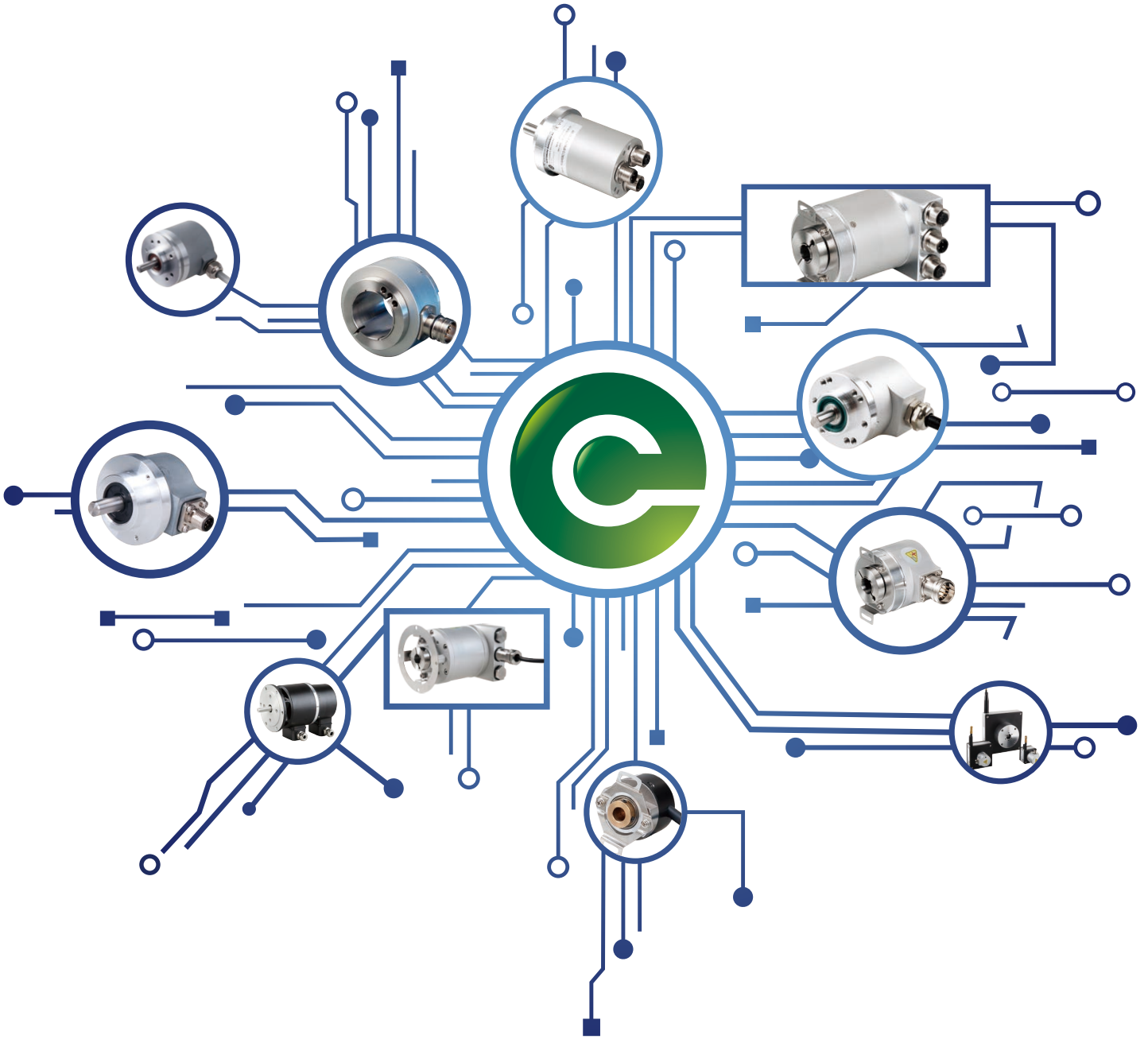
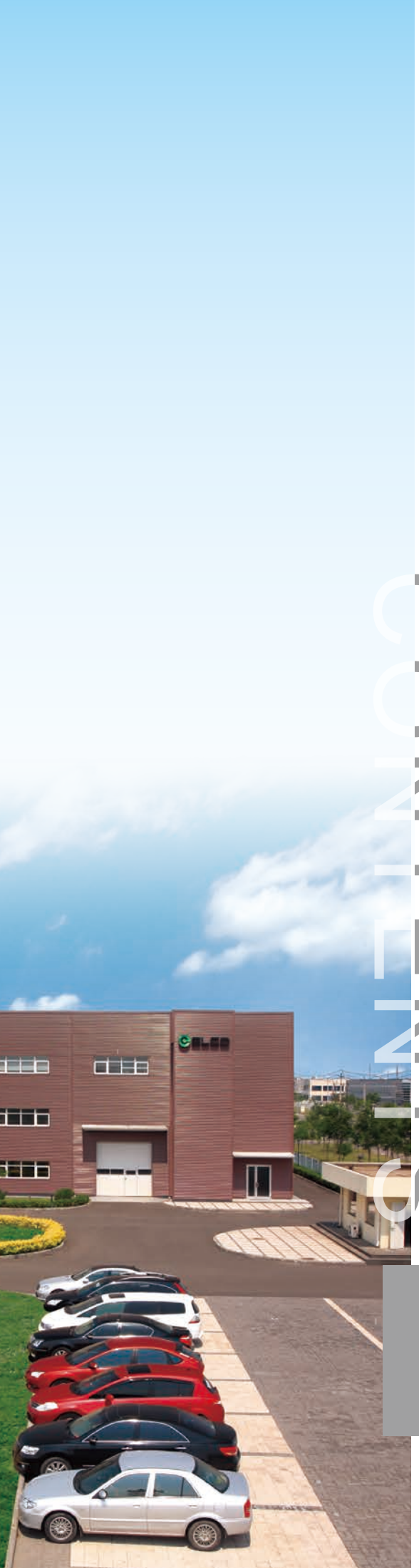
ELCO
INDUSTRIAL AUTOMATION

Encoder Products Overview





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Industrial Applications

Metallurgical industry

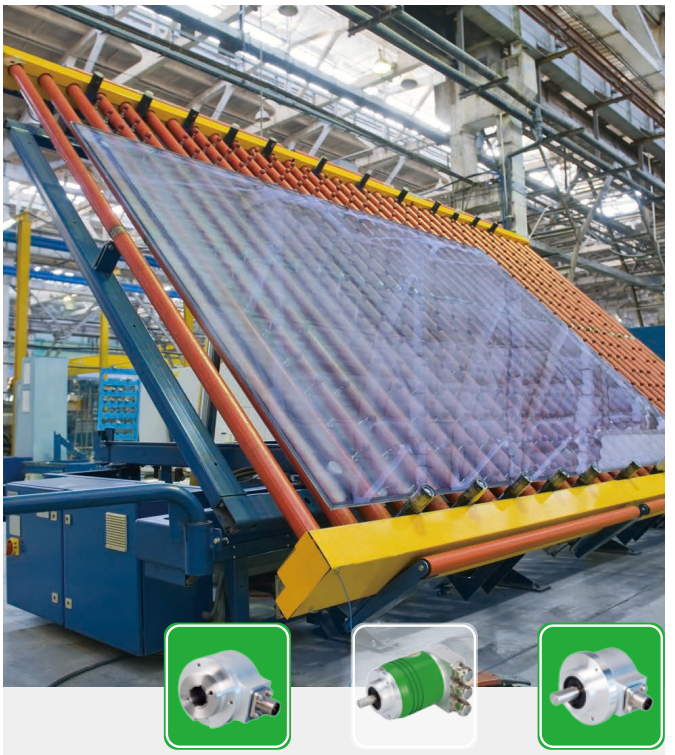
Offering a wide range of installation and signal types for the metallurgical industry,And provide customized product solutions

- Full range of product options, including incremental and absolute encoders;
- Variety signal types, including HTL / TTL / SSI / Profibus-DP;
- Standard products with shaft type, shaft sleeve type installation mode selection, convenient on-site installation and debugging;
- With standard and heavy duty product selection, can meet the environmental application requirements of different stations;
- Protection class IP66 / IP67, -40 ... +80 °C wide temperature range application.

Lifting industry

Systematic product solutions for the lifting industry, including heavy-duty incremental encoders for speed control and absolute encoders for stroke positioning. The product has the signal output interface matching various kinds of host computer systems, and excellent mechanical damage resistance and good anti-interference performance.

- Full range of product options, including incremental and absolute encoders;
- Variety signal types, including HTL / TTL / SSI / Profibus-DP;
- Standard products with shaft type, shaft sleeve type installation mode selection, convenient on-site installation and debugging;
- With standard and heavy duty product selection, can meet the environmental application requirements of different stations;
- Protection class IP66 / IP67, -40... +80 °C wide temperature range application;
- We can provide customized product solutions according to the actual application requirements.



Glass machinery industry

Systematic product solutions for the glass machinery industry, including incremental encoders for speed control and absolute encoders for stroke positioning. It has the signal output interface that matches all kinds of upper computer systems, and the product features of high precision and high stability ensure the realization of flexible control of the system.

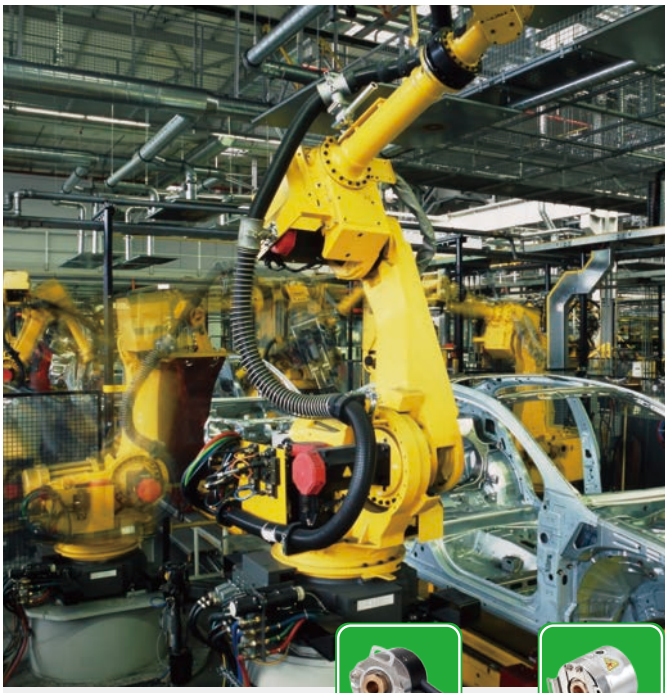
- Full range of product options, including incremental and absolute encoders;
- Variety signal types, including HTL / TTL / SSI / Profibus-DP;
- Standard products with shaft type, shaft sleeve type installation mode selection, convenient on-site installation and debugging;
- Protection class IP66 / IP67, -40... +80 °C wide temperature range application;
- We can provide customized product solutions according to the actual application requirements.

CNC machine tool

Products for the CNC machine tool industry include incremental encoders for speed control and absolute encoders for position positioning, and can provide customized services according to customer needs.

- Full range of product options, including incremental and absolute encoders;
- Variety signal types, including HTL / TTL / SSI / Profibus-DP;
- Standard products with shaft type, shaft sleeve type installation mode selection, convenient on-site installation and debugging;
- Protection class IP66 / IP67, -40... +80 °C wide temperature range application;
- We can provide customized product solutions according to the actual application requirements.

Industrial Applications



Servo industry

The servo industry needs cost-competitive signal feedback systems to provide high-efficiency, compact encoders for servo systems. The ELCO industrially standardized servomotor encoders and the BISS-C protocol encoders are reliable and compact, providing extremely accurate speed and position feedback signals for high-performance servo systems.

- Features high precision and low velocity fluctuation;
- Ensure high-speed servo system achieve perfect control;
- Adopts compact structure design to meet the needs of compact space;
- Special chip processing technology, reduce torque ripple, improve the dynamic performance of the system;
- BISS-C protocol, two-way synchronous communication, the maximum communication rate up to 10 MHz;
- NRZ protocol based on 485 hardware interface, can realize alarm and built-in EEPROM function.

Wind power industry

We provide systematic product solutions for the wind power industry, including heavy-duty incremental encoders for speed control and absolute encoder products for stroke positioning. The products have the signal output interface matching various types of upper computer systems and excellent mechanical damage resistance.

- Protection class IP66/IP67, -40... +80 °C wide temperature range application;
- Heavy-duty product design, can meet different stringent environmental application requirements;
- Standard products with shaft type, shaft sleeve type installation mode selection, convenient on-site installation and debugging;
- Variety signal types, including HTL / TTL / SSI / Profibus-DP.
- A variety of product lines to provide overall encoder solutions for the wind power industry;
- Good anti-interference performance to meet the needs of long-distance transmission on site;
- We can provide customized product solutions according to the actual application requirements.

Logistics industry

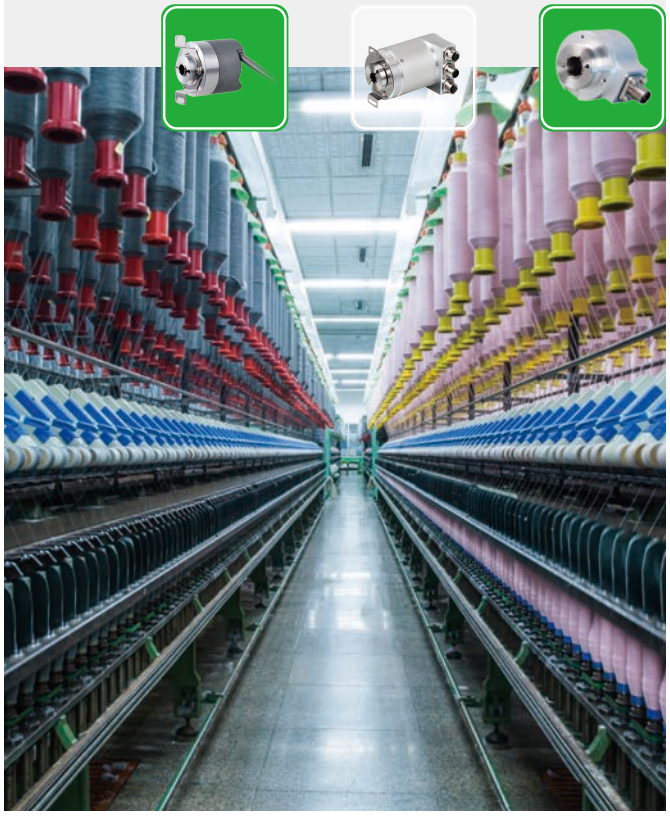
Provide systematic product solutions for the logistics industry, including forIncremental encoders for speed control and absolute encoders for stroke positioning are producedProduct, the product has the signal output interface to match all kinds of upper computer systems and excellentResistance to mechanical damage.

- Protection class IP65 / IP67, -40... +80 °C wide temperature range application;
- Industrial-grade product design, stable operation in different site environments;
- Standard products with shaft type, shaft sleeve type installation mode selection, convenient on-site installation and debugging;
- Variety signal types, including HTL / TTL / SSI / Profibus-DP / Profinet, etc.
- A variety of product lines to provide overall encoder solutions for the logistics industry;
- Good anti-interference performance, effectively resist all kinds of electrical interference on site;
- We can provide customized product solutions according to the actual application requirements.

Textile industry

Provide systematic product solutions for the textile industry, including for incremental encoders for speed control and absolute encoders for stroke positioning are producedProduct, the product has the signal output interface to match all kinds of upper computer systems and excellent resistance to mechanical damage.

- Protection class IP66 / IP67, -40... +80 °C wide temperature range application;
- Industrial-grade product design, stable operation in different site environments;
- Standard products with shaft type, shaft sleeve type installation mode selection, convenient on-site installation and debugging;
- Variety signal types, including HTL / TTL / SSI / Profibus-DP, etc.
- A variety of product lines to provide the overall encoder solution for the textile industry;
- Good anti-interference performance, effectively resist all kinds of electrical interference on site;
- We can provide customized product solutions according to the actual application requirements.



Incremental encoder
EI40 Series

Mechanical load

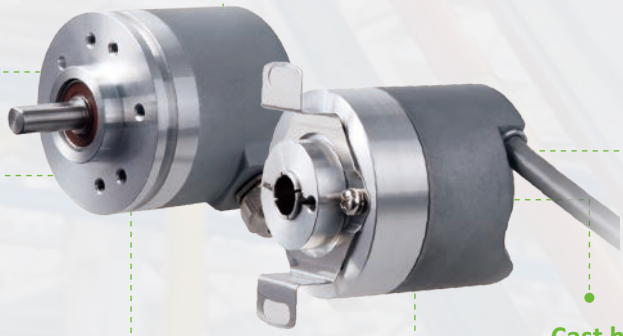
Large bearing span design, with outstanding mechanical load performance, can effectively improve the impact resistance of the shaft end.

Electrical system

The modular power supply conversion design combined with the highly integrated drive circuit effectively reduces the temperature rise of the product and ensures the stable signal output of the product when the ambient temperature rises.

Side cabling

Side cabling design makes it possible to wire out at any Angle in the 360° range, greatly reducing the requirements for installation space and line laying.



Circuit protection

Product integrated power supply overvoltage, reverse connection and channel short circuit protection design, effectively protect the damage of wrong operation to the product, greatly improve the efficiency of equipment debugging and reduce maintenance costs.

Cast housing

Zinc alloy cast housing small encoder products, with excellent mechanical damage resistance.

Protection class

Double bearing skeleton seal structure and ring pressure housing assembly process design, to achieve up to IP67 protection level, sealing performance is much better than the traditional screw connection.

Signal processing

Using the industry's leading optical diode acquisition technology, to achieve high-precision, high-stability signal transmission, suitable for positioning and synchronization control system applications.

Mechanical parameters	
Shaft diameter (mm)	Ø 6g6 (EI40A) Ø 6 / Ø 8H7 (EI40P)
Housing diameter (mm)	Ø 40
Max. speed (rpm)	6000
Load capacity (radial / axail) [N]	60 / 30
Operating temperature (°C)	-20 ... +85
Protection class	IP66 / IP67
Type of connectionCable	Cable
Resolution	5000 ppr
Electrical parameters	
Supply voltage (V DC)	5, 10 ... 30
Pulse frequency (kHz)	300
Output circuit	HTL / TTL
Product features	Metal housing, high resolution, high protection level, signal transmission stability, high resistance to electromagnetic interference
Applicable industries	Glass machinery, paper making equipment, printing equipment, textile machinery, machine tool equipment

New generation compact incremental encoder EC50 Series

The installation method is highly compatible

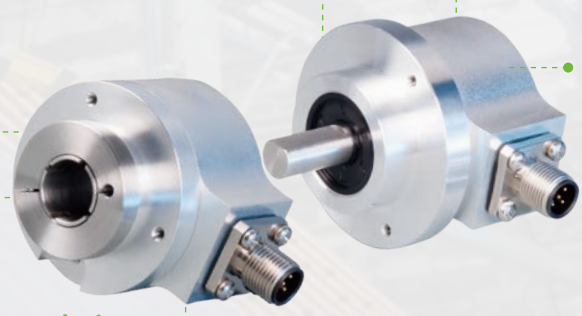
The product adopts 50mm shape design, compatible with 58mm standard flange installation needs, providing 6... 15mm axle diameter selection, can cover the field needs of light industry.

Compact shape design

The minimum size of the shaft product is only 37mm, and the minimum thickness of the shaft sleeve product can achieve 44.7mm greatly reduce the demand for installation space, which is a system that pursues mechanical costs Design the best choice.

Effective circuit protection design

Product integrated power supply overvoltage, reverse connection and channel short circuit protection design, effectively protect the damage of wrong operation to the product, greatly improve the efficiency of equipment debugging and reduce maintenance costs.



Diversified forms of product output

Products provide a variety of output forms, to provide industry customers with the best product configuration, including 5-pin -M12 connector output product matching connector to provide customers with cost-effective product solutions.

High sealing grade structure design

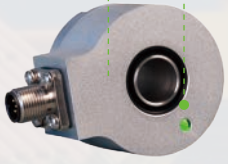
Products with high hardness of zinc alloy casting housing can effectively protect external mechanical damage, with double bearing skeleton seal design to achieve up to IP67 protection level, can adapt to all kinds of harsh conditions.

Indicator lamp design

The product comes with power supply indicator to improve the convenience of on-site debugging and troubleshooting, and the high-brightness LED indicator greatly facilitates on-site inspection and daily maintenance.

Wide range of ambient temperatures

Ambient temperature -40 ... +85 °C , IP67 protection level, can ensure the equipment in different regions, different environmental temperatures, different climate conditions of stable operation.



High precision, high stability signal processing technology

The product adopts highly stable optical diode acquisition technology, which can realize 5000ppr signal output, and matches with IC-Hause drive circuit technology to ensure stable signal transmission of the product, suitable for positioning and synchronization control system.

Mechanical parameters	
Shaft diameter (mm)	Ø 6 / Ø 8 / Ø 10 / Ø 12g6 (EC50A) Ø 6 / Ø 8 / Ø 10 / Ø 12 / Ø 15H7 (EC50P)
Housing diameter (mm)	Ø 50
Max. Speed (rpm)	6000
Load capacity (radial / axail) [N]	80 / 40
Operating temperature (°C)	-40 ...+85
Protection class	IP65 / IP67
Type of connectionCable	Cable / connector
Resolution	5000 ppr
Electrical parameters	
Supply voltage (V DC)	5 ... 30
Pulse frequency (kHz)	300
Output circuit	HTL / TTL
Product features	Metal housing, high resolution, high protection level, signal transmission stability, high resistance to electromagnetic interference
Applicable industries	Glass machinery, paper making equipment, printing equipment, textile machinery, machine tool equipment

EN 61326

- 40° + 85°

IP

Industrial Ethernet protocol absolute multiturn encoder

Mechanical gear multiturn design

The multiturn part adopts mechanical gear structure design, which effectively improves the anti-interference ability of the product and ensures the stable operation of the product.

Standard industrial Ethernet protocol

It can provide standard industrial EtherNet PROFINET IO/RT and EtherNet/IP interfaces, the maximum transmission rate can be up to 100 Mbits/s, and various parameters can be configured through software to facilitate customer debugging.

Debug status at a glance

Can check the input-output communication and power supply of the encoder in real time by viewing the LED status indicator adapted to the back cover.

Various installation methods

Various installation methods are available to meet various installation design requirements.

Standard outlet design

Standard M12 connector design for fast, error-free connections in the field.

Excellent mechanical performance

Unique mechanical structure design, ensure excellent mechanical load performance, combined with IP65 high protection class, adapt to various working conditions.

Mechanical parameters	
Shaft diameter (mm)	Ø 6 / Ø 10g6 (shaft) Ø 8 / Ø 10 / Ø 12H7 (hollow shaft)
Housing diameter (mm)	Ø 58
Max. speed (rpm)	6000
Load capacity (radial / axail) [N]	80 / 40
Operating temperature (°C)	-20 ... +80
Protection class	IP65
Type of connectionCable	M12 connector
Resolution	resolution 13 bits, revolution 12 bits
Electrical parameters	
Supply voltage (V DC)	10 ... 30
Pulse frequency	100 Mbits/s
Output circuit	PROFINET IO/RT EtherNet/IP EtherCAT
Product features	Standard industrial Ethernet protocol, metal housing, high resolution, high protection level, M12 connector for fast connection
Applicable industries	Automobile manufacturing, metallurgy industry, rubber and plastic industry, machine tool equipment

EN 61326

- 20° + 85°

IP

Servo absolute multi-turn encoder

Special chip processing technology helps the servo drive system to reduce torque ripple and improve the dynamic performance of the system

Set high precision, high speed two features in one, help high-speed servo system to achieve perfect control

BISS-C protocol, which does not involve development cost in application, two-way synchronous communication, and the maximum communication rate can reach 10MHz

NRZ protocol based on 485 hardware interface, hardware interface for power supply and communication line, can achieve alarm reading and built-in EEPROM function

The compact structure design greatly reduces the installation space requirement

High precision optical sensing technology

Single turn 25bits

Muti-turn 16bits

Mechanical parameters	
Shaft diameter (mm)	Ø 9 - 1:10 cone shaft
Housing diameter (mm)	Ø 48
Max. speed (rpm)	6000
Load capacity(radial/axail) [N]	50 / 25
Operating temperature (°C)	-20 ... +85
Protection class	IP54
Type of connectionCable	Cable
Resolution	resolution 25 bit, revolution 16 bit
Electrical parameters	
Supply voltage (V DC)	5
Pulse frequency (Hz)	2.5 M
Output circuit	NRZ
Product features	Plastic housing, good compatibility, 9 mm through hollow shaft, high resolution
Applicable industries	Servo

EN 61326

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UKAS QUALITY MANAGEMENT

- 20° + 85°

IP

Incremental Encoder

ENCODER

- High sealing grade structure design
- Advanced double bearing structure, excellent mechanical load performance
- Has over current and short circuit protection to ensure the safety of product application
- Multi-resolution optional, excellent transmission distance
- Diversified forms of product output
- Large axle sleeve products are easy to install and save installation space

Picture	Mechanical Parameters		Electrical Parameters	
Topydic small shaft incremental encoder EI40A	Shaft diameter (mm)	Ø 6g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 40	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Output circuit	TTL / HTL ...
	Load capacity (radial / axail) [N]	60/100	Product features	Metal housing
	Operating temperature (°C)	-20 ... +85		High protection degree
	Protection class	IP66 standard, IP67 optional		Anti-electromagnetic
	Type of connection	Cable		interference
	Max. resolution	5000 ppr		
Topydic small hollow shaft incremental encoder EI40P	Shaft diameter (mm)	Ø 6H7 / Ø 8H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 40	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Output circuit	TTL / HTL ...
	Load capacity (radial / axail) [N]	60 / 100	Product features	Metal housing
	Operating temperature (°C)	-20 ... +85		High protection degree
	Protection class	IP66 standard, IP67 optional		Anti-electromagnetic
	Type of connection	Cable		interference
	Max. resolution	5000 ppr		
Topydic series shaft incremental encoder EC50A	Shaft diameter (mm)	Ø 6 / Ø 8g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 50	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Output circuit	TTL / HTL ...
	Load capacity (radial / axail) [N]	80 / 40	Product features	Metal housing
	Operating temperature (°C)	-40 ... +85		High protection degree
	Protection class	IP67		Anti-electromagnetic
	Type of connection	Cable/connector		interference
	Max. resolution	5000 ppr		
Topydic series hollow shaft incremental encoder EC50P	Shaft diameter (mm)	Ø 6/Ø 8/Ø 9/Ø 10H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 50	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Output circuit	TTL / HTL ...
	Load capacity (radial / axail) [N]	80 / 40	Product features	Metal housing
	Operating temperature (°C)	-40 ... +85		Good compatibility
	Protection class	IP67		High protection degree
	Type of connection	Cable / connector		High resolution
	Max. resolution	5000 ppr		Suitable for measuring angle

Picture	Mechanical Parameters		Electrical Parameters	
Topydic series shaft incremental encoder EI58A	Shaft diameter (mm)	Ø 6 / Ø 8 / Ø 9 / Ø 10g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Output circuit	TTL / HTL ...
	Load capacity (radial / axail) [N]	120 / 60	Product features	Metal housing
	Operating temperature (°C)	-20 ... +90		Good compatibility
	Protection class	IP64 (IP66 optional)		High protection degree
	Type of connection	Cable / connector		High resolution
	Max. resolution	5000 ppr		Suitable for measuring angle
Topydic series hollow shaft incremental encoder EI58P	Shaft diameter (mm)	Ø 8 / Ø 10 / Ø 12 / Ø 14 / Ø 15H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Output circuit	TTL / HTL ...
	Load capacity (radial / axail) [N]	120/60	Product features	Metal housing
	Operating temperature (°C)	-20 ... +90		Good compatibility
	Protection class	IP65		High protection degree
	Type of connection	Cable / connector		High resolution
	Max. resolution	5000 ppr		Suitable for measuring angle
Heavydic large hollow shaft incremental encoder EI90P	Shaft diameter (mm)	Ø 25 / Ø 30 / Ø 38 / Ø 45H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 90	Pulse frequency (kHz)	300
	Max. speed (rpm)	3500	Output circuit	TTL / HTL ...
	Load capacity (radial / axail) [N]	140 / 80	Product features	Aluminium alloy housing
	Operating temperature (°C)	-20 ... +80		compact structure
	Protection class	IP66		Anti-electromagnetic interference
	Type of connection	Cable / connector		Suitable for heavy electric
	Max. resolution	5000 ppr		machinery
Heavydic large hollow shaft incremental encoder EI100P	Shaft diameter (mm)	Ø 30 / Ø 38 / Ø 45 / Ø 50H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 100	Pulse frequency (kHz)	300
	Max. speed (rpm)	3500	Output circuit	TTL / HTL ...
	Load capacity (radial / axail) [N]	140 / 80	Product features	Aluminium alloy housing
	Operating temperature (°C)	-20 ... +80		compact structure
	Protection class	IP54		Anti-electromagnetic interference
	Type of connection	Cable / connector		Suitable for heavy electric
	Max. resolution	5000 ppr		machinery

Absolute Encoder

- Parallel, serial port, analog port available
- Industrial EtherNet PROFINET/IO, EtherNet/IP, and EtherCAT interfaces
- Fieldbus PROFIBUS-DP, CANopen, DeviceNet
- Shaft type, hollow shaft type installation method is optional, with a variety of European standard flanges
- Up to 19bits in single-turn resolution and 31bits in multi-turn resolution
- offers mechanical and electronic multi-turn measurement technology,
- Excellent mechanical properties to meet the stringent requirements of various industrial sites

Picture	Mechanical Parameters		Electrical Parameters	
Absolute singleturn encoder EAC50A	Shaft diameter (mm)	Ø 6g6 / Ø 8g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 50	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Output circuit	PNP / NPN
	Load capacity (radial / axail) [N]	40 / 80	Product features	High resolution
	Operating temperature (°C)	-20 ... +80		High protection degree
	Protection class	IP66		Die-cast housing, compact structure
	Type of connection	Cable		Excellent mechanical
	Max. resolution	10 bits		structure properties
Absolute singleturn encoder EAC58	Shaft diameter (mm)	Ø 6 / Ø 8 / Ø 9 / Ø 10H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Output circuit	SSI and parallel
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	120 / 60		Good compatibility
	Operating temperature (°C)	-20 ... +80		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Cable / connector		Suitable for measuring angle
	Max. resolution	8192 (13 bits)		
Analog 4 ... 20 mA singleturn encoder EAS58	Shaft diameter (mm)	Ø 6 / Ø 10g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Output circuit	Analog 4 ... 20 mA
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	120 / 60		Good compatibility
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Cable / connector		Suitable for measuring angle
	Max. resolution	8192 (13 bits)		
ProfiNet absolute singleturn encoder PNC50	Shaft diameter (mm)	Ø 6g6 / Ø 10g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 50	Pulse frequency (Hz)	10 M
	Max. speed (rpm)	6000	Output circuit	ProfiNet
	Load capacity (radial / axail) [N]	120 / 60	Product features	Metal housing
	Operating temperature (°C)	-20 ... +80		Good compatibility
	Protection class	IP65		High protection degree
	Type of connection	Cable / connector		High resolution
	Max. resolution	65536 (16 bits)		Suitable for measuring angle

Picture	Mechanical Parameters		Electrical Parameters	
Analog 4 ... 20 mA singleturn encoder EAMS58	Shaft diameter (mm)	Ø 6 / Ø 10g6 / Ø 12 / Ø 15H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Output circuit	4 ... 20 mA
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	160 / 80		European standard flanges
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP65		
	Type of connection	Cable / connector		
	Max. resolution	16 bits		
SSI protocol absolute multiturn encoder EAMM58	Shaft diameter (mm)	Ø 6g6 / Ø 10g6 / Ø 15g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Output circuit	SSI
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	160 / 80		Good compatibility
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Cable / connector		Suitable for measuring angle
	Max. resolution	Singleturn 19 bits multiturn 31 bits		
CANopen absolute multiturn encoder CAMM58	Shaft diameter (mm)	Ø 6g6 / Ø 10g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Output circuit	CANopen
	Max. speed (rpm)	3000	Product features	Metal housing
	Load capacity (radial / axail) [N]	160 / 80		Good compatibility
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Cable / connector		Suitable for measuring angle
	Max. resolution	4096 / 8192 (25 bits)		
ProfiNet absolute multiturn encoder PNMM58	Shaft diameter (mm)	Ø 6 / Ø 10g6 / Ø 12 / Ø 15H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Pulse frequency (Hz)	100 M
	Max. speed (rpm)	6000	Output circuit	ProfiNet
	Load capacity (radial / axail) [N]	160 / 80	Product features	Metal housing
	Operating temperature (°C)	-40 ... +80		Independent site
	Protection class	IP65		Self-configured GSD file
	Type of connection	Connector		High resolution
	Max. resolution	4096 / 8192 (25 bits)		
EtherNet/IP absolute multiturn encoder EAM58-EN	Shaft diameter (mm)	Ø 6 / Ø 10g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Output circuit	EtherNet/IP
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	120/60		Good compatibility
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Cable / connector		Suitable for measuring angle
	Max. resolution	8192 (13 bits)		

Absolute Encoder

- Parallel, serial port, analog port available
- Industrial EtherNet PROFINET/IO, EtherNet/IP, and EtherCAT interfaces
- Fieldbus PROFIBUS-DP, CANopen, DeviceNet
- haft type, Hollow type installation method is optional, with a variety of European standard flanges
- Up to 19bits in single-turn resolution and 31bits in multi-turn resolution
- offers mechanical and electronic multi-turn measurement technology,
- Excellent mechanical properties to meet the stringent requirements of various industrial sites

Picture	Mechanical Parameters		Electrical Parameters	
EtherCAT absolute multiturn encoder EAM58-EC	Shaft diameter (mm)	Ø 6 / Ø 10g6 / Ø 12 / Ø 15H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Output circuit	EtherCAT
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	160/80		Good compatibility
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Connector		Suitable for measuring angle
	Max. resolution	4096 / 8192 (25 bits)		
ProfiNet absolute multiturn encoder PNM50	Shaft diameter (mm)	Ø 6 / Ø 10g6 / Ø 8 / Ø 10H7	Supply voltage (V DC)	5 ... 30
	Housing diameter (mm)	Ø 58	Output circuit	ProfiNet
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	160 / 80		Good compatibility
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Connector		Suitable for measuring angle
	Max. resolution	4096 / 8192 (25 bits)		
Incremental absolute double output multiturn encoder EAMI100	Shaft diameter (mm)	Ø 20H7 / Ø 25H7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 100	Output circuit	Profibus-DP
	Max. speed (rpm)	3000	Product features	Metal housing
	Load capacity (radial / axail) [N]	160 / 80		Standard flange
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Cable/connector		Suitable for measuring angle
	Max. resolution	4096 / 4096 (24 bits)		
Standard magnetoelectric absolute multiturn encoder EAM36	Shaft diameter (mm)	Ø 6f7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 36	Output circuit	SSI / Canopen
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	160 / 80		Good compatibility
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Cable / connector		Suitable for measuring angle
	Max. resolution	4096 / 8192 (25 bits)		

ENCODER

Heavy-duty Encoder

- Metal housing, compact structure
- The encoder can choose two signal outputs to meet the redundancy requirements
- Heavy-duty structure design, with excellent mechanical properties
- Mechanical and electronic overspeed switches are optional
- The integrated structure design of encoder and overspeed switch is easy to install

Picture	Mechanical Parameters		Electrical Parameters	
Heavy-duty incremental encoder EV88	Shaft diameter (mm)	Ø 16G7	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 88	Pulse frequency (kHz)	300
	Max. speed (rpm)	3000	Output circuit	TTL / HTL ...
	Load capacity (radial / axail) [N]	200 / 100	Product features	Aluminium alloy housing
	Operating temperature (°C)	-40 ... +80		Compact structure
	Protection class	IP65		Anti-electromagnetic interference
	Type of connection	Cable / connector		Suitable for heavy electric
	Max. resolution	2048 ppr		machinery
Heavy-duty hollow shaft encoder with overspeed switch EVR100P	Shaft diameter (mm)	Ø 25H7 / Ø 30H7 / Ø 38H7 / Ø 40H7 / Ø 45H7	Supply voltage (V DC)	10 ... 30
			Output circuit	TTL / HTL ...
	Housing diameter (mm)	Ø 98	Product features	Metal housing
	Max. speed (rpm)	12000 (IP64); 6000 (IP66)		Good compatibility
	Load capacity (radial / axail) [N]	200 / 100		High protection degree
	Operating temperature (°C)	-20 ... +90		
	Protection class	IP66		
	Type of connection	Cable / connector		
Heavy-duty encoder HV115A	Shaft diameter (mm)	Ø 11g6	Supply voltage (V DC)	5 ... 30
	Housing diameter (mm)	Ø 115	Pulse frequency (kHz)	200
	Max. speed (rpm)	6000	Output circuit	TTL / HTL...
	Load capacity (radial / axail) [N]	250 / 150	Product features	Metal housing
	Operating temperature (°C)	-20 ... +80		High protection degree
	Protection class	IP66		Anti-electromagnetic interference
	Type of connection	Waterproof terminal box		Suitable for heavy electric machinery
	Max. resolution	2048 ppr		Double incremental output available

Heavy-duty Encoder

ENCODER

- Metal housing, compact structure
- The encoder can choose two signal outputs to meet the redundancy requirements
- Heavy-duty structure design, with excellent mechanical properties
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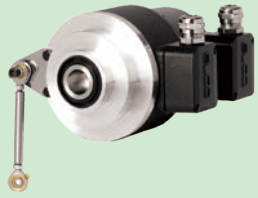
- The integrated structure design of encoder and overspeed switch is easy to install

Picture	Mechanical Characteristics		Electrical Characteristics	
Heavy-duty encoder HV115R 	Shaft diameter (mm)	Ø 16 / Ø 17 / Ø 20H7	Supply voltage (V DC)	5 ... 30
	Housing diameter (mm)	Ø 115	Pulse frequency (kHz)	200
	Max. speed (rpm)	6000	Output circuit	TTL / HTL...
	Load capacity (radial / axail) [N]	200 / 100	Product features	Metal housing
	Operating temperature (°C)	-20 ... +80		High protection degree
	Protection class	IP66		Anti-electromagnetic interference
	Type of connection	Waterproof terminal box		Suitable for heavy electric machinery
	Max. resolution	2048 ppr		Double incremental output available
Heavy-duty high protection switch MVL115	Shaft diameter (mm)	Ø 11g6 / Ø 16 / Ø 17 / Ø 20H7	Supply voltage (V DC)	10 ... 30
			Output circuit	TTL / HTL ...
	Housing diameter (mm)	Ø 115	Product features	Metal housing
	Max. speed (rpm)	3000		Good compatibility
	Load capacity (radial / axail) [N]	250 / 150		High protection degree
	Operating temperature (°C)	-20 ... +80		
	Protection class	IP65		
	Type of connection	Cable / connector		
Heavy-duty Profibus absolute multiturn encoder PVM115	Shaft diameter (mm)	Ø 14	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 115	Output circuit	Profibus-DP
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	160 / 80		Good compatibility
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP66		High resolution
	Type of connection	Cable / connector		Suitable for measuring angle
	Max. resolution	4096 / 8192 (25 bits)		

ENCODER

Special Application Encoder

- Meets ExdIIC T4 explosion-proof standard
- All stainless steel housing, better impact resistance
- Multiple output protocols are available
- Shaft type, shaft sleeve type installation mode is optional
- All metal stainless steel housing to meet the requirements of corrosion resistance

Picture	Mechanical Characteristics		Electrical Characteristics	
Explosion-proof shaft incremental encoder EXI80A	Shaft diameter (mm)	Ø 8g6 / Ø 10g6 / Ø 12g6	Supply voltage (V DC)	5 ... 30
	Housing diameter (mm)	Ø 80	Pulse frequency (kHz)	800
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial/axail) [N]	200 / 200		Good compatibility
	Operating temperature (°C)	-20 ... +80		High protection degree
	Protection class	IP66		High resolution
	Type of connection	Cable		
	Max. resolution	5000 ppr		
Explosion-proof hollow shaft incremental encoder EXI80P	Shaft diameter (mm)	Ø 8gH7 / Ø 10H7 / Ø 12H7	Supply voltage (V DC)	5 ... 30
	Housing diameter (mm)	Ø 84	Pulse frequency (kHz)	800
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial/axail) [N]	200/200		Good compatibility
	Operating temperature (°C)	-20 ... +80		High protection degree
	Protection class	IP66		High resolution
	Type of connection	Cable		
	Max. resolution	5000 ppr		
Explosion-proof shaft absolute singleturn encoder EXA80A	Shaft diameter (mm)	Ø 8g6 / Ø 10g6 / Ø 12g6	Supply voltage (V DC)	5 ... 30
	Housing diameter (mm)	Ø 80	Pulse frequency (Hz)	1 M
	Max. speed (rpm)	6000	Output circuit	SSI / Parallel
	Load capacity (radial/axail) [N]	200 / 100	Product features	Metal housing
	Operating temperature (°C)	-30 ... +80		High protection degree
	Protection class	IP66		High resolution
	Type of connection	Cable		
	Max. resolution	8192 ppr		

Special Application Encoder

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- All stainless steel housing, better impact resistance
- Multiple output protocols are available
- Shaft type, shaft sleeve type installation mode is optional
- All metal stainless steel housing to meet the requirements of corrosion resistance

Picture	Mechanical Parameters		Electrical Parameters	
Explosion-proof shaft absolute multiturn encoder EXA80A	Shaft diameter (mm)	Ø 14g6	Supply voltage (V DC)	5 ... 30
	Housing diameter (mm)	Ø 80	Pulse frequency (Hz)	12 M
	Max. speed (rpm)	6000	Output circuit	SSI / Profinet / Profibus-DP
	Load capacity (radial / axail) [N]	200/100	Product features	Metal housing
	Operating temperature (°C)	-40 ... +80		High protection degree
	Protection class	IP66		High resolution
	Type of connection	Cable / connector		
	Max. resolution	8192 ppr		
Explosion-proof hollow shaft absolute multiturn encoder EXA80P	Shaft diameter (mm)	Ø 14H7	Supply voltage (V DC)	5 ... 30
	Housing diameter (mm)	Ø 80	Pulse frequency (Hz)	12 M
	Max. speed (rpm)	6000	Output circuit	SSI / Profinet / Profibus-DP
	Load capacity (radial / axail) [N]	200 / 100	Product features	Aluminium alloy housing
	Operating temperature (°C)	-40 ... +80		Compact structure
	Protection class	IP66		High resolution
	Type of connection	Cable / connector		
	Max. resolution	8192 ppr		
Explosion-proof hollow shaft incremental encoder EXI130P	Shaft diameter (mm)	Ø 25gH7 / Ø 25.4H7 /	Supply voltage (V DC)	10 ... 30
		Ø 28H7 / Ø 30H7	Output circuit	HTL
	Housing diameter (mm)	Ø 136	Product features	Metal housing
	Max. speed (rpm)	6000		Good compatibility
	Load capacity (radial / axail) [N]	300/100		High protection degree
	Operating temperature (°C)	-20 ... +80		
	Protection class	IP66		
	Type of connection	Cable		
Stainless steel corrosion-resistant encoder ESS58P	Shaft diameter (mm)	Ø 6g6 / Ø 8g6 / Ø 10g6	Supply voltage (V DC)	10 ... 30
	Housing diameter (mm)	Ø 58	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Product features	Stainless steel housing
	Load capacity (radial / axail) [N]	120/60		Various installation methods
	Operating temperature (°C)	-20 ... +110		are available
	Protection class	IP64, IP66 (optional)		High protection degree
	Type of connection	Cable / connector		
	Max. resolution	5000 ppr		

ENCODER

Draw Wire Mechanics

- High protection level, meet the harsh conditions
- High repetition accuracy up to 0.05%
- Various lengths are available to meet different needs
- A variety of flanged encoders are available

Picture	Mechanical Parameters	
SW-MW	Measuring range	Max.3 m
	Operating temperature (°C)	IP54
	Operating temperature (°C)	-25 ... +85
	Wire material	Stainless steel
	Suitable for measuring angle	1000 mm/s
	Excellent mechanical structure properties	Aluminium alloy
	Linearity	0.05%FS
	Reproducibility	0.01%
SWL-MWL	Measuring range	Max.15 m
	Operating temperature (°C)	IP54
	Operating temperature (°C)	-25 ... +85
	Wire material	Stainless steel
	Suitable for measuring angle	2000 mm/s
	Excellent mechanical structure properties	Aluminium alloy
	Linearity	0.05%FS
	Reproducibility	0.01%
SD-MD-LD	Measuring range	Max.15 m
	Operating temperature (°C)	IP64
	Operating temperature (°C)	-30 ... +70
	Wire material	Stainless steel
	Suitable for measuring angle	4000 mm/s
	Excellent mechanical structure properties	Aluminium alloy
	Linearity	0.1%FS

Servo encoder

- Special chip processing technology helps the servo drive system to reduce torque ripple and improve the dynamic performance of the system
- Set high precision, high speed two features in one, ensure high-speed servo system to achieve perfect control
- BISS-C protocol, which does not involve development cost in application, two-way synchronous communication, and the maximum communication rate can reach 10MHz
- The compact structure design greatly reduces the installation space requirement
- NRZ protocol based on 485 hardware interface, hardware interface for power supply and communication line, can achieve alarm reading and built-in EEPROM function

Picture	Mechanical Parameters		Electrical Parameters	
Servo incremental encoder ESY35P	Shaft diameter (mm)	Ø 9 - 1:10 cone shaft	Supply voltage (V DC)	5
	Housing diameter (mm)	Ø 35	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Output circuit	TTL
	Load capacity (radial / axail) [N]	50 / 25	Product features	Plastic housing
	Operating temperature (°C)	-20 ... +85		Good compatibility
	Protection class	IP40		Ø 9 hollow shaft
	Type of connection	Cable		High resolution
	Max. resolution	2500 ppr		Servo-specific
Servo incremental encoder ESY48P	Shaft diameter (mm)	Ø 9 - 1:10 cone shaft	Supply voltage (V DC)	5
	Housing diameter (mm)	Ø 48	Pulse frequency (kHz)	300
	Max. speed (rpm)	6000	Output circuit	TTL
	Load capacity (radial / axail) [N]	50 / 25	Product features	Plastic housing
	Operating temperature (°C)	-20 ... +85		Good compatibility
	Protection class	IP40		Ø 9 hollow shaft
	Type of connection	Cable		High resolution
	Max. resolution	2500 ppr		Servo-specific
High speed spindle encoder ED48	Shaft diameter (mm)	Ø 13.4 - 1:10 cone shaft	Supply voltage (V DC)	5
	Housing diameter (mm)	Ø 48	Pulse frequency (Hz)	1 M
	Max. speed (rpm)	12000	Output circuit	TTL
	Load capacity (radial / axail) [N]	80 / 40	Product features	Plastic housing
	Operating temperature (°C)	-20 ... +85		Good compatibility
	Protection class	IP65		Ø 13.4 hollow shaft
	Type of connection	Cable		High resolution
	Max. resolution	5000 ppr		Servo-specific

Picture	Mechanical Parameters		Electrical Parameters	
High speed spindle encoder EC50	Shaft diameter (mm)	Ø 13.4 - 1:10 cone shaft	Supply voltage (V DC)	5
	Housing diameter (mm)	Ø 50	Pulse frequency (Hz)	1 M
	Max. speed (rpm)	12000	Output circuit	TTL
	Load capacity (radial / axail) [N]	80 / 40	Product features	Metal housing
	Operating temperature (°C)	-20 ... +85		Good compatibility
	Protection class	IP65		Ø 13.4 hollow shaft
	Type of connection	Cable		High resolution
	Max. resolution	5000 ppr		Servo-specific
23 bits BiSS-C Protocol absolute multiturn encoder EAC50	Shaft diameter (mm)	Ø 13.4 - 1: 10 cone shaft	Supply voltage (V DC)	10...30
	Housing diameter (mm)	Ø 50	Pulse frequency (Hz)	10 M
	Max. speed (rpm)	6000	Product features	Metal housing
	Load capacity (radial / axail) [N]	80 / 40		Good compatibility
	Operating temperature (°C)	-20 ... +85		High protection degree
	Protection class	IP65		High resolution
	Type of connection	Cable / connector		Suitable for measuring angle
	Max. resolution	23 bit		Shock resistance
25 bits BiSS-C Protocol absolute multiturn encoder EAM48	Shaft diameter (mm)	Ø 9- 1:10 cone shaft	Supply voltage (V DC)	5
	Housing diameter (mm)	Ø 48	Pulse frequency (Hz)	10 M
	Max. speed (rpm)	6000	Output circuit	BISS-C
	Load capacity (radial / axail) [N]	50 / 25	Product features	Plastic housing
	Operating temperature (°C)	-20 ... +85		Good compatibility
	Protection class	IP54		Ø 9 hollow shaft
	Type of connection	Cable		High resolution
	Max. resolution	Singleturn 25 bit, mutiturn 16 bit		Servo-specific
23 bits NRZ Protocol absolute multiturn encoder EAM48	Shaft diameter (mm)	Ø 9 - 1:10 cone shaft	Supply voltage (V DC)	5
	Housing diameter (mm)	Ø 48	Pulse frequency (kz)	2.5 M
	Max. speed (rpm)	6000	Output circuit	NRZ
	Load capacity (radial / axail) [N]	50 / 25	Product features	Plastic housing
	Operating temperature (°C)	-20 ... +85		Good compatibility
	Protection class	IP54		Ø 9 hollow shaft
	Type of connection	Cable		High resolution
	Max. resolution	Singleturn 23 bit, mutiturn 16 bit		Servo-specific
25 bits NRZ Protocol absolute multiturn encoder EAM48	Shaft diameter (mm)	Ø 9 -- 1:10 cone shaft	Supply voltage (V DC)	5
	Housing diameter (mm)	Ø 48	Pulse frequency (Hz)	2.5 M
	Max. speed (rpm)	6000	Output circuit	NRZ
	Load capacity (radial / axail) [N]	50 / 25	Product features	Plastic housing
	Operating temperature (°C)	-20...+85		Good compatibility
	Protection class	IP54		Ø 9 hollow shaft
	Type of connection	Cable		High resolution
	Max. resolution	Singleturn 25 bit , mutiturn 16 bit		Servo-specific

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