplied with the simple absolute unit.
Note: The ambient operating temperature of the simple absolute unit is within the range of 0~40°C.
* One simple absolute unit required per axis.

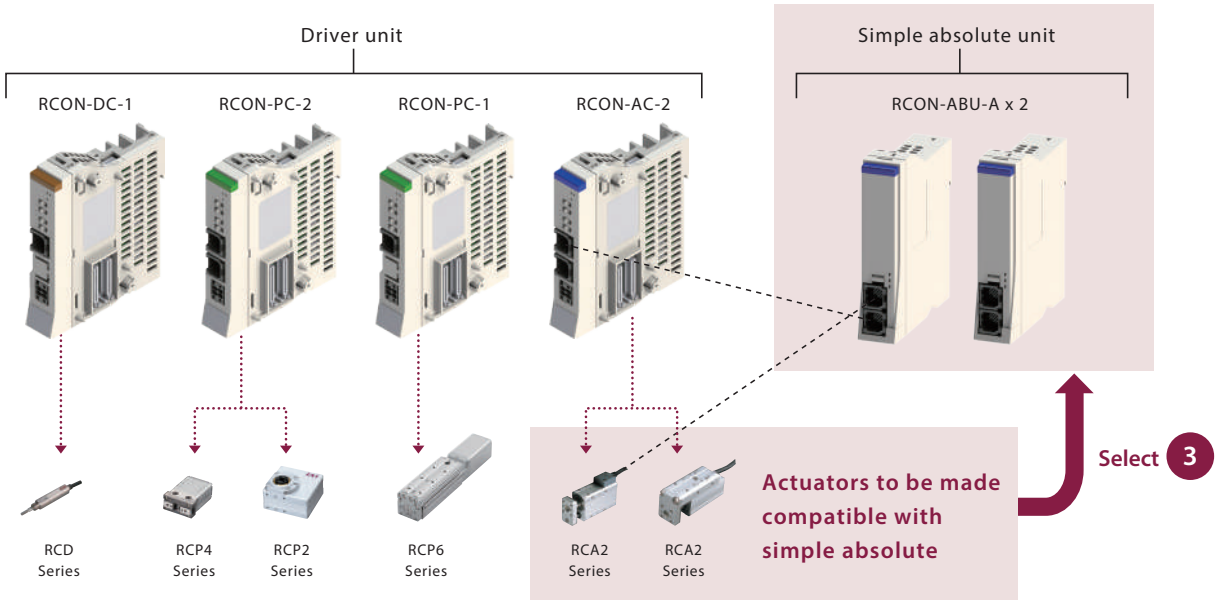

RCON-ABU-A


RCON-ABU-P


Simple absolute battery

<Selection example>

This is an example in which a 2-axis RCA2 Series actuator is selected for simple absolute specification.



Step 5 Expansion unit selection

For actuators to be connected to SCON-CB, select (1) to (3) below.

(1) Expansion unit (Model: RCON-EXT)

When connecting SCON-CB and RCON, **one expansion unit** is required. One unit can connect to multiple SCON-CB RC controllers.

<Selection example>

x 1 unit ← Select 4

(2) RCON connection specification SCON-CB

Required **for the number of actuator axes to be connected to SCON*.**

<Selection example>

I/O type

Model: SCON- * - * * * - RC - *

RCON connection specification selected

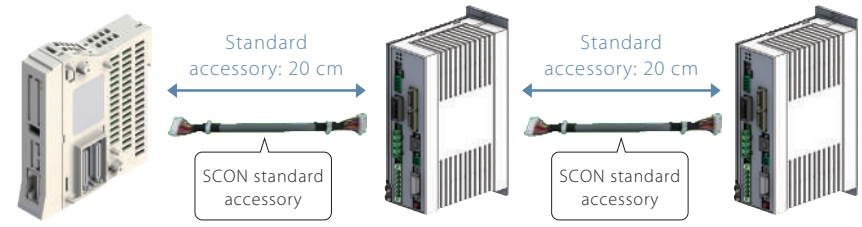
x 2 units ← Select 5

* 16 axes max.

* 100/200 VAC power supply for each SCON-CB RC

(3) RCON expansion unit to SCON-CB connection cable

One cable (CB-ER-CTL002) is supplied as standard with SCON-CB for RCON connection.



Must be **separately purchased only when 20 cm is too short.**

Model: CB-RE-CTL□□□ max length 3m (030)

See P. 37

x Required number of units

Total cable length may not exceed 10m

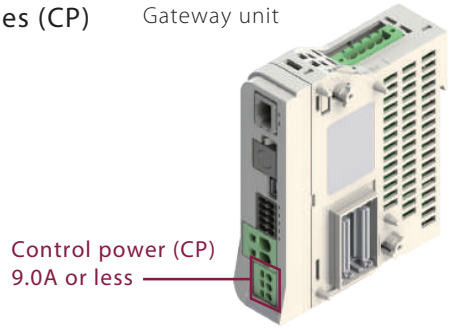
Step 6 Calculating various unit control power capacities (CP)

Make sure that the total control power capacity of the various units selected so far is within 9.0A.

How to check

Add up while checking the "Control Power Capacity List" below.

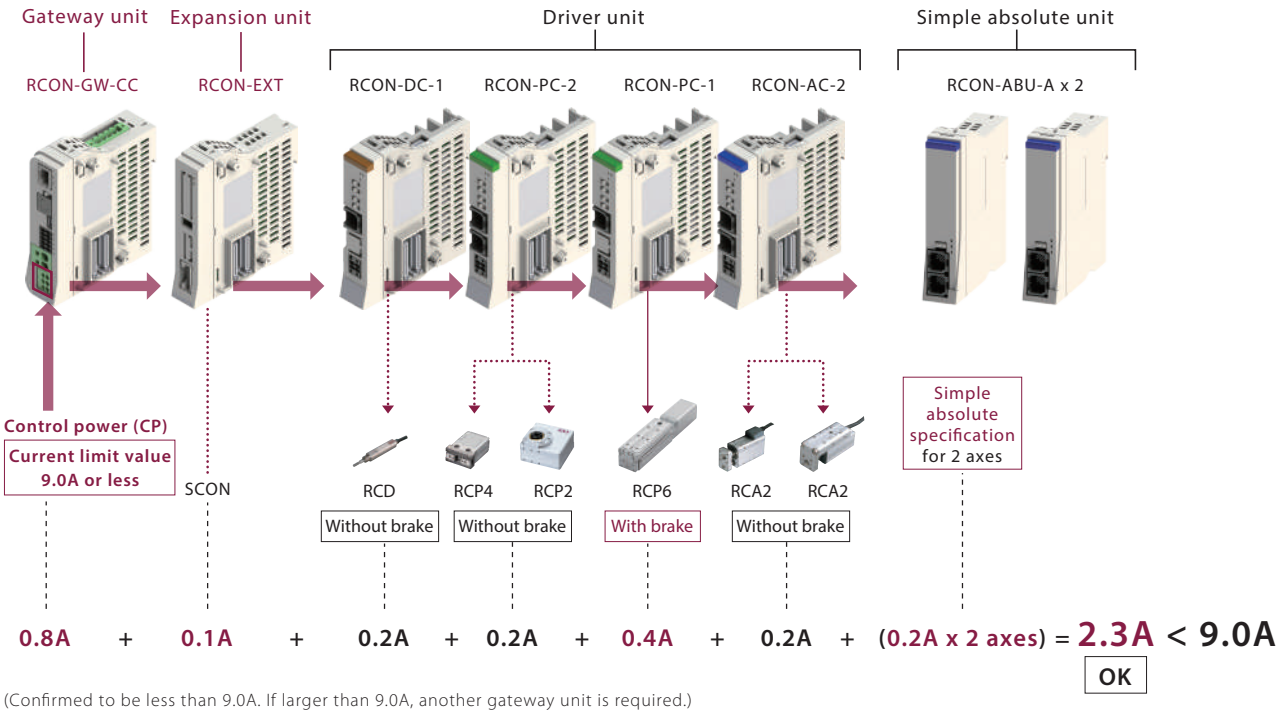
Gateway unit



Control Power Capacity List

Item	Specifications			
Power supply voltage	24VDC±10%			<Selection example>
Control power capacity (CP) (Per driver unit)	Gateway unit (includes terminal unit)		0.8A	x 1 unit
	Driver unit (common for all types)	Brake: No	0.2A	
		Brake: Yes (1-axis specification)	0.4A	x 1 unit
		Brake: Yes (2-axis specification)	0.6A	
	Expansion unit		0.1A	x 1 unit
	Simple absolute unit (common to all types)		0.2A	x 2 axes

<Selection example>



(Confirmed to be less than 9.0A. If larger than 9.0A, another gateway unit is required.)

Step 7 Calculating various unit motor power capacities (MP)

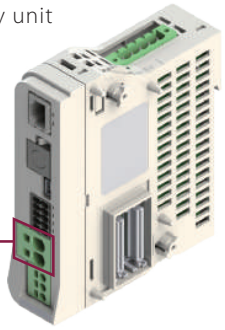
Make sure that the total motor power capacity of the driver units selected so far is within 37.5A.

How to check

Add up while checking the "Motor Power Capacity List" below. If the maximum current is listed, add the maximum current. If not, add the rated current.

* Do not include the 100/200 VAC power supply to SCON-CB RC.

Gateway unit

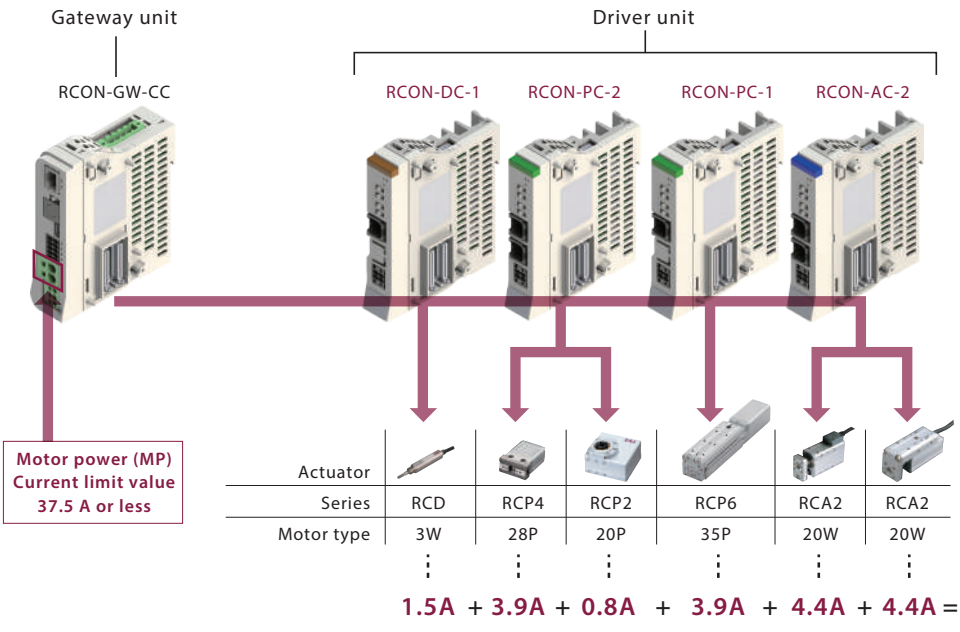


Motor Power Capacity List

Item	Actuator/driver unit	Series	Motor type		Rated current	Max. current: When energy-saving is set	Max. current	<Selection example>
Motor power capacity (MP) (Per 1-axis actuator)	Stepper motor RCON-PC	RCP2 RCP3	20P/20SP/28P	Without PowerCON	0.8A	-	-	x 2 axes
			28P*		1.9A	-	-	
		RCP4 RCP5 RCP6	28P/35P/42P/ 42SP/56P	Without PowerCON	1.9A	-	-	
				With PowerCON	2.3A	-	3.9A	x 1 axis
	Stepper motor RCON-PCF	RCP2 RCP4 RCP5 RCP6	56SP/60P/ 86P	Without PowerCON	5.7A	-	-	
	AC servo motor RCON-AC	RCA RCA2	5W	Standard / Hi-accel./decel.	1.0A	-	3.3A	
			10W	Standard / High accel/decel / Energy saving	1.3A	2.5A	4.4A	
			20W		1.3A	2.5A	4.4A	x 2 axes
			20W(20S)		1.7A	3.4A	5.1A	
			30W		1.3A	2.2A	4.0A	
		RCL	2W	Standard / Hi-accel./decel.	0.8A	-	4.6A	
			5W		1.0A	-	6.4A	
			10W		1.3A	-	6.4A	
	DC brush-less motor RCON-DC	RCD	3W	Standard	0.7A	-	1.5A	x 1 axis

* Applicable models: RCP2-RA3, RCP2-RGD3

<Selection example>



1.5A + 3.9A + 0.8A + 3.9A + 4.4A + 4.4A = 18.9A < 37.5A

OK

(Confirmed to be less than 37.5A. If larger than 37.5A, another gateway unit is required.)

Step 8 Fan unit selection

If the controller installation environment may exceed 40°C, a fan unit will be required. (Up to 55°C)

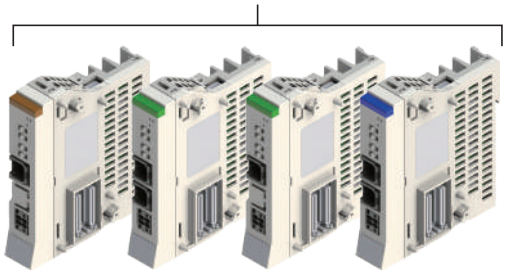
The number of fan units is the total number of driver units divided by 2.

If the total number of driver units is an odd number, add 1 to the total number and divide it by 2 (The last fan will connect to the last driver card and the terminal unit).

When ordering, be sure to specify the gateway unit model.

<Selection example>

4 driver units ÷ 2 = 2 units



Fan unit [RCON-FU]

Note: The ambient operating temperature of the simple absolute unit is within the range of 0~40°C even when a fan unit is installed.

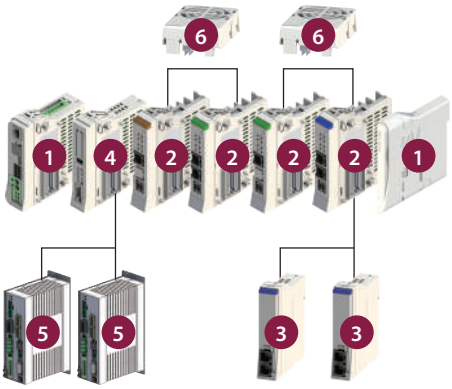
Step 9 Unit models to be ordered

Order using the model name for each unit.

<Selection example>

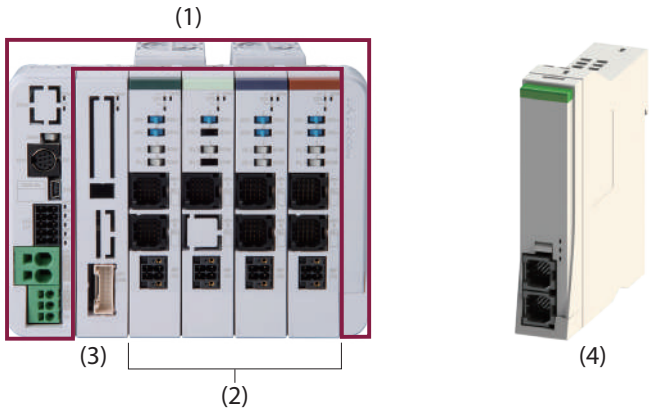
RCON

- Gateway unit (2 fan units included) [RCON-GW-CC-FU2] ····· 1 6
- Expansion unit [RCON-EXT] ····· 4
- Driver unit [RCON-DC-1] ····· 2
- Driver unit [RCON-PC-2] ····· 2
- Driver unit [RCON-PC-1] ····· 2
- Driver unit [RCON-AC-2] ····· 2
- Simple absolute unit [RCON-ABU-A] x 2 ····· 3
- RCON connection specification SCON [SCON-*-***-RC] x 2 ····· 5



See pages 33 to 34 for applicable cables for each actuator.

Model Specification Items



(1) Gateway unit

RCON – [Series] – [Type] – [I/O Type] – [Options]

Type	
GW	Standard type
GWG	Safety category spec type

I/O Type	
DV	DeviceNet connection specification
CC	CC-Link connection specification
CIE	CC-Link IE Field connection specification
PR	PROFIBUS-DP connection specification
EC	EtherCAT connection specification
EP	EtherNet/IP connection specification
PRT	PROFINET IO connection specification

Options	
FU☐	Fan unit mounting (☐: Specify the number of units, 1 ~ 8)
TRN	Without terminal unit

* A terminal unit is required during operation.
* "-FU☐" can be deleted if fan unit is ordered separately.
Ex. RCON-GW-EP-FU2 is equal to RCON-GW-EP and RCON-FU (2 qty).

(2) Driver unit

RCON – [Series] – [Type] – [Number of Axes]

Type	
PC	Stepper motor
PCF	High thrust stepper motor
AC	AC servo motor
DC	DC brush-less motor

Number of Axes	
1	1-axis specification
2	2-axis specification

Type: PC 1.2A motor 1-axis 2-axis	20P	20☐ stepper motor
	20SP	20☐ stepper motor (For RA2AC/RA2BC)
	28P	28☐ stepper motor
	35P	35☐ stepper motor
	42P	42☐ stepper motor
	42SP	42☐ stepper motor (For RCP4-RA5C)
	56P	56☐ stepper motor
Type: PCF 4A motor 1-axis	56SP	56☐ high thrust stepper motor
	60P	60☐ high thrust stepper motor
	86P	86☐ high thrust stepper motor

*Type: Only 1-axis can be selected for PCF

Type: AC 2-30W motor 1-axis 2-axis	2	2W servo motor
	5	5W servo motor
	10	10W servo motor
	20	20W servo motor
	20S	20W servo motor (For RCA2-SA4/RCA-RA3)
	30	30W servo motor
Type: DC 3D motor 1-axis 2-axis	3D	2.5W DC brush-less motor

(3) Expansion unit

RCON – EXT
Series Expansion

(4) Simple absolute unit

RCON – ABU – [Type]
Series Absolute Unit

Type	
P	Stepper motor
A	AC servo motor

(5) SCON controller (RCON connection specification)

SCON – [Type] – [Motor Type] [Encoder Type] [Options] – **RC** – **0** – [Power Supply Voltage]

Type / Motor Type / Encoder Type / Options / I/O Type / I/O Cable Length / Power Supply Voltage

Contact IAI for model selection items

Only SCON-C RC option can be connected to RCON-EXT.

System Configuration

PLC

Field network

DeviceNet, CC-Link,
CC-Link IE Field, EtherCAT,
EtherNet/IP,
PROFIBUS-DP, PROFINET IO

Options
PC teaching software
(See P. 30)
<Model: IA-OS>
<Model: RCM-101-MW/USB>

Options
Touch panel teaching pendant
(See P. 30)
<Model: TB-03> <Model: TB-02>

For IA-OS: USB cable

For RCM-101:
Supplied with PC teaching software

Included with gateway unit
System I/O connector
(See P. 32)
<Model: DFMC1.5/5-ST-3.5>

Supplied with GWG specification
Dummy plug
(See P. 32)
<Model: DP-5>

Options
Fan unit
(See P. 32)
<Model: RCON-FU>

RCON

Options
24 V power supply
(See P. 31)
<Model: PSA-24(L)>

Supplied with simple absolute unit
Connection cable
(See P. 35)
<Model: CB-ADPC-MPA005>

Options
Simple absolute unit
(See P. 25)
<Model: RCON-ABU-P (For stepper motor)>
<Model: RCON-ABU-A (For AC servo motor)>

Supplied with SCON-CB (RC specification)
Connection cable
(See P. 37)
<Model: CB-RE-CTL002>

Supplied with driver unit
Drive source shutoff connector
(See P. 32)
<Model: DFMC1.5/2-STF-3.5>

RCON connection specification
SCON controller
[I/O type: RC]
(Please contact IAI for more details)

Supplied with expansion unit
Terminal connector
(See P. 31)
<Model: RCON-EXT-TR>

Motor/encoder cable*

Connectable actuators

100/200VAC

RCS2/3/4 Series
DDA Series
LSA Series
IS(D)B Series
SSPA Series

* Refer to page 25 for actuators that cannot be connected.

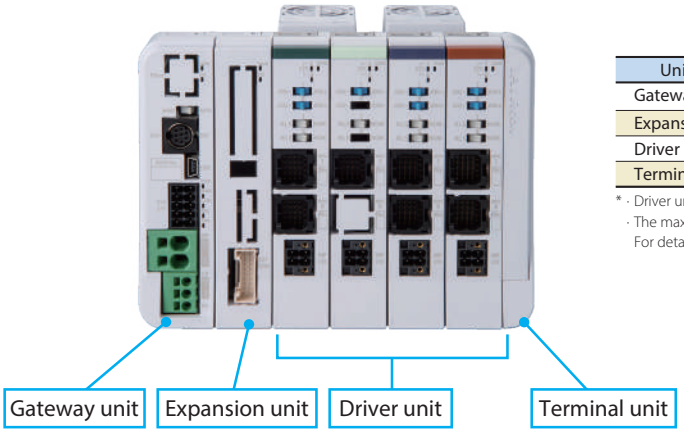
24VDC

RCP2/3/4/5/6 Series
RCA/2 Series
RCD Series

*The 100/200 VAC motor/encoder cable is supplied with the actuator.
The motor/encoder cables are different according to the actuator type to be connected.
Refer to page 33 if conversion cables need to be prepared.

Unit Configuration

The RCON has a modular configuration. Connect each unit under the following conditions.



Unit name	Number of connected units	Location
Gateway unit	1	Placed at far left
Expansion unit	1	Placed to right of gateway unit
Driver unit	16 axes max.*	Placed to left of terminal unit
Terminal unit	1	Placed at far right

* · Driver units can be rearranged.
· The maximum number of connectable axes varies depending on the operation mode.
For details, refer to "Maximum number of connectable axes (page 26)".

Unit name and single product model number list

Product name		Model	Reference page
Gateway unit (GWG: Safety category type)	DeviceNet connection specification	RCON-GW/GWG-DV	P. 20
	CC-Link connection specification	RCON-GW/GWG-CC	P. 20
	CC-Link IE Field connection specification	RCON-GW/GWG-CIE	P. 21
	PROFIBUS-DP connection specification	RCON-GW/GWG-PR	P. 21
	EtherCAT connection specification	RCON-GW/GWG-EC	P. 22
	EtherNet/IP connection specification	RCON-GW/GWG-EP	P. 22
	PROFINET IO connection specification	RCON-GW/GWG-PRT	P. 23
Expansion unit	For SCON-CB connection	RCON-EXT	P. 25
	Terminal connector (for SCON-CB)	RCON-EXT-TR	P. 32
Driver unit	Stepper motor 1-axis specification	RCON-PC-1	P. 24
	Stepper motor 2-axis specification	RCON-PC-2	
	High thrust stepper motor 1-axis specification	RCON-PCF-1	
	AC servo motor 1-axis specification	RCON-AC-1	
	AC servo motor 2-axis specification	RCON-AC-2	
	DC brush-less motor 1-axis specification	RCON-DC-1	
	DC brush-less motor 2-axis specification	RCON-DC-2	
Terminal unit	Included with gateway unit	RCON-GW-TR	P. 25
Simple absolute unit (1-axis specification)	For RCON-PC	RCON-ABU-P	P. 25
	For RCON-AC	RCON-ABU-A	
Fan unit	One for every two driver units	RCON-FU	P. 32

General Specifications

Item	Specifications				Details page
Power supply voltage	24VDC ±10%				-
Power supply current	Differs with system configuration				P. 19
Number of axes controlled	1 to 16 axes *For maximum axes, refer to "Maximum number of connectable axes"				P. 26
Encoder resolution [pulse/r]	Stepper motor	Incremental		800	-
		Battery-less Absolute	RCP4/RCP5	800	
			RCP6	8192	
	AC servo motor	Incremental	RCA	800	
		Battery-less Absolute		16384	
		Incremental	RCA2-***N/NA	1048	
			Excluding RCA2-***N/NAN	800	
	DC brush-less motor	Incremental	RCD-RA1R/GRSN	400	
			RCD-RA1DA/GRSNA	480	
Supported field networks	DeviceNet, CC-Link, CC-Link IE Field, PROFIBUS-DP, EtherCAT, EtherNet/IP, PROFINET IO				
Configuration units	Gateway unit, driver unit, expansion unit, simple absolute unit				P. 20
SIO interface	Teaching port	Communication method	RS485		-
		Communication speed	9.6/19.2/38.4/57.6/115.2/230.4kbps		
	USB port	Communication method	USB		
		Communication speed	12Mbps		
Emergency stop/Enable operation	Collective system support with gateway unit STOP signal input, equipped with connectors capable of shutting off the drive power supply to individual axes of each driver unit				-
Data recording device	Position data and parameters are saved in non-volatile memory (Unlimited rewrites)				-
Calendar function	Retention function: About 10 days Charging time: About 100 hours				-
Safety category compliance	B (The safety category specification supports up to category 4 external circuits)				-
Protection functionality	Overcurrent, abnormal temperature, encoder disconnection, overload				-
Preventative/predictive maintenance function	Low electrolytic capacitor capacity and low fan rotation speed				-
Ambient operating temperature	0~55°C *0~40°C for simple absolute units				-
Ambient operating humidity	85% RH or less, non-condensing				-
Operating atmosphere	Avoid corrosive gas and excessive dust				-
Vibration resistance	Frequency: 10~57Hz / Amplitude: 0.075mm, Frequency: 57~150Hz / Acceleration: 9.8m/s2 XYZ directions Sweep time: 10 minutes Number of sweeps: 10 times				-
Shock resistance	Drop height: 800mm 1 corner, 3 edges, 6 faces				-
Electric shock protection mechanism	Class III				-
Degree of protection	IP20				-
Insulation withstanding voltage	500VDC 10MΩ				-
Generated heat (per unit)	RCON-PC	PowerCON: No		5.0W	-
		PowerCON: Yes		8.0W	
	RCON-PCF	PowerCON: No		19.2W	
	RCON-AC	Standard / High accel/decel / Energy saving		4.5W	
	RCON-DC	Standard		3.0W	
Cooling method	Natural cooling and forced cooling by fan unit (option)				-
Connections between each unit	Unit connection method				-
Installation/mounting method	DIN rail (35mm) mounting				-
Regulations/standards	CE Marking, UL Certification (planned), RoHS				-

Power Capacity

Based on the connection configuration, make sure for each unit that the calculated results for control power and motor power do not exceed the current limit value for selection calculation.

Item	Current limit value
Control power	9.0A or less
Motor power	37.5A or less

* Do not include the power supply to SCON-CB RC.

Power supply capacity by unit

Item	Specifications						
Power supply voltage	24VDC±10%						
Control power capacity (per unit)	Gateway unit (includes terminal unit)				0.8A		
	Driver unit (common for all types)	Brake: No			0.2A		
		Brake: Yes (1-axis specification)			0.4A		
		Brake: Yes (2-axis specification)			0.6A		
	Expansion unit				0.1A		
	Simple absolute unit (common to all types)				0.2A		
Motor power capacity (per 1-axis actuator)	Actuator/driver unit				Rated current	Max. current	
		Series	Motor type			When energy-saving is set	
	Stepper motor/ RCON-PC	RCP2 RCP3	20P/20SP/28P	Without PowerCON	0.8A	-	-
			28P*		1.9A	-	-
		RCP4 RCP5 RCP6	28P/35P/42P/ 42SP/56P	Without PowerCON	1.9A	-	-
				With PowerCON	2.3A	-	3.9A
	Stepper motor/ RCON-PCF	RCP2 RCP4 RCP5 RCP6	56SP/60P/86P	Without PowerCON	5.7A	-	-
	AC servo motor/ RCON-AC	RCA RCA2	5W	Standard / Hi-accel./decel.	1.0A	-	3.3A
			10W	Standard / High accel/decel / Energy saving	1.3A	2.5A	4.4A
			20W		1.3A	2.5A	4.4A
			20W(20S)		1.7A	3.4A	5.1A
			30W		1.3A	2.2A	4.0A
		RCL	2W	Standard / Hi-accel./decel.	0.8A	-	4.6A
			5W		1.0A	-	6.4A
			10W		1.3A	-	6.4A
	DC brush-less motor/ RCON-DC	RCD	3W	Standard	0.7A	-	1.5A

* Applicable models: RCP2-RA3, RCP2-RGD3

Caution

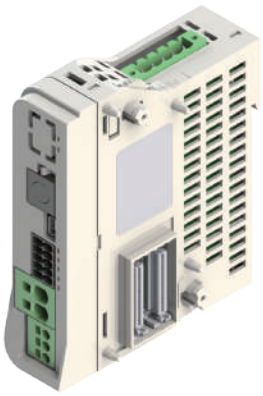
· For operation patterns where acceleration/deceleration operation is performed simultaneously on all axes, and where operating duty is 100%: Motor power must be calculated at the maximum current value.
(If the maximum current is not listed, calculate with the rated current.)

Gateway Unit

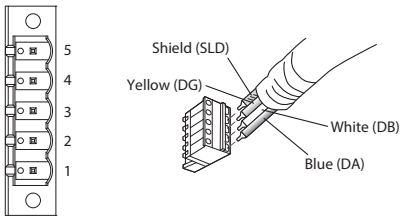
Features It is used to connect a 24V power supply and a teaching tool to the RCON.
(The GWG specification is for the safety category spec type.)

Gateway unit DeviceNet connection specification

Model: **RCON-GW/GWG-DV**



Connector for network



Controller side
connector top view

Specifications

Power	24VDC ±10%
Control power	0.8A
Ambient operating temperature & humidity	0~55°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	155g
External dimensions	W30mm × H115mm × D95mm

Connector		Cable connector model (manufacturer)	Remarks
System I/O	Cable side	DFMC1.5/5-ST-3.5	Standard accessories
Network	Cable side	MSTB2.5/5-STF-5.08 AUM (Phoenix Contact)	Standard accessories
	Controller side	MSTBA2.5/5-GF-5.08 AU (Phoenix Contact)	

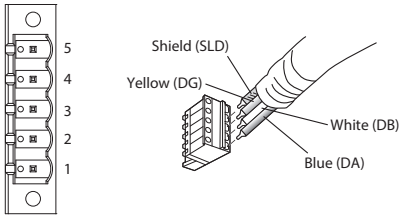
Network connection cable

Pin No.	Signal name (color scheme)	Description	Compatible wire diameter
1	V- (black)	Power supply cable - side	DeviceNet dedicated cable
2	CAN L (blue)	Signal data Low side	
3	-	Drain (shield)	
4	CAN H (white)	Signal data High side	
5	V+ (red)	Power supply cable + side	

Gateway unit CC-Link connection specification

Model: **RCON-GW/GWG-CC**

Connector for network



Controller side
connector top view

Specifications

Power	24VDC ±10%
Control power	0.8A
Ambient operating temperature & humidity	0~55°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	154g
External dimensions	W30mm × H115mm × D95mm

Connector		Cable connector model (manufacturer)	Remarks
System I/O	Cable side	DFMC1.5/5-ST-3.5	Standard accessories
Network	Cable side	MSTB2.5/5-STF-5.08 AU (Phoenix Contact) With 110Ω/130Ω terminal resistor	Standard accessories
	Controller side	MSTB2.5/5-GF-5.08 AU (Phoenix Contact)	

Network connection cable

Pin No.	Signal name (color scheme)	Description	Compatible wire diameter
1	DA (blue)	Signal line A	CC-Link dedicated cable
2	DB (white)	Signal line B	
3	DG (yellow)	Digital ground	
4	SLD	Connects the shield of shielded cables (5-pin FG and control power connector 1-pin FG connected internally)	
5	FG	Frame ground (4-pin SLD and control power connector 1-pin FG connected internally)	

Gateway unit CC-Link IE Field connection specification

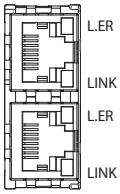
Model: **RCON-GW/GWG-CIE**

Specifications

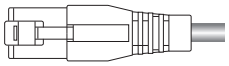
Power	24VDC ±10%
Control power	0.8A
Ambient operating temperature & humidity	0~55°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	165g
External dimensions	W30mm × H115mm × D95mm

Connector		Cable connector model (manufacturer)	Remarks
System I/O	Cable side	DFMC1.5/5-ST-3.5	Standard accessories
Network	Cable side	Ethernet ANSI/TIA/EIA-568-B Category 5e or higher shielded 8P8C modular plug (RJ45)	To be prepared by the customer
	Controller side	Ethernet ANSI/TIA/EIA-568-B Category 5e or higher shielded 8P8C modular plug (RJ45)	

Connector for network



Controller side connector top view



Network connection cable

Pin No.	Signal name	Description	Compatible wire diameter
1	TP0+	Data 0+	For the Ethernet cable, use a straight STP cable of Category 5e or higher.
2	TP0 -	Data 0-	
3	TP1 +	Data 1+	
4	TP2 +	Data 2+	
5	TP2-	Data 2-	
6	TP1-	Data 1-	
7	TP3 +	Data 3+	
8	TP3 -	Data 3-	

Gateway unit PROFIBUS-DP connection specification

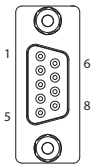
Model: **RCON-GW/GWG-PR**

Specifications

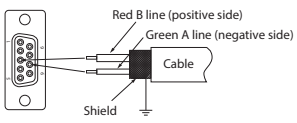
Power	24VDC ±10%
Control power	0.8A
Ambient operating temperature & humidity	0~55°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	158g
External dimensions	W30mm × H115mm × D95mm

Connector		Cable connector model (manufacturer)	Remarks
System I/O	Cable side	DFMC1.5/5-ST-3.5	Standard accessories
Network	Cable side	9-pin D sub connector (male)	To be prepared by the customer
	Controller side	9-pin D sub connector (female)	

Connector for network



Controller side connector top view



Network connection cable

Pin No.	Signal name	Description	Compatible wire diameter
1	NC	Not connected	PROFIBUS-DP dedicated cable (Type A: EN5017)
2	NC	Not connected	
3	B-Line	Signal line B (RS-485)	
4	RTS	Transmission request	
5	GND	Signal GND (insulation)	
6	+5V	+5 V output (isolated)	
7	NC	Not connected	
8	A-Line	Signal line A (RS-485)	
9	NC	Not connected	

Gateway unit EtherCAT connection specification

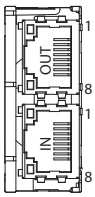
Model: **RCON-GW/GWG-EC**

Specifications

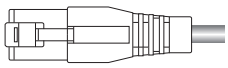
Power	24VDC ±10%
Control power	0.8A
Ambient operating temperature & humidity	0~55℃, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	152g
External dimensions	W30mm × H115mm × D95mm

Connector		Cable connector model (manufacturer)	Remarks
System I/O	Cable side	DFMC1.5/5-ST-3.5	Standard accessories
Network	Cable side	Ethernet ANSI/TIA/EIA-568-B Category 5 or higher Shielded 8P8C modular plug (RJ45)	To be prepared by the customer
	Controller side	Ethernet ANSI/TIA/EIA-568-B Category 5 or higher Shielded 8P8C modular jack (RJ45)	

Connector for network



Controller side
connector top view



Network connection cable

Pin No.	Signal name	Description	Compatible wire diameter
1	TD +	Transmit data +	For the Ethernet cable, use a straight STP cable of Category 5 or higher.
2	TD -	Transmit data -	
3	RD +	Receive data +	
4	-	Not used	
5	-	Not used	
6	RD -	Receive data -	
7	-	Not used	
8	-	Not used	

Gateway unit EtherNet/IP connection specification

Model: **RCON-GW/GWG-EP**

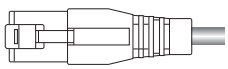
Specifications

Power	24VDC ±10%
Control power	0.8A
Ambient operating temperature & humidity	0~55℃, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	156g
External dimensions	W30mm × H115mm × D95mm

Connector		Cable connector model (manufacturer)	Remarks
System I/O	Cable side	DFMC1.5/5-ST-3.5	Standard accessories
Network	Cable side	Ethernet ANSI/TIA/EIA-568-B Category 5 or higher Shielded 8P8C modular plug (RJ45)	To be prepared by the customer
	Controller side	Ethernet ANSI/TIA/EIA-568-B Category 5 or higher Shielded 8P8C modular jack (RJ45)	

Connector for network

Controller side
connector top view



Network connection cable

Pin No.	Signal name	Description	Compatible wire diameter
1	TD +	Transmit data +	For the Ethernet cable, use a straight STP cable of Category 5 or higher.
2	TD -	Transmit data -	
3	RD +	Receive data +	
4	-	Not used	
5	-	Not used	
6	RD -	Receive data -	
7	-	Not used	
8	-	Not used	

Gateway unit PROFINET IO connection specification

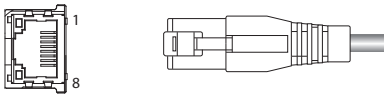
Model: **RCON-GW/GWG-PRT**

Specifications

Power	24VDC ±10%
Control power	0.8A
Ambient operating temperature & humidity	0~55℃, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	158g
External dimensions	W30mm × H115mm × D95mm

Connector		Cable connector model (manufacturer)	Remarks
System I/O	Cable side	DFMC1.5/5-ST-3.5	Standard accessories
Network	Cable side	Ethernet ANSI/TIA/EIA-568-B Category 5 or higher Shielded 8P8C modular plug (RJ45)	To be prepared by the customer
	Controller side	Ethernet ANSI/TIA/EIA-568-B Category 5 or higher Shielded 8P8C modular jack (RJ45)	

Connector for network



Controller side
connector top view

Network connection cable

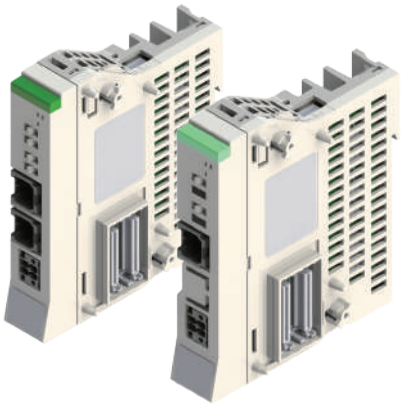
Pin No.	Signal name	Description	Compatible wire diameter
1	TD +	Transmit data +	For the Ethernet cable, use a straight STP cable of Category 5 or higher.
2	TD -	Transmit data -	
3	RD +	Receive data +	
4	-	Not used	
5	-	Not used	
6	RD -	Receive data -	
7	-	Not used	
8	-	Not used	

Driver Unit

Features A controller unit for actuator control.
Up to two axes can be connected to a single unit.

Driver unit for RCP series connection

A driver unit for stepper motor connection.
Can be connected to all RCP series actuators.



Model	Type	Compatible motor capacity
RCON-PC-1	1-axis connection	1.2A (□20/28/35/42/56)
RCON-PC-2	2-axis connection	
RCON-PCF-1	1-axis connection *For high thrust	4A (□56/60/86)

Specifications

Power	24VDC ±10%
Control power	(Without brake) 0.2A (With brake, 1-axis specification) 0.4A (With brake, 2-axis specification) 0.6A
Ambient operating temperature & humidity	(Without fan) 0~40°C (With fan) 0~55°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	(1-axis specification) 175g (2-axis specification) 180g
External dimensions	W22.6mm × H115mm × D95mm
Accessories	Drive source shutoff connector (DFMC1.5/2-STF-3.5)

Driver unit for RCA series connection

A driver unit for AC servo motor connection.
Can be connected to all RCA series actuators.

Model	Type	Compatible motor capacity
RCON-AC-1	1-axis connection	2W - 30W
RCON-AC-2	2-axis connection	

Specifications

Power	24VDC ±10%
Control power	(Without brake) 0.2A (With brake, 1-axis specification) 0.4A (With brake, 2-axis specification) 0.6A
Ambient operating temperature & humidity	(Without fan) 0~40°C (With fan) 0~55°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	(1-axis specification) 175g (2-axis specification) 180g
External dimensions	W22.6mm × H115mm × D95mm
Accessories	Drive source shutoff connector (DFMC1.5/2-STF-3.5)

Driver unit for RCD series connection

A driver unit for DC brush-less motor connection.
Can be connected to all RCD series actuators.

Model	Type	Compatible motor capacity
RCON-DC-1	1-axis connection	3W
RCON-DC-2	2-axis connection	

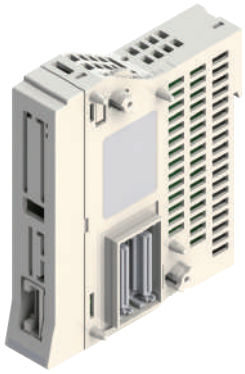
Specifications

Power	24VDC ±10%
Control power	(Without brake) 0.2A (With brake, 1-axis specification) 0.4A (With brake, 2-axis specification) 0.6A
Ambient operating temperature & humidity	(Without fan) 0~40°C (With fan) 0~55°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	(1-axis specification) 175g (2-axis specification) 180g
External dimensions	W22.6mm × H115mm × D95mm
Accessories	Drive source shutoff connector (DFMC1.5/2-STF-3.5)

Other Units

Expansion unit

SCON-CB/CGB can be connected to operate an actuator with 200V motor.



Model
RCON-EXT

Specifications

Power	24VDC ±10%
Control power	0.1A
Ambient operating temperature & humidity	0~55°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	96g
External dimensions	W22.6mm × H115mm × D95mm
Accessories	Terminal connector

Actuators that cannot be connected

Servo press type, LSA-W21, SCARA robots, TTA, ZR units, Wrist Units

Terminal unit

A terminal resistor for returning RCON serial communication and input/output signals. (Supplied as an accessory with the gateway unit.)

Model
RCON-GW-TR

Specifications

Power	24VDC ±10%
Control power	0.8A
Ambient operating temperature & humidity	0~55°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	48g
External dimensions	W12.6mm × H115mm × D95mm

Simple absolute unit

This unit is to be connected when using an actuator with incremental specification as absolute specification.

* One unit per axis with simple absolute.

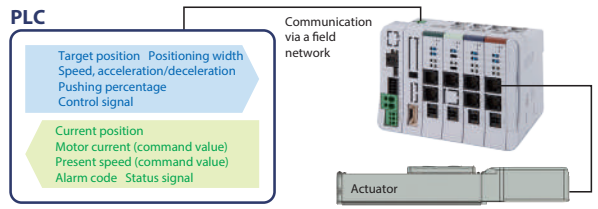
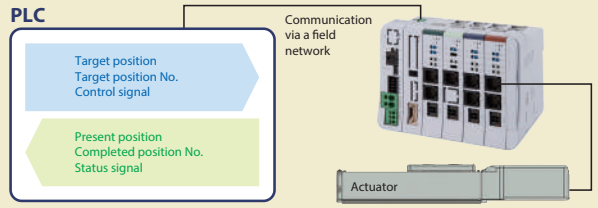
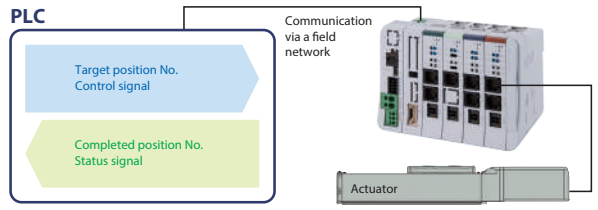
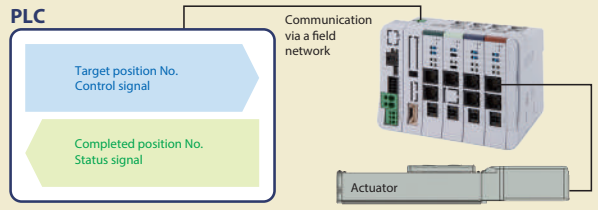
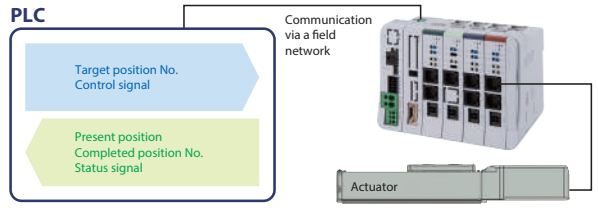
Model	Type	Compatible motor
RCON-ABU-P	For RCP series connection	Stepper motor
RCON-ABU-A	For RCA series connection	AC servo motor

Specifications

Power	24VDC ±10%
Control power	0.2A
Absolute battery model	AB-7
Battery voltage	3.6V
Charging time	Approx. 72 hours
Ambient operating temperature & humidity	0~40°C, 85% RH or less, non-condensing
Operating atmosphere	Avoid corrosive gas and excessive dust
Degree of protection	IP20
Mass	271g (including 173g for absolute battery)
External dimensions	W22.6mm×H115mm×D95mm
Accessories	Cable (CB-ADPC-MPA005)

Field Network Operation Modes

The field network control operation mode can be selected from the following control modes.
Data required for operation (target position, speed, acceleration, push current value, etc.) are written by a connected PLC or other host controller into the specified addresses.

Operation mode	Description	Overview
Direct numerical control mode	This mode allows designating the target position, speed, acceleration/deceleration, and current limit value for pushing numerically. Also, it is capable of monitoring the present position, present speed, and the command current value with 0.01mm increments.	
Simple direct mode	Can modify any of the stored target positions by numerical value. Also allows monitoring of the present position numerically with 0.01mm increments.	
Positioner 1 mode	Registers up to 128 points of position data, and can stop at the registered position. Also allows monitoring of the present position numerically with 0.01mm increments.	
Positioner 2 mode	Registers up to 128 points of position data, and can stop at the registered position. This mode does not allow monitoring of the present position. This mode has less in/out data transfer volume than the Positioner 1 mode.	
Positioner 3 mode	Registers up to 128 points of position data, and can stop at the registered position. This mode does not allow monitoring of the present position. This mode has less in/out data transfer volume than the Positioner 2 mode, and controls travel with the minimum of signals.	
Positioner 5 mode	Registers up to 16 points of position data, and can stop at the registered position. This mode has less in/out data transfer volume and fewer positioning tables than the Positioner 2 mode, and allows monitoring of the present position numerically with 0.1mm increments.	

* No remote I/O mode available.

Maximum number of connectable axes

Field network \ Operation mode	Direct numerical control mode	Simple direct mode	Positioner 1 mode	Positioner 2 mode	Positioner 3 mode	Positioner 5 mode
DeviceNet	8-axis	16-axis	16-axis	16-axis	16-axis	16-axis
CC-Link	16-axis	16-axis	16-axis	16-axis	16-axis	16-axis
CC-Link IE Field	16-axis	16-axis	16-axis	16-axis	16-axis	16-axis
PROFIBUS-DP	8-axis	16-axis	16-axis	16-axis	16-axis	16-axis
EtherCAT	8-axis	16-axis	16-axis	16-axis	16-axis	16-axis
EtherNet/IP	8-axis	16-axis	16-axis	16-axis	16-axis	16-axis
PROFINET IO	8-axis	16-axis	16-axis	16-axis	16-axis	16-axis

List of Functions by Operation Mode

	Direct numerical control mode	Simple direct mode	Positioner 1 mode	Positioner 2 mode	Positioner 3 mode	Positioner 5 mode
Number of positioning points	Unlimited	128 points	128 points	128 points	128 points	16 points
Home return motion	○	○	○	○	○	○
Positioning operation	○	○	△	△	△	△
Speed, acceleration/ deceleration settings	○	△	△	△	△	△
Different acceleration and deceleration settings	×	△	△	△	△	△
Pitch feed (Incremental)	○	△	△	△	×	△
JOG operation	△	△	△	△	×	△
Position data writing	×	×	○	○	×	×
Push-motion operation	○	△	△	△	△	△
Speed changes while traveling	○	△	△	△	△	△
Pausing	○	○	○	○	○	○
Zone signal output	△ (2 points)	△ (2 points)	△ (2 points)	△ (2 points)	△ (1 point)	△ (2 points)
Position zone signal output	×	△	△	△	×	×
Overload warning output	○	○	○	○	×	○
Vibration control (Note 1)	×	△	△	△	△	△
Present position reading (Note 2) (Resolution)	○ (0.01mm)	○ (0.01mm)	○ (0.01mm)	×	×	○ (Note 3) (0.1mm)

* ○: Direct setting is possible, △: Position data or parameter input is required, ×: The operation is not supported.

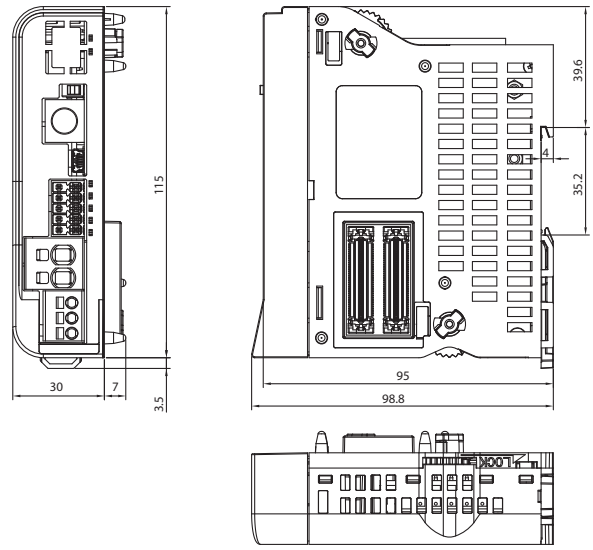
Note 1: This function is limited to the AC servo motor specification.

Note 2: The resolution when connecting a SCON controller to control a DDA motor is 0.001 degree (0.01 degree for positioner 5 mode only).

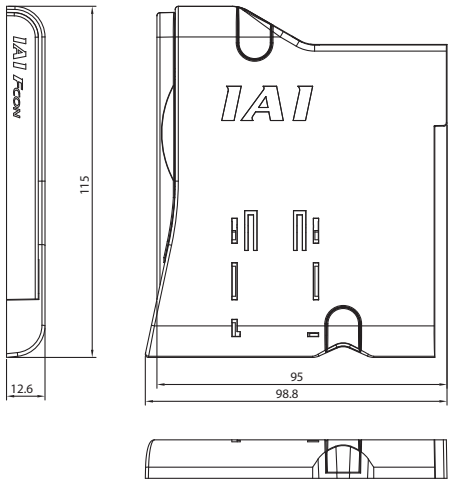
Note 3: The maximum output value in positioner 5 mode is 3,276.7mm (327.67 degrees for DDA motor).
To control the actuator in an operation range exceeding the maximum value, select a different operation mode.

External Dimensions

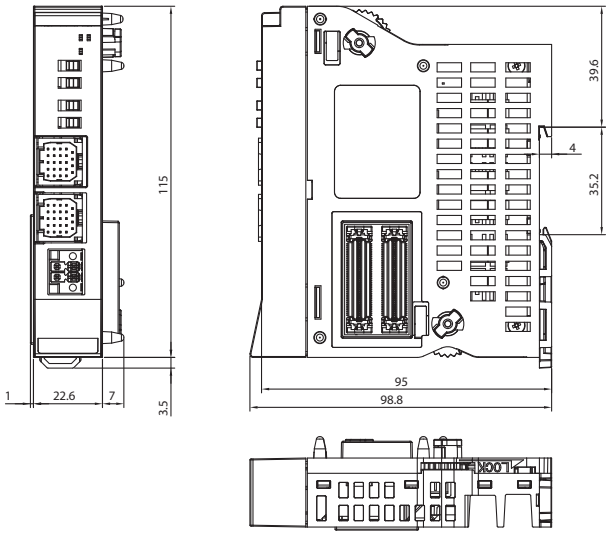
Gateway unit



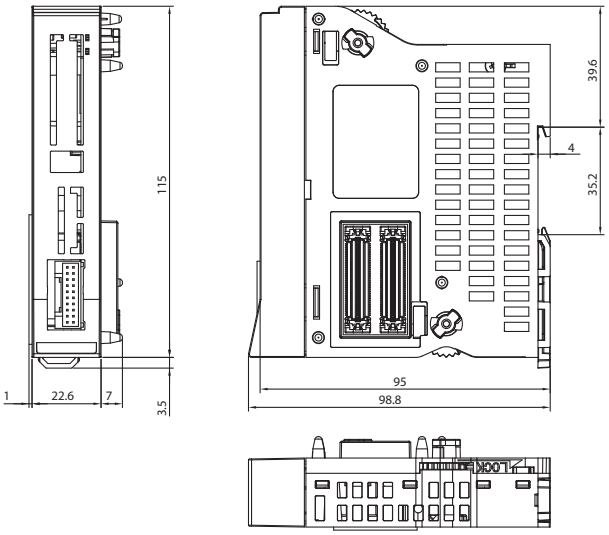
Terminal unit



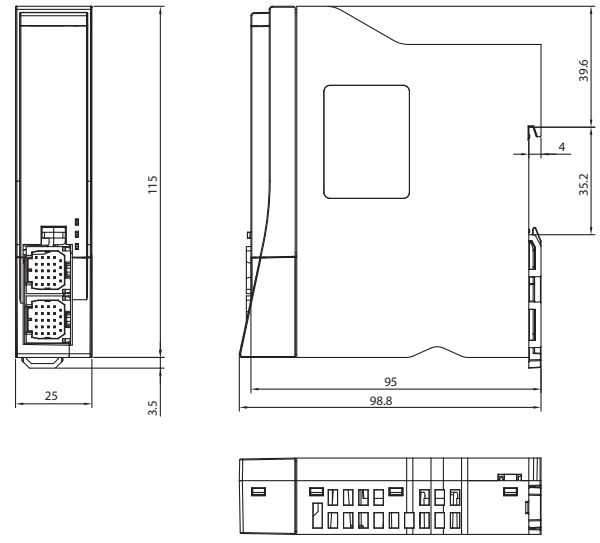
Driver unit



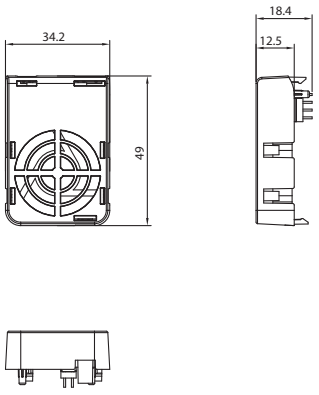
Expansion unit



Simple absolute unit



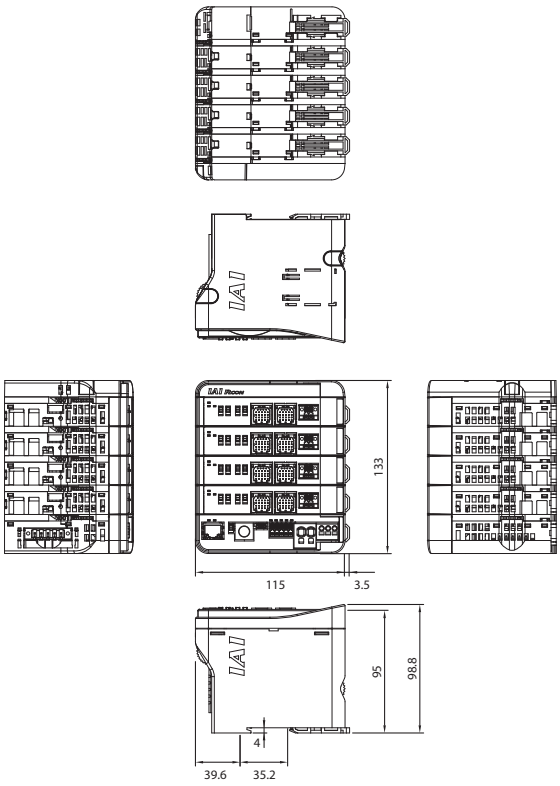
Fan unit



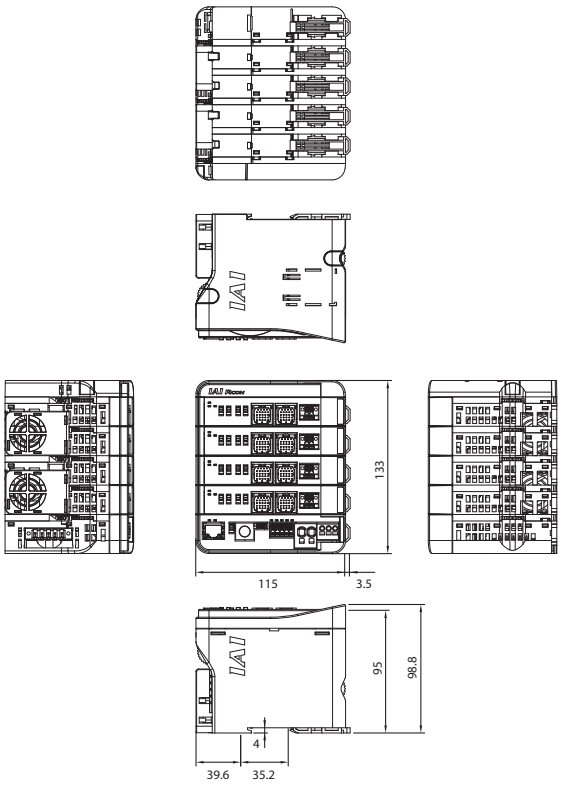
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

Unit combination examples

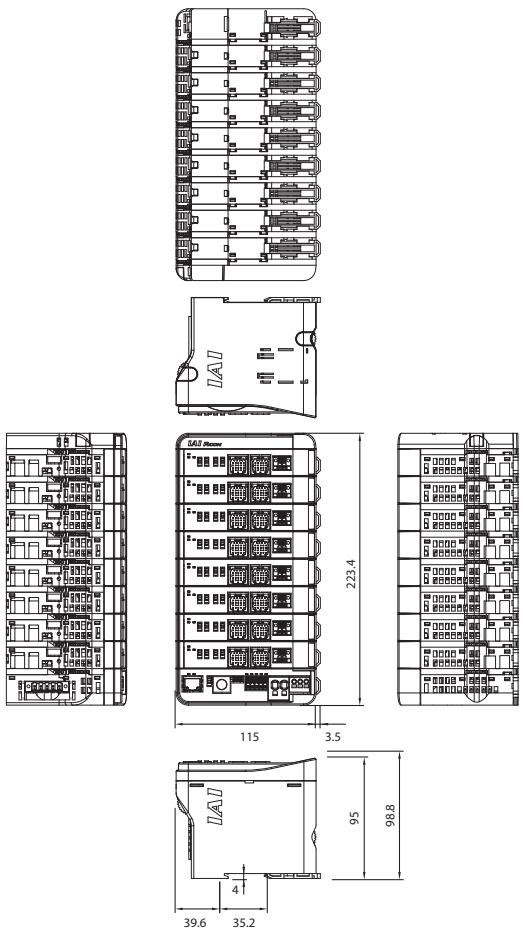
Driver units x 4, without fan



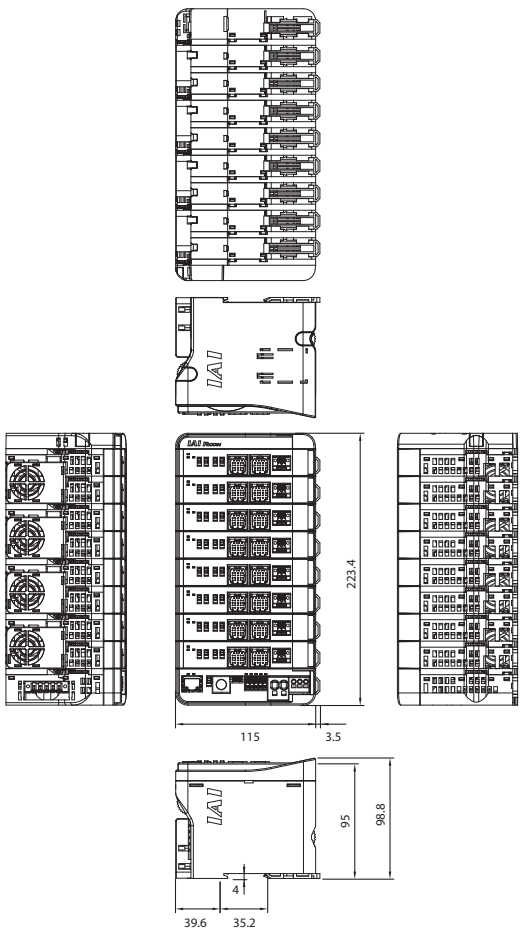
Driver units x 4, with fan



Driver units x 8, without fan



Driver units x 8, with fan



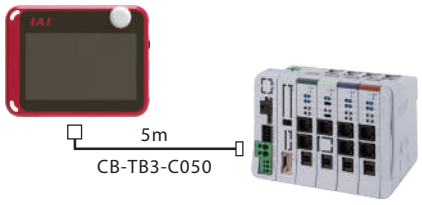
Options

Touch Panel Teaching Pendant

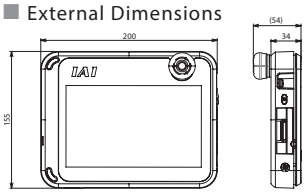
■ Features A teaching device equipped with functions such as position teaching, trial operation, and monitoring.

■ Model **TB-03-□** Please contact IAI for the current supported versions.

■ Configuration



■ External Dimensions

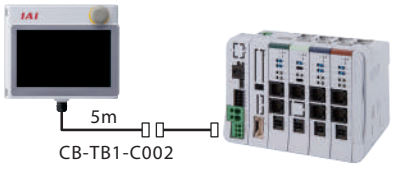


■ Specifications

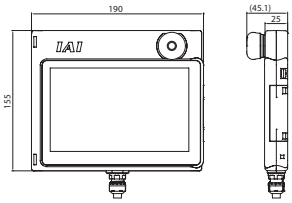
Rated voltage	24VDC
Power consumption	3.6W or less (150mA or less)
Ambient operating temperature	0 to 40°C
Ambient operating humidity	20~85% RH (Non-condensing)
Environmental resistance	IPX0
Mass	670g (TB-03 unit only)
Charging method	Wired connection with dedicated AC adapter/controller
Wireless connection	Bluetooth4.2 class2

■ Model **TB-02(D)-□** Please contact IAI for the current supported versions.

■ Configuration



■ External Dimensions



■ Specifications

Rated voltage	24VDC
Power consumption	3.6W or less (150mA or less)
Ambient operating temperature	0 to 40°C
Ambient operating humidity	20~85% RH (Non-condensing)
Environmental resistance	IP20
Mass	470g (TB-02 unit only)

PC Teaching Software (Windows only)

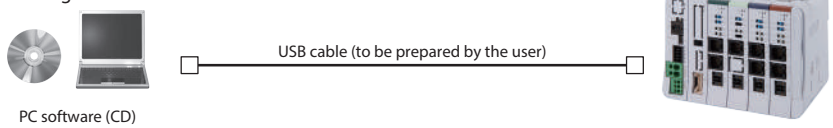
■ Features Start-up support software which comes equipped with functions such as position teaching, trial operation, and monitoring.
A complete range of functions needed for making adjustments contributes to shortened start-up time.

Supported Windows versions: 7/8/8.1/10

■ Model **IA-OS**

Please contact IAI for the current supported versions.

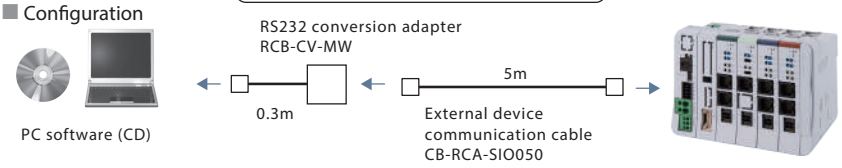
■ Configuration



■ Model **RCM-101-MW** (with external device communication cable + RS232 conversion unit)

Please contact IAI for the current supported versions.

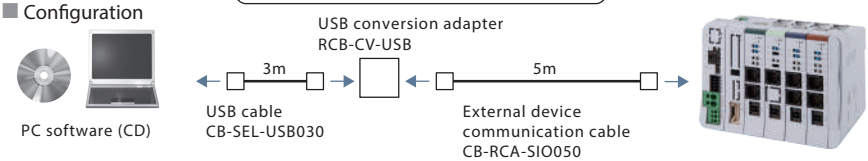
■ Configuration



■ Model **RCM-101-USB**
(with external device communication cable + USB conversion adapter + USB cable)

Please contact IAI for the current supported versions.

■ Configuration



24 V Power Supply

■ Overview A power supply the same height as RCON which can be easily installed on control panels.
It can be connected to RCON to monitor power status.

■ Model **PSA-24**
(Without fan)

■ Model **PSA-24L**
(With fan)

* Non-IAI power supply can be used for RCON.

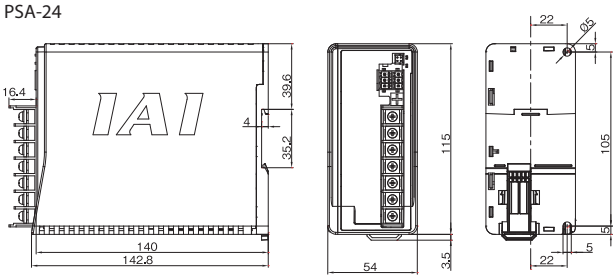
■ Specifications Table

Item	Specifications	
	100VAC input	200VAC input
Power input voltage range	100VAC~230VAC ±10%	
Input power supply current	3.9A or less	1.9A or less
Power capacity	Without fan: 250VA With fan: 390VA	Without fan: 280VA With fan: 380VA
Inrush current *1	Without fan: 17A (typ) With fan: 27.4A (typ)	Without fan: 34A (typ) With fan: 54.8A (typ)
Generated heat	28.6W	20.4W
Output voltage range *2	24VDC ±10%	
Continuous rated output	Without fan: 8.5A (204W), with fan: 13.8A (330W)	
Peak output	17A(408W)	
	86% or more	90% or more
Parallel connection *3	Max.: 5 units	

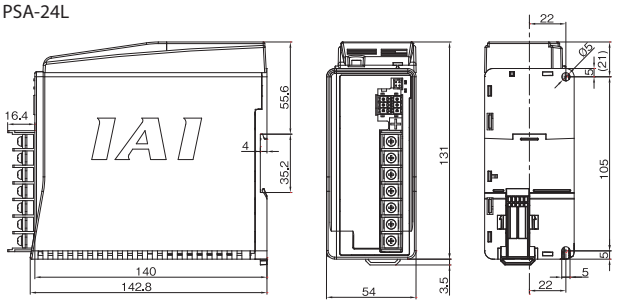
*1 The pulse width of flowing inrush current is less than 5 ms.
*2 In order to enable parallel operation, this power supply can vary the output voltage according to the load. Therefore, the power supply unit is dedicated for IAI controllers.
*3 Parallel connection cannot be used under the following conditions.
- Parallel connection of PSA-24 (specification without fan) and PSA-24L (specification with fan)
- Parallel connection with a power supply unit other than this power supply
- Parallel connection with PS-24

■ External Dimensions

PSA-24



PSA-24L



Maintenance Parts

Fan unit

■ Overview An option for forced cooling of the driver unit. 1 fan unit to be mounted per 2 driver units.

■ Model **RCON-FU**

Dummy plug

■ Overview Required for the safety category specification (GWG).

■ Model **DP-5**

* This plug is included with RCON-GWG.

System I/O connector

■ Overview A connector for emergency stop input, operation mode switching input from exterior, etc.

■ Model **DFMC1.5/5-ST-3.5**

Drive source shutoff connector

■ Overview A drive source shutoff input connector.

■ Model **DFMC1.5/2-STF-3.5**

Terminal connector

■ Overview Required as a terminal resistor when connecting SCON.

■ Model **RCON-EXT-TR**

* This connector is included with RCON-EXT.

Replacement battery

■ Overview A replacement battery for the simple absolute unit.

■ Model **AB-7**

* For RCON-ABU-P & RCON-ABU-A.

Maintenance Parts (Cables)

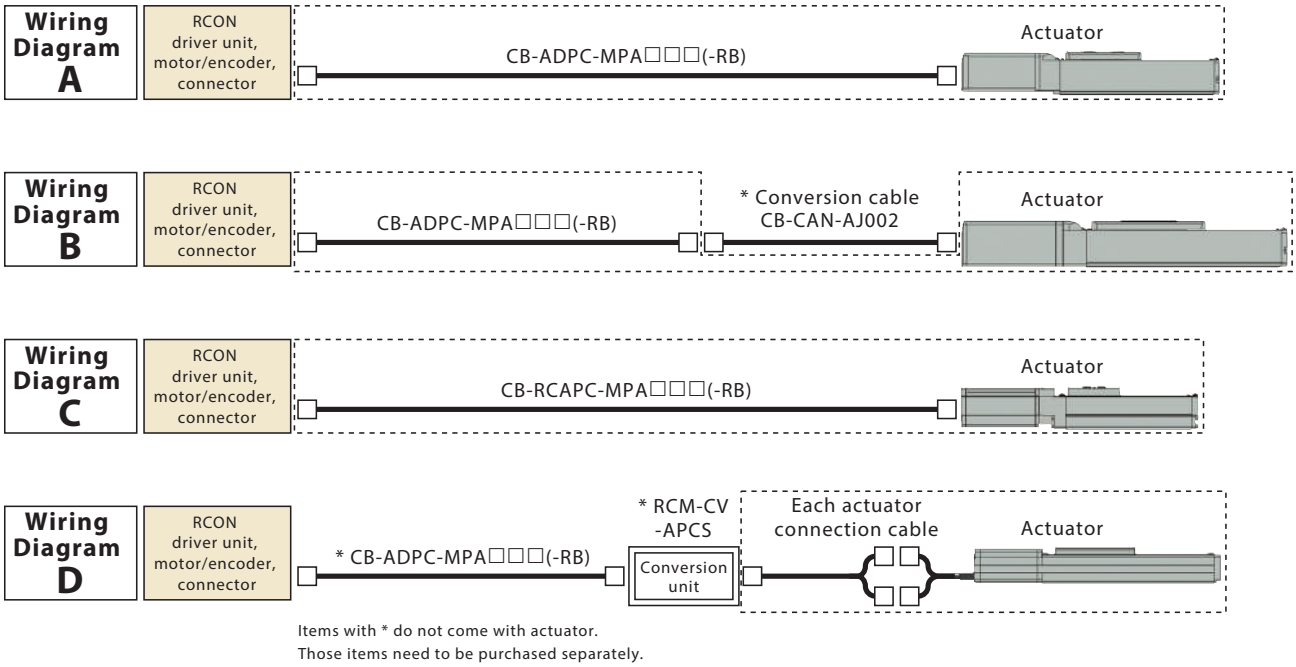
When placing an order for a replacement cable, please use the model number shown below.

Table of compatible cables

No.	Actuator		Applicable controller symbol	RCON connection cable (Note 2) (-RB: Robot cable) Each actuator connection cable	RCM-CV-APCS	Wiring diagram
	Series	Target type				
(1)	RCP6 RCP6CR RCP6W RCP5 RCP5CR RCP5W	Other than high thrust type (Note 1)	P5	CB-ADPC-MPA□□□(-RB)	-	A
(2)		High thrust type (Note 1)	P6	CB-ADPC-MPA□□□(-RB) CB-CAN-AJ002 (conversion cable)	-	B
(3)	RCP4 RCP4CR RCP4W	Gripper (GR*), ST4525E, SA3/RA3	P5	CB-ADPC-MPA□□□(-RB)	-	A
(4)		High thrust type (Note 1)	P6	CB-ADPC-MPA□□□(-RB) CB-CAN-AJ002 (conversion cable)	-	B
(5)		Other than (3), (4)	P5	CB-ADPC-MPA□□□(-RB) CB-CAN-AJ002 (conversion cable)	-	B
(6)	RCP3		P5	CB-RCAPC-MPA□□□(-RB)	-	C
(7)	RCP2 RCP2CR RCP2W	RCP2 rotary compact type (standard type) RCP2-RTBS/RTBSL/RTCS/RTCSL	P5	CB-ADPC-MPA□□□(-RB) [CB-RPSEP-MPA□□□]	Required	D
(8)		RCP2CR (clean room type), RCP2W (dust-proof/splash-proof type) Rotary (RT*) of above types GRS/GRM/GR3SS/GR3SM of above types	P5	CB-ADPC-MPA□□□(-RB)	-	A
(9)		GRSS/GRLS/GRST/GRHM/GRHB of all types (standard / clean room / dust-proof/splash-proof) Short type (RCP2 only) RCP2-SRA4R/SRGS4R/SRGD4R	P5	CB-RCAPC-MPA□□□(-RB)	-	C
(10)		High thrust type (Note 1)	P6	CB-ADPC-MPA□□□(-RB) [CB-CFA-MPA□□□-RB]	Required	D
(11)		Other than (7) to (10)	P5	CB-ADPC-MPA□□□(-RB) [CB-PSEP-MPA□□□]	Required	D
(12)	RCA2/RCA2CR/RCA2W, RCL		A6	CB-RCAPC-MPA□□□(-RB)	-	C
(13)	RCA RCACR RCAW	Short type (RCA only) RCA-SRA4R/SRGS4R/SRGD4R	A6	CB-RCAPC-MPA□□□(-RB)	-	C
(14)		Other than (13)	A6	CB-ADPC-MPA□□□(-RB) [CB-ASEP2-MPA□□□]	Required	D
(15)	RCD	RCD-RA1DA, RCD-GRSNA	D6	CB-ADPC-MPA□□□(-RB)	-	A

Note 1: An actuator that uses a high thrust stepper motor (56SP, 60P, 86P)

Note 2: Up to 20m from each driver unit to the actuator, with or without the conversion unit.
Note that the maximum length from the D driver unit to the RCD actuator will be 10 m.



Items with * do not come with actuator.
Those items need to be purchased separately.

Cables in dash lines (-----) come with actuators if the applicable controller designation for RCON (P5/P6/A6/D6) are selected in the actuator model #.

- Non High-Thrust Stepper : [P5]
- High-Thrust Stepper : [P6]
- 24V Servo : [A6]
- Brush-less DC Servo : [D6]

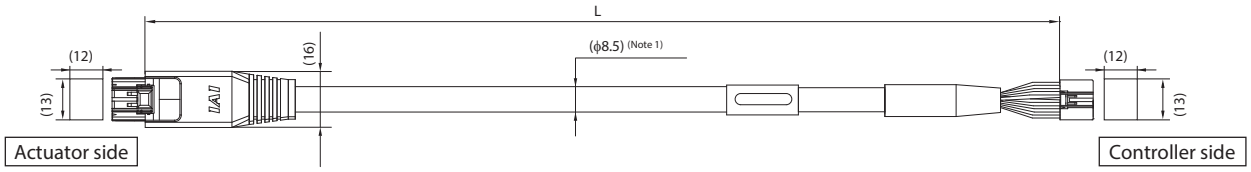
Ex.

RCP6-SA4C-WA-35P-5-50-P5-5S:	→	CB-ADPC-MPAO30 ("S"=3m) cable comes with actuator	**[Wiring Diagram A]**
RCP6-SA8C-WA-56SP-5-50-P6-S: (High-Thrust Type)	→	CB-ADPC-MPA030 ("S"=3m) cable comes with actuator but CB-CAN-AJ002 cable needs to be purchased separately	**[Wiring Diagram B]**
RCP6-SA4C-WA-35P-5-50-P3-S:	→	P3 is not for RCON type cable CB-ADPC-MPA030 ("S"=3m) cable required for RCON connection	
RCA-SA6C-WA-20-5-50-A6-S:	→	"S" 3m cable between RCM-CV-APCS and actuator comes with actuator. Add two more items: - RCM-CV-APCS - CB-ADPC-MPA□□□(-RB) Shortest non-flex cable is CB-ADPC-MPA002 (200mm)	**[Wiring Diagram D]**

Contact IAI for details.

■ Model **CB-ADPC-MPA□□□/CB-ADPC-MPA□□□-RB**

* Please indicate the cable length (L) in □□□, e.g.) 030 = 3m, maximum 20m



Minimum bending radius R 5m or less r= 68mm or more (Dynamic bending condition) More than 5m r= 73mm or more (Dynamic bending condition)

* The robot cable is designed for flex-resistance: Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is over 5m, ϕ9.1 cable diameter applies.

DF62DL-24S-2.2C (HIROSE ELECTRIC CO., LTD.)

Color	Signal name			Pin No.
	DC	AC	PC	
Blue (AWG22/19)	U	U	ϕA	3
Orange (AWG22/19)	V	V	VMM	5
Brown (AWG22/19)	-	-	ϕB	10
Gray (AWG22/19)	-	-	VMM	9
Green (AWG22/19)	W	W	ϕ_A	4
Red (AWG22/19)	-	-	ϕ_B	15
Light blue (AWG26)	A+	A+	SA[mABS]	12
Orange (AWG26)	A-	A-	SB[mABS]	17
Green (AWG26)	B+	B+	A+	1
Brown (AWG26)	B-	B-	A-	6
Gray (AWG26)	HS1_IN	Z+/SA[mABS]	B+	11
Red (AWG26)	HS2_IN	Z-/SB[mABS]	B-	16
Black (AWG26)	-	VPS/BAT-	VPS	18
Yellow (AWG26)	-	BK+	LS+	8
Light blue (AWG26)	-	LS+	BK+	20
Orange (AWG26)	-	LS-	BK-	2
Gray (AWG26)	VCC	VCC	VCC	21
Red (AWG26)	GND	GND	GND	7
Brown (AWG26)	-	BK-	LS-	14
Green (AWG26)	HS3_IN	LS_GND	LS_GND	13
-	-	-	-	19
Pink (AWG26)	-	BAT+	CF_VCC	22
-	-	-	-	23
Black (AWG26)	FG	FG	FG	24

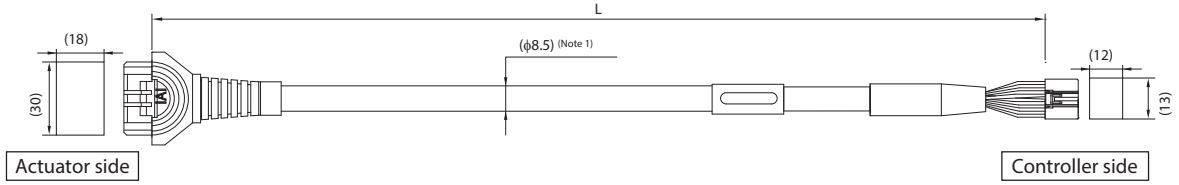
Purple (AWG26)

DF62DL-24S-2.2C (HIROSE ELECTRIC CO., LTD.)

Pin No.	Signal name			Color
	PC	AC	DC	
3	ϕA	U	U	Blue (AWG22/19)
5	VMM	V	V	Orange (AWG22/19)
10	ϕB	-	-	Brown (AWG22/19)
9	VMM	-	-	Gray (AWG22/19)
4	ϕ_A	W	W	Green (AWG22/19)
15	ϕ_B	-	-	Red (AWG22/19)
12	SA[mABS]	A+	A+	Light blue (AWG26)
17	SB[mABS]	A-	A-	Orange (AWG26)
1	A+	B+	B+	Green (AWG26)
6	A-	B-	B-	Brown (AWG26)
11	B+	Z+/SA[mABS]	HS1_IN	Gray (AWG26)
16	B-	Z-/SB[mABS]	HS2_IN	Red (AWG26)
18	VPS	VPS/BAT-	-	Black (AWG26)
8	LS+	BK+	-	Yellow (AWG26)
20	BK+	LS+	-	Light blue (AWG26)
2	BK-	LS-	-	Orange (AWG26)
21	VCC	VCC	VCC	Gray (AWG26)
7	GND	GND	GND	Red (AWG26)
14	LS-	BK-	-	Brown (AWG26)
13	LS_GND	LS_GND	HS3_IN	Green (AWG26)
19	-	-	-	-
22	CF_VCC	BAT+	-	Pink (AWG26)
23	-	-	-	-
24	FG	FG	FG	Black (AWG26)

■ Model **CB-RCAPC-MPA□□□/CB-RCAPC-MPA□□□-RB**

* Please indicate the cable length (L) in □□□, e.g.) 030 = 3m, maximum 20m



Minimum bending radius R 3m or less r= 68mm or more (Dynamic bending condition) More than 3m r= 73mm or more (Dynamic bending condition)

* The robot cable is designed for flex-resistance: Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is over 3m, ϕ9.1 cable diameter applies.

1-1827863-1(AMP)

Color	Signal name			Pin No.
	DC	AC	PC	
Blue (AWG22/19)	U	U	ϕA	A1
Orange (AWG22/19)	V	V	VMM	B1
Brown (AWG22/19)	-	-	ϕB	B2
Gray (AWG22/19)	-	-	VMM	A3
Green (AWG22/19)	W	W	ϕ_A	A2
Red (AWG22/19)	-	-	ϕ_B	B3
Light blue (AWG26)	A+	A+	SA[mABS]	A6
Orange (AWG26)	A-	A-	SB[mABS]	B6
Green (AWG26)	B+	B+	A+	A7
Brown (AWG26)	B-	B-	A-	B7
Gray (AWG26)	HS1_IN	Z+/SA[mABS]	B+	A8
Red (AWG26)	HS2_IN	Z-/SB[mABS]	B-	B8
Black (AWG26)	-	VPS/BAT-	VPS	B9
Yellow (AWG26)	-	BK+	LS+	A4
Light blue (AWG26)	-	LS+	BK+	A5
Orange (AWG26)	-	LS-	BK-	B5
Gray (AWG26)	VCC	VCC	VCC	A10
Red (AWG26)	GND	GND	GND	B10
Brown (AWG26)	-	BK-	LS-	B4
Green (AWG26)	HS3_IN	LS_GND	LS_GND	A9
-	-	-	-	A11
-	-	-	-	-
-	-	-	-	-
Black (AWG26)	FG	FG	FG	B11

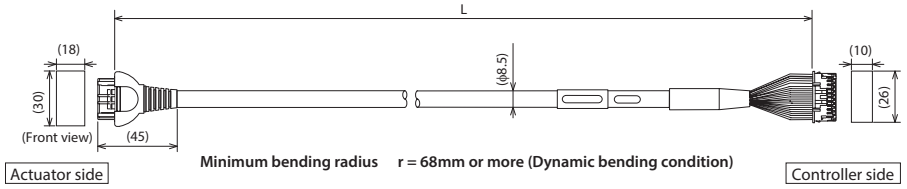
Purple (AWG26)
Pink (AWG26)

DF62DL-24S-2.2C (HIROSE ELECTRIC CO., LTD.)

Pin No.	Signal name			Color
	PC	AC	DC	
3	ϕA	U	U	Blue (AWG22/19)
5	VMM	V	V	Orange (AWG22/19)
10	ϕB	-	-	Brown (AWG22/19)
9	VMM	-	-	Gray (AWG22/19)
4	ϕ_A	W	W	Green (AWG22/19)
15	ϕ_B	-	-	Red (AWG22/19)
12	SA[mABS]	A+	A+	Light blue (AWG26)
17	SB[mABS]	A-	A-	Orange (AWG26)
1	A+	B+	B+	Green (AWG26)
6	A-	B-	B-	Brown (AWG26)
11	B+	Z+/SA[mABS]	HS1_IN	Gray (AWG26)
16	B-	Z-/SB[mABS]	HS2_IN	Red (AWG26)
18	VPS	VPS/BAT-	-	Black (AWG26)
8	LS+	BK+	-	Yellow (AWG26)
20	BK+	LS+	-	Light blue (AWG26)
2	BK-	LS-	-	Orange (AWG26)
21	VCC	VCC	VCC	Gray (AWG26)
7	GND	GND	GND	Red (AWG26)
14	LS-	BK-	-	Brown (AWG26)
13	LS-GND	LS-GND	HS3_IN	Green (AWG26)
19	-	-	-	-
22	CF_VCC	BAT+	-	Gray (AWG26)
23	-	-	-	-
24	FG	FG	FG	Black (AWG26)

Model **CB-RPSEP-MPA□□□** * Only the robot cable is available for this model.

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m



Actuator side
D-1100D 1-1827863-1
(AMP)

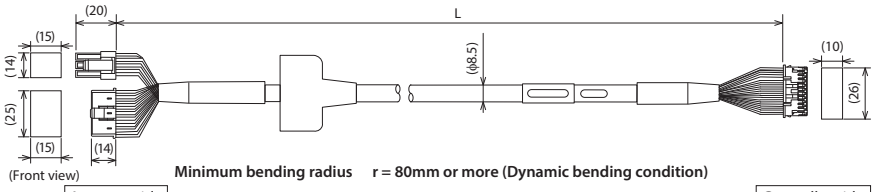
Controller side
PADP-24V-1-S
(J.S.T.MFG.CO.,LTD.)

Terminal number			Terminal number
A1	Black [ϕA]		1
B1	White [VMM]		2
A2	Brown [ϕ/A]		5
B2	Green [ϕB]		3
A3	Yellow [VMM]		4
B3	Red [ϕ/B]		6
A6	Orange [LS+]		7
B6	Gray [LS-]		8
A7	Red [A+]		13
B7	Green [A-]		14
A8	Black [B+]		15
B8	Brown [B-]		16
A4	NC		-
B4	NC		-
A5	Black (identification tape) [BK+]		9
B5	Brown (identification tape) [BK-]		10
A9	Green (identification tape) [GNDLS]		20
B9	Red (identification tape) [VPS]		18
A10	White (identification tape) [VCC]		17
B10	Yellow (identification tape) [GND]		19
A11	NC		21
B11	Shield [FG] (FG)		24
	NC		22
	NC		23

Model **CB-CFA-MPA□□□/CB-CFA-MPA□□□-RB**

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m

(Note 1) If the cable length is over 3m, ϕ9.1 cable diameter applies for a non-robot cable and ϕ10 for a robot cable.



* The robot cable is designed for flex-resistance:
Please use the robot cable if the cable needs to be installed through the cable track.

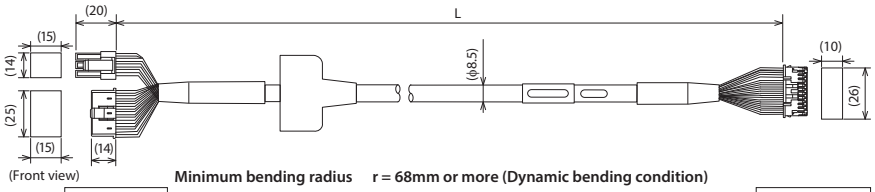
Actuator side
SLP-06V (J.S.T. Mfg. Co., Ltd.)
XMP-18V (J.S.T. Mfg. Co., Ltd.)

Controller side
PADP-24V-1-S
(J.S.T.MFG.CO.,LTD.)

Pin No.	Signal name		Pin No.	Signal name
1	ϕA		1	ϕA
2	VMM		2	VMM
4	ϕB		3	ϕB
5	VMM		4	VMM
3	ϕ/A		5	ϕ/A
6	ϕ/B		6	ϕ/B
			11	NC
5	NC			
6	NC		12	NC
13	LS+		7	LS+
14	LS-		8	LS-
1	A+		13	A+
2	A-		14	A-
3	B+		15	B+
4	B-		16	B-
16	BK+		9	BK+
17	BK-		10	BK-
12	VCC		21	VCC
9	GND		19	GND
11	VPS		18	VPS
10	NC		20	NC
18	FG		24	FG
15	NC		17	NC
7	NC		22	NC
8	NC		23	NC

Model **CB-PSEP-MPA□□□** * Only the robot cable is available for this model.

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m



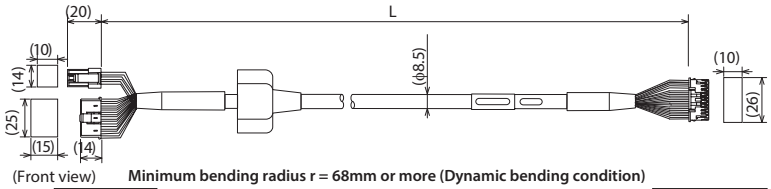
Actuator side
SLP-06V (J.S.T. Mfg. Co., Ltd.)
XMP-18V (J.S.T. Mfg. Co., Ltd.)

Controller side
PADP-24V-1-S
(J.S.T.MFG.CO.,LTD.)

Terminal number			Terminal number
1	Black [ϕA]		1
2	White [VMM]		2
4	Red [ϕB]		3
5	Green [VMM]		4
3	Brown [ϕ/A]		5
6	Yellow [ϕ/B]		6
16	Orange [BK+]		9
17	Gray [BK-]		10
5	NC		11
6	NC		12
13	Black [LS+]		7
14	Brown [LS-]		8
1	White [A+]		13
2	Yellow [A-]		14
3	Red [B+]		15
4	Green [B-]		16
10	White (identification tape) [VCC]		17
11	Yellow (identification tape) [VPS]		18
9	Red (identification tape) [GND]		19
12	Green (identification tape) [(reserve)]		20
15	NC		21
7	NC		22
8	NC		23
18	Shield [FG]		24

Model **CB-ASEP2-MPA□□□** * Only the robot cable is available for this model.

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 20m

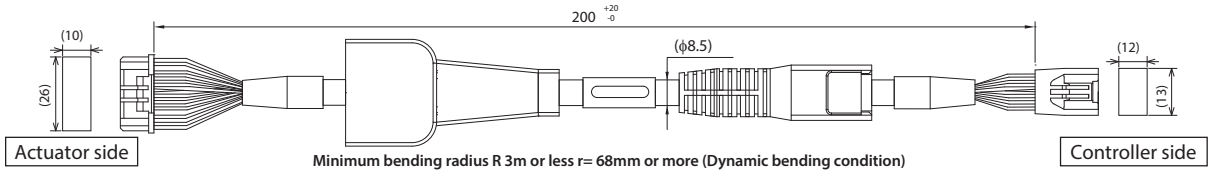


Actuator side
SLP-06V (J.S.T. Mfg. Co., Ltd.)
XMP-18V (J.S.T. Mfg. Co., Ltd.)

Controller side
PADP-24V-1-S
(J.S.T.MFG.CO.,LTD.)

Terminal number			Terminal number
1	Red [U]		1
2	Yellow [V]		2
	NC		3
	NC		4
3	Black [W]		5
	NC		6
18	Orange [BK+]		7
17	Gray [BK-]		8
7	Black [LS+]		9
16	Brown [LS-]		10
1	White [A+]		11
2	Yellow [A-]		12
3	Red [B+]		13
4	Green [B-]		14
10	Black (identification tape) [Z+]		15
11	Brown (identification tape) [Z-]		16
14	White (identification tape) [VCC]		17
15	Yellow (identification tape) [GND]		19
13	Red (identification tape) [VPS/BAT-]		18
6	Green (identification tape) [(reserve)]		20
12	White [BAT+]		21
5	NC		22
8	NC		23
9	Shield [FG]		24

Model **CB-CAN-AJ002**



Minimum bending radius R 3m or less r= 68mm or more (Dynamic bending condition)

Connection Diagram

1-1827863-1 (Amplifier)

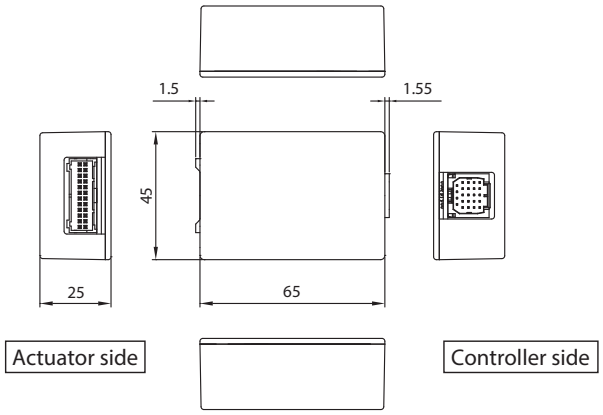
Pin No.	Signal name			Color
	PC	AC	DC	
A1	ϕA	U	U	Blue (AWG22)
B1	VMM	V	V	Orange (AWG22)
B2	ϕB	-	-	Brown (AWG22)
A3	VMM	-	-	Gray (AWG22)
A2	ϕ_A	W	W	Green (AWG22)
B3	ϕ_B	-	-	Red (AWG22)
A6	SA[mABS]	A+	A+	Light blue (AWG26)
B6	SB[mABS]	A-	A-	Orange (AWG26)
A7	A+	B+	B+	Green (AWG26)
B7	A-	B-	B-	Brown (AWG26)
A8	B+	Z+/SA[mABS]	HS1_IN	Gray (AWG26)
B8	B-	Z-/SB[mABS]	HS2_IN	Red (AWG26)
B9	VPS	VPS/BAT-	-	Black (AWG26)
A4	LS+	BK+	-	Yellow (AWG26)
A5	BK+	LS+	-	Light blue (AWG26)
B5	BK-	LS-	-	Orange (AWG26)
A10	VCC	VCC	VCC	Gray (AWG26)
B10	GND	GND	GND	Red (AWG26)
B4	LS-	BK-	-	Brown (AWG26)
A9	LS_GND	LS_GND	HS3_IN	Green (AWG26)
A11	-	-	-	-
B11	FG	FG	FG	Black (AWG26)

Center Interposition

DF62B-24EP-2.2C (HIROSE ELECTRIC CO., LTD.)

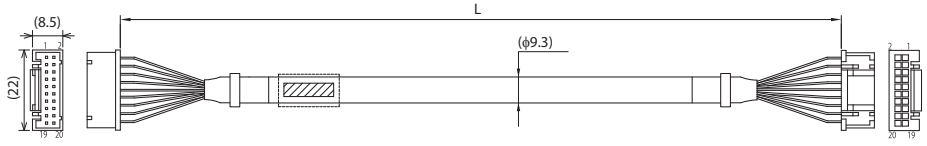
Pin No.	Signal name			Color
	PC	AC	DC	
3	ϕA	U	U	Blue (AWG22)
5	VMM	V	V	Orange (AWG22)
10	ϕB	-	-	Brown (AWG22)
9	VMM	-	-	Gray (AWG22)
4	ϕ_A	W	W	Green (AWG22)
15	ϕ_B	-	-	Red (AWG22)
12	SA[mABS]	A+	A+	Light blue (AWG26)
17	SB[mABS]	A-	A-	Orange (AWG26)
1	A+	B+	B+	Green (AWG26)
6	A-	B-	B-	Brown (AWG26)
11	B+	Z+/SA[mABS]	HS1_IN	Gray (AWG26)
16	B-	Z-/SB[mABS]	HS2_IN	Red (AWG26)
18	VPS	VPS/BAT-	-	Black (AWG26)
8	LS+	BK+	-	Yellow (AWG26)
20	BK+	LS+	-	Light blue (AWG26)
2	BK-	LS-	-	Orange (AWG26)
21	VCC	VCC	VCC	Gray (AWG26)
7	GND	GND	GND	Red (AWG26)
14	LS-	BK-	-	Brown (AWG26)
13	LS_GND	LS_GND	HS3_IN	Green (AWG26)
19	-	-	-	-
22	CF_VCC	BAT+	-	Gray (AWG26)
23	-	-	-	-
24	FG	FG	FG	Black (AWG26)

Model **RCM-CV-APCS**



Model **CB-RE-CTL□□□**

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 10m



Wiring diagram

PUDP-20V-S

Wiring	Color	Signal	No.
7 to 12 pins AWG26 (Crimped)	Black	24V	1
	Yellow	0V	2
	Pink	DRV_DY	3
	White	DRV_RA	4
	Purple	DRV_DZ	5
	Blue/Red	DRV_RB	6
	Orange/White 1-series dot	AM_SD+	7
	Green/White	AM_SD-	8
	Brown/White	ACT_PULSE+	9
	Gray/White	ACT_PULSE-	10
	Red/White	SYNC_PULSE+	11
	Black/White	SYNC_PULSE-	12
	Yellow/Black	RTC_1Hz	13
	Pink/Black	CONE_IN	14
	Purple/White	STOP	15
	White/Blue	ENABLE	16
	-	-	17
	Orange/White 2-series dot	GW_RESET_IN	18
	Drain	FG	19
	-	-	20

PUDP-20V-S

No.	Signal	Color	Wiring
1	24V	Black	7 to 12 pins AWG26 (Crimped)
2	0V	Yellow	
3	DRV_DY	Pink	
4	DRV_RA	White	
5	DRV_DZ	Purple	
6	DRV_RB	Blue/Red	
7	AM_SD+	Orange/White 1-series dot	
8	AM_SD-	Green/White	
9	ACT_PULSE+	Brown/White	
10	ACT_PULSE-	Gray/White	
11	SYNC_PULSE+	Red/White	
12	SYNC_PULSE-	Black/White	
13	RTC_1Hz	Yellow/Black	
14	CONE_IN	Pink/Black	
15	STOP	Purple/White	
16	ENABLE	White/Blue	
17	-	-	
18	GW_RESET_IN	Orange/White 2-series dot	
19	FG	Drain	
20	-	-	

(The line color blue/red indicates insulator color/dot mark color)

UL1061 AWG26 (Black)

UL1061 AWG26 (Black)

Ground wire and braided shield

RCON CHECKLIST

IAI America will select all RCON required items if the following information is provided by the customer.

Q1.	Fieldbus type
Q2.	Global type/non-global type
Q3.	Full actuator mode number of all axes (1st axis to max. 16th axis)
Q4.	Duty cycle in %
Q5.	Max. temperature of RCON installation location
Q6.	Does the quantity of IAI power supplies PSA-24(L) need to be calculated?
Q7.	Is any actuator purchased for non-RCON controllers? If so, which axes?
Q8.	Does any actuator require a simple absolute unit? If so, which axes?
Q9.	For global type gateway unit (RCON-GWG), what safety category level is required? Is safety category required during both AUTO and MANUAL modes, or only during AUTO mode?

Catalog No. CE0248-2.5A (2020APR)

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Southeast Branch Office (Atlanta): 1220 Kennestone Circle, Suite 108, Marietta, GA 30066 (678) 354-9470
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JAPAN Headquarters: 577-1 Obane, Shimizu-ku, Shizuoka-shi, Shizuoka, 424-0103, JAPAN

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