SensoPart Product Overview

Advanced sensors and vision technology for factory automation

VISOR® and Sensors

Smart automation solutions for real-world applications

We are SensoPart

SensoPart is a leading manufacturer of photoelectric sensors and vision technology for factory automation. We stay ahead by continuously innovating, helping our customers transition to the digital factory. To drive technological advancements, we invest heavily in R&D and collaborate with top universities and research institutes. Many of our groundbreaking ideas have become essential in modern automation – but we're not stopping there. Our focus remains on delivering cutting-edge technology to help manufacturers automate more efficiently.

Our innovative sensors and vision technology support your journey to a digital factory. From object identification and inspection to robotic positioning and beyond, we provide simple, reliable solutions with cutting-edge technology and modern interfaces for seamless integration into future-ready infrastructure.

Highlights:

- VISOR® vision sensors: A powerful combination of advanced hardware and easy-to-configure software, designed to solve your automation challenges.
- Optical sensors: From distance and color sensors to contrast and photoelectric sensors, our comprehensive optical sensor portfolio provides the perfect solution for any requirement.
- Ultrasonic sensors: Ultrasonic sensors offer a reliable alternative for challenging applications, such as uneven surfaces, difficult environments, highly transparent media, or moving, reflective liquid surfaces.
- Inductive sensors: Our inductive sensors are reliable, maintenance-free, and highly versatile, available in a wide range of designs and sizes.

VISOR® Vision Sensors for Factory Automation

Image processing made easy

In industrial process automation, many decisions are made every second. To ensure reliable good/bad decisions, complex combinations of detector results are often necessary. Our vision solutions portfolio covers a wide range of industrial image processing, making it easy to handle even complex applications without the need for a PC. From detection and inspection to identification, measurement, positioning, and color detection, the VISOR® vision sensor family provides the ideal solution for every task.

At the heart of this is a powerful, smart vision sensor housed in a compact, lightweight enclosure.

Perfectly in tune:
- A combination of advanced hardware and user-friendly, configurable software

Flexibility:
- One of the most extensive vision sensor families on the market to solve your applications

Scalability:
- VISOR® **XE** offers a high-performance option, fully compatible with the existing VISOR® series
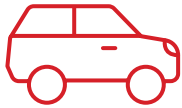
Connectivity:
- Wide protocol compatability (e.g., PROFINET, Ethernet/IP) ensuring seamless integration into your infrastructure

Ease-of-Use:
- AI-based solutions make solving applications easier than ever

VISOR® excels at meeting automation requirements across various industries and applications:
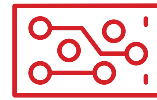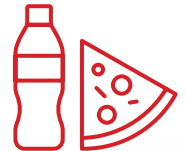
Automotive	Assembly & Handling	Robotics	Electronics	Food & Beverage

Plastics	Lab automation	Pharmaceuticals & Cosmetics	Solar	Packaging

The VISOR® family helps ensure quality, boost plant efficiency, reduce scrap, and cut costs. It offers a variety of integrated detectors and functionalities tailored to each task:

Standard: Solves simple image processing tasks

Advanced: An extended scope of functions for more challenging applications

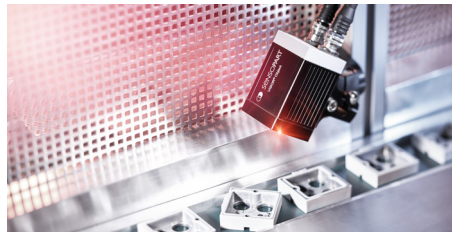**Professional:** The complete detector package designed for the most complex tasks

QR code for further information

Product overview - Software

VISOR® & VISOR® **XE** Vision Sensors

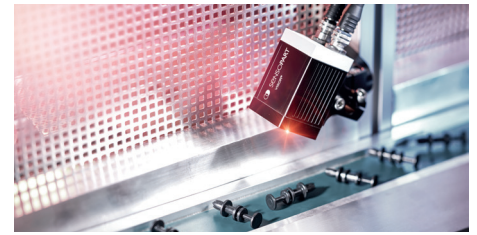|	VISOR® Object		VISOR® Object AI
	Presence, completeness, measurement, position check, color		Presence, completeness, measurement, position check, color, artificial intelligence
	Standard	Advanced	Advanced
Availability as VISOR® **XE**	–	–	**XE**
Availability as VISOR® Robotic +Z	–	–	–
Calibration			
Scaling | Perspective	✓ | –	✓ | ✓	✓ | ✓
Point-pair list | Calibration plate (robot)	–	– | –	– | –
Hand-eye | Base-eye calibration (robot)	–		–
Preprocessing			
Preprocessing filter	–	✓	✓
Multiple image capture | Shutter variation	–	✓	✓
Freeform search area	✓		✓
Position tracking			
Contour comparison (translation, rotation 360°)	✓		✓
Pattern matching (translation, rotation 360°)	–	✓	✓
Edge detection (translation, rotation)	–	✓	✓
Object detection			
Contour | Multiple detection	✓ | –	✓ | ✓	✓ | ✓
Pattern comparison | Multiple detection	✓ | –	✓ | ✓	✓ | ✓
Grey level | Contrast | Brightness	✓		✓
Calliper	✓		✓
BLOB	–	✓	✓
3D contour	–	–	–
Target Mark 3D	–	–	–
Classification (AI)	–	–	✓
Contour check	–	✓	✓
Identification			
Barcodes | Datacode	–		–
Clear text (OCR)	–		–
Robotics functions			
Result offset image | 2D | 3D	– | – | –	– | – | –	– | – | –
Checking space around gripper	–		–
Color detectors for Color variants			
Color field | Color value | Color list	✓ | – | –	✓ | ✓ | ✓	✓ | ✓ | ✓
Color distance | Binarisation	– | –	✓ | ✓	✓ | ✓
Result processing / Output			
Result processing - Text | Math	– | –	– | ✓	– | ✓
Result processing - Robotics	–	–	–
Individual Overlays	–	✓	✓

VISOR® Robotic

Robotics, presence, completeness, measurement, positioning

VISOR® Code Reader

Reading of barcodes, 2D codes, text

VISOR® Allround

Presence, completeness, measurement, position check, color, reading of barcodes, data codes, text, Multishot

	VISOR® Robotic		VISOR® Code Reader			VISOR® Allround	
	Advanced	Professional	Standard	Advanced	Professional	Advanced	Professional
	–	✗	–	✗	✗	–	✗
	✓	✓	–	–	–	–	–
	✓ | ✓		–			✓ | ✓	
	✓ | ✓		–				✓
		✓	–				✓
	✓		–	✓	✓	✓	
	✓		–	✓	✓	✓	
	✓		–	–	✓	✓	
	✓		–		✓	✓	
	✓		–		✓	✓	
	✓		–		✓	✓	
	✓ | ✓		– | –			✓	
	✓ | ✓		– | –	✓ | ✓		✓	
	✓		–	✓		✓	
	✓		–			✓	
	✓		–			✓	
	–	✓	–			–	✓
	✓		–			✓	
	–		–			–	✓
	–		–			✓	
	–	✓ | ✓	✓			✓	
	–	✓ | ✓	–	✓		✓	
	✓ | ✓ | ✓		– | – | –			–	✓
	✓		–			–	✓
	✓ | ✓ | ✓		– | – | –			✓ | ✓ | ✓	
	✓ | ✓		– | –			✓ | ✓	
	– | ✓	✓ | ✓	– | –	✓ | –		✓ | ✓	
	✓	✓	–	–		–	✓
	✓	✓	–	✓	✓	✓	✓

Product overview - Hardware

VISOR® Vision Sensors

	VISOR® Object	VISOR® Object AI
	Presence, completeness, measurement, position check, color	Presence, completeness, measurement, position check, color, artificial intelligence

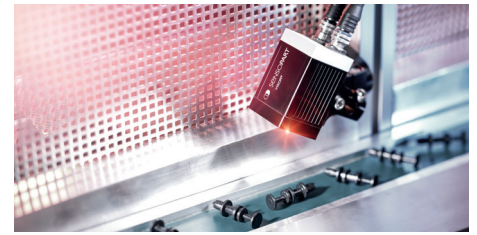|	Standard	Advanced	Advanced
Availability as VISOR® Robotic +Z	–	–	–
Resolution			
VISOR® V10 (800 × 600): Mono | Color	✓		✓
Images per second: Mono | Color	75 | 50		75 | 50
VISOR® V20 (1440 × 1080): Mono | Color	–	✓	✓
Images per second: Mono | Color	–	40 | 20	40 | 20
VISOR® V50 (2560 × 1936): Mono | Color	–	✓	✓
Images per second: Mono | Color	–	22 | 8	22 | 8
Lighting	white, red[1], infrared[1]		
Multishot (Mono)	–		–
Target laser	–	✓	✓
Integrated UV lighting	–		–
Lenses			
V10 wide | medium | narrow | C-Mount	✓| ✓| ✓| –	✓| ✓| ✓| ✓	✓| ✓| ✓| ✓
V20 wide | medium | narrow | C-Mount	– | – | – | –	✓| ✓| ✓| ✓	✓| ✓| ✓| ✓
V50 wide | medium | narrow | C-Mount	– | – | – | –	✓| ✓| – | ✓	✓| ✓| – | ✓
Interfaces			
Inputs | outputs | selectable	2 | 2 | 4	2 | 2 | 6	2 | 2 | 6
Encoder input	–	✓	✓
Ethernet | EtherNet/IP | PROFINET | SensoWeb	✓ | ✓| ✓| ✓		✓ | ✓| ✓| ✓
Service Port	–	✓	✓
Job / Detectors			
Number of jobs (max.) | Detectors per job (max.)	32 | 32	255 | 255	255 | 255
Number of classification (AI) detectors per job (max.)	–		10
Job checksum	–	✓	✓

VISOR® Robotic

Robotics, presence, completeness,
measurement, positioning

VISOR® Code Reader

Reading of barcodes,
2D codes, text

VISOR® Allround

Presence, completeness, measurement,
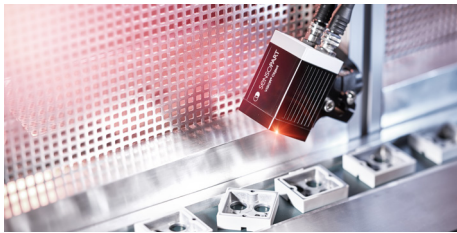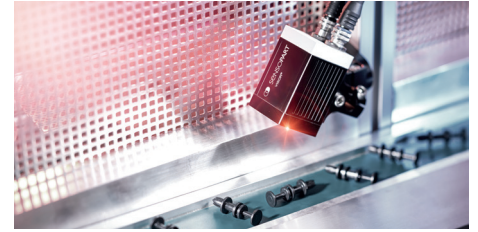position check, color, reading of barcodes,
data codes, text, multi-shot

VISOR® Robotic		VISOR® Code Reader			VISOR® Allround	
Advanced	Professional	Standard	Advanced	Professional	Advanced	Professional
✓	✓	–	–	–	–	–
✓	–		✓ | –		✓	–
75	–		75 | –		75 | 50	–
✓	✓		✓ | –		✓	✓
40 | 20	40 | 20		40 | –		40 | 20	40 | 20
–	✓		✓ | –		–	✓
–	22 | 8		22 | –		–	22 | 8
white, red¹, infrared¹						
–	–		–		✓	✓
✓	✓	only V20	✓		✓	✓
–	–		–		only V20	only V50
✓ | ✓ | ✓ | ✓	–	✓ | ✓ | ✓ | –	✓ | ✓ | ✓ | ✓		✓ | ✓ | ✓ | ✓	–
✓ | ✓ | ✓ | ✓	✓ | ✓ | ✓ | ✓	✓ | ✓ | ✓ | –	✓ | ✓ | ✓ | ✓		✓ | ✓ | ✓ | ✓	✓ | ✓ | ✓ | ✓
–	✓ | ✓ | – | ✓	–	✓ | ✓ | – | ✓		–	✓ | ✓ | – | ✓
2 | 2 | 6	2 | 2 | 6	2 | 2 | 4	2 | 2 | 6		2 | 2 | 6	2 | 2 | 6
✓	✓	–	✓		✓	✓
✓ | ✓ | ✓ | ✓	✓ | ✓ | ✓ | ✓	✓ | ✓ | ✓ | ✓	✓ | ✓ | ✓ | ✓		✓ | ✓ | ✓ | ✓	✓ | ✓ | ✓ | ✓
✓	✓	–	✓		✓	✓
255 | 255	255 | 255	8 | 2	255 | 255		255 | 255	255 | 255
–	–		–		–	–
✓	✓	–	✓		✓	✓

¹ not with color hardware

Product overview - Hardware

VISOR® **XE** Vision Sensors

	VISOR® Object	VISOR® Object AI
	Presence, completeness, measurement, position check, color	Presence, completeness, measurement, position check, color, artificial intelligence

	Standard	Advanced	Advanced
Availability as VISOR® **XE**	–	–	✗
Resolution		–	
VISOR® **XE** V20 (1600 x 1200): Mono | Color		–	✓
Images per second: Mono | Color		–	80 | 40
VISOR® **XE** V50 (2560 x 1936): Mono | Color		–	✓
Images per second: Mono | Color		–	44 | 16
Lighting		–	white, red[1], infrared[1]
Multishot (Mono)		–	–
Target laser		–	✓
Integrated UV lighting		–	–
Lenses		–	
V20 wide | medium | narrow | C-Mount		–	✓ | ✓ | ✓ | ✓
V50 wide | medium | narrow | C-Mount		–	✓ | ✓ | – | ✓
Interfaces		–	
Inputs | outputs | selectable		–	2 | 2 | 6
Ethernet | EtherNet/IP | PROFINET | SensoWeb		–	✓ | ✓ | ✓ | ✓
Service Port		–	✓
Job / Detectors		–	
Number of jobs (max.) | Detectors per job (max.)		–	255 | 255
Number of classification (AI) detectors per job (max.)		–	40
Job checksum		–	✓

VISOR® Robotic

Robotics, presence, completeness, measurement, positioning

VISOR® Code Reader

Reading of barcodes, 2D codes, text

VISOR® Allround

Presence, completeness, measurement, position check, color, reading of barcodes, data codes, text, multi-shot

Advanced	Professional	Standard	Advanced	Professional	Advanced	Professional
–	✖	–	✖	✖	–	✖
–		–			–	
–	✓	–	✓ | –		–	✓
–	80 | 40	–	80 | –		–	80 | 40
–	✓	–	✓ | –		–	✓
–	44 | 16	–	44 | –		–	44 | 16
	white, red[1], infrared[1]	–	white, red[1], infrared[1]		–	white, red[1], infrared[1]
–	–	–	–		–	✓
–	✓	–	✓		–	✓
–	–	–	–		–	only V50
–		–			–	
–	✓ | ✓ | ✓ | ✓	–	✓ | ✓ | ✓ | ✓		–	✓ | ✓ | ✓ | ✓
–	✓ | ✓ | – | ✓	–	✓ | ✓ | – | ✓		–	✓ | ✓ | – | ✓
–		–			–	
–	2 | 2 | 6	–	2 | 2 | 6		–	2 | 2 | 6
–	✓ | ✓ | ✓ | ✓	–	✓ | ✓ | ✓ | ✓		–	✓ | ✓ | ✓ | ✓
–	✓	–	✓		–	✓
–		–			–	
–	255 | 255	–	255 | 255		–	255 | 255
–		–			–	
–	✓	–	✓		–	255 | 255

[1] not with color hardware

Sensors "Made in Germany"

A broad spectrum

SensoPart's industrial sensors are a benchmark for precision and reliability, proudly carrying the "Made in Germany" seal. Designed and manufactured at our facilities in Gottenheim, near Freiburg, and Wieden in the Black Forest, our sensors are trusted by customers worldwide.

Customer satisfaction is at the core of everything we do. That's why we prioritize the durability and robustness of our products – ensured through our ISO 9001:2015-certified quality management system. Our commitment to quality is built on the following key principles:

- Customer satisfaction
- Profitability
- Innovation
- Collaboration
- Safety
- Environmental Responsibility

We provide comprehensive support for every aspect of our products, including a wide range of accessories, expert application assistance, and workshops on the latest trends and applications in factory automation. Our cutting-edge technologies help pave the way for the digital factory of the future.

Our portfolio of sensor technology includes:

Optical sensors:

- Distance sensors
- BlueLight sensors
- Color & contrast sensors
- Photoelectric sensors

Ultrasonic sensors

Inductive sensors

QR code for further
information

Overview - Optical Sensors

Product family Dimensions (H × W × D)	F 10 21,1 × 14,6 × 8 mm		●	⚠	∿	F 25 34 × 20 × 12 mm		●	⚠	∿	F 55 Metal 50 × 50 × 25 mm Plastic 50 × 50 × 23 mm		●	⚠	∿	M	P
	Description	Range				Description	Range				Description	Range					
Distance sensors	FT 10-RLA	70 mm		✓	✓	FT 25-RLA	100 mm		✓	✓	FT 55-RLAP	5 m		✓	✓		✓
						FT 25-RA	80 mm			✓	FR 55-RLAP	70 m		✓	✓		✓
						FT 25-RA	200 mm			✓	FT 55-RLAP2	5 m		✓	✓		✓
											FT 55-RLAM-320	400 mm		✓	✓	✓	
											FT 55-RLAM-480	600 mm		✓	✓	✓	
											FT 55-RLAM-800	1000 mm		✓	✓	✓	
Color sensors (C)						FT 25-C	12 mm			✓	FT 55-CM	150 mm		✓	✓		
Contrast sensors (K)						FT 25-RL	250 mm		✓	✓							
						FT 25-W	12 mm			✓							
						FT 25-RGB	12 mm			✓							
Luminescence sensors (UV)																	
Photoelectric diffuse sensors						FT 25-RL	250 mm		✓	✓	FT 55-RL	1,2 m		✓			✓
						FT 25-R	800 mm			✓	FT 55-R	2 m		✓			✓
Photoelectric diffuse sensors with background suppression (BGS)	FT 10-RLH	75 mm		✓	✓	FT 25-RLHP	1500 mm		✓	✓	FT 55-RLH	800 mm		✓			✓
	FT 10-B-RLF	15/30 mm		✓		FT 25-RLH	150 mm		✓	✓	FT 55-RLH2	1 m		✓			✓
	FT 10-BH	100 mm	✓		✓	FT 25-RH	200 mm			✓	FT 55-RLHM	1 m		✓	✓	✓	
	FT 10-BHD	150 mm	✓		✓	FT 25-BH	200 mm	✓		✓	FT 55-B-RH	800 mm					✓
	FT 10-RH	70 mm			✓	FT 25-RHD	400 mm			✓	FT 55-RH	1,2 m					✓
	FT 10-RF	15/30/50 mm				FT 25-RF	60/80 mm			✓	FT 55-BH	1, 2 m	✓				✓
	FT 10-BF	30/50 mm	✓			FT 25-BF	80 mm	✓			FT 55-RLHP2	5 m		✓	✓		✓
Photoelectric retro-reflective sensors	FR 10-RL	2 m			✓	FR 25-RL	13 m		✓	✓	FR 55-RL	12 m		✓			✓
	FR 10-R	1,6 m				FR 25-R	6 m			✓	FR 55-R	12 m					✓
						FR 25-RF	3 m			✓	FR 55-RLP	70 m		✓			✓
						FR 25-RGO	2 m			✓							
						FR 25-RLO	4 m		✓	✓							
Photoelectric through-beam sensors	FS/FE 10-RL	3 m			✓	FS/FE 25-RL	18 m		✓	✓	FS/FE 55-RL	25 m		✓			✓
						FS/FE 25-R	13 m			✓	FS/FE 55-R	20 m					✓
						FS/FE 25-RF	4 m										
Fiber-optic sensors																	

| **F 50**
50 × 50 × 17 mm | | | **Barrel type**
Ø 4/5 mm / Ø 12 mm /
Ø 18 mm / Ø 30 mm | | | | **FL 70**
84 × 35 × 10 mm | | | | **FGL**
Fork widths: 30 mm / 50 mm /
80mm / 120 mm | | | |

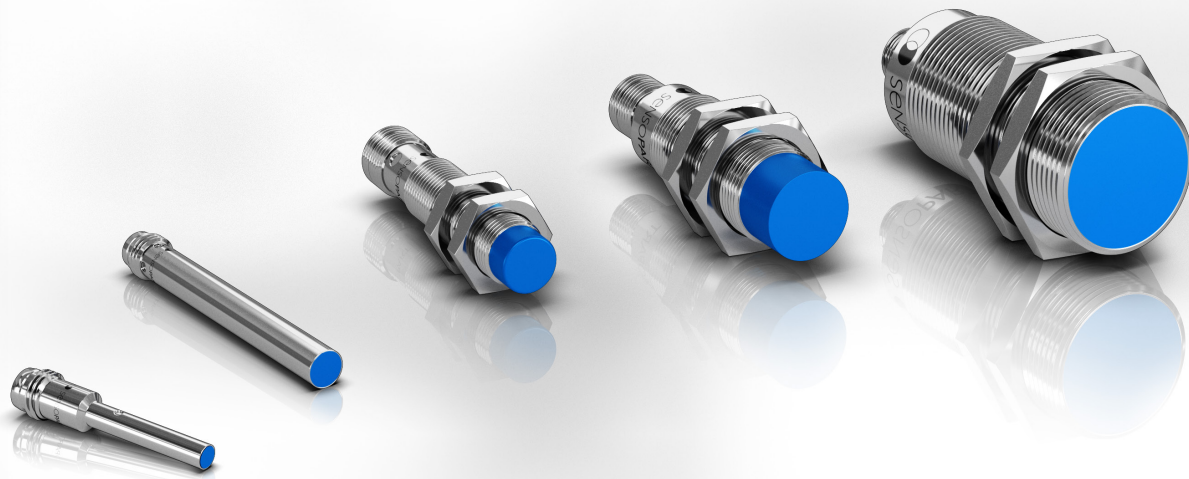	Description	Range	🔵	⚠	⬡	Description	Range	🔵	⚠	⬡	Description	Range	🔵	⚠	⬡	Description	Range	🔵	⚠	⬡
FT 50 RLA-20	**60 mm**		✓								FL 70-RA-xD									
FT 50 RLA-40	**85 mm**		✓								Diffuse	**310 mm**								
FT 50 RLA-70	**100 mm**		✓								Through-beam	**810 mm**								
FT 50 RLA-100	**170 mm**		✓																	
FT 50 RLA-220	**300 mm**		✓																	
FT 50 C	**32 mm**																			
FT 50 C-UV	**50 mm**																			
					FT 04/05	**50 mm**			✓											
					FT 12 R	**300 mm**														
					FT 18-2 R	**400 mm**														
					FT 18-2 I	**800 mm**														
FT 50 RLH	**150 mm**		✓		FMH 18	**120 mm**														
FT 50 RLHD	**300 mm**		✓																	
FT 50 RH	**300 mm**																			
FT 50 BH	**300 mm**	✓																		
FT 50 IH	**600 mm**																			
FR 50 RL	**20 m**		✓		FR 12 R	**1,5 m**														
FR 50 R	**5,5 m**				FR 18-2 R	**3 m**														
					FR 18-2 I	**3,6 m**														
					FS/FE 12 RL	**5 m**			✓							FGL-RK /-IK	**120 mm**			
					FS/FE 12 R	**10 m**										FGL 5-IK	**5 mm**			
					FS/FE 18 RL	**50 m**			✓							FGL	**80 mm**			
					FS/FE 18 R	**20 m**														
					FLS/FLE 18 W	**50 m**			✓											
					FSE 18-2 I	**10 m**														
					FMS 18 U					FL 70-R									
					Diffuse	**160 mm**				Diffuse	**310 mm**								
					Through-beam	**700 mm**				Through-beam	**810 mm**								
					FMS 30 U					FL 70-R xD									
					Diffuse	**800 mm**				Diffuse	**310 mm**								
					Through-beam	**4,8 m**				Through-beam	**810 mm**								

Ultrasonic Sensors

Reliable detection of challenging and transparent surfaces

	Product	Adjustment		Scanning distances	Type of connection	Special features
	UT 20	Teach-in	Teach-in	140 mm / 150 mm / 240 mm / 700 mm	Metal plug, M8×1, 4-pin	Ultrasonic sensors with soundpipe, PNP, NPN, analogue output
	UT 12	Via control input		400 mm	Plug, M12×1, 4-pin	Ultrasonic sensor with switching output, PNP, NPN, analogue output
	UT/UM 18	Via control input		250 mm / 300 mm / 800 mm	Plug, M12×1, 4-pin	Ultrasonic sensor with switching output, variants with stainless steel housings, PNP, NPN, analogue output
	UMT 30	Teach-in / or display	Teach-in / Display	350 mm / 1300 mm / 3400 mm / 6000 mm	Plug, M12×1, 5-pin	Ultrasonic sensor with switching output, display, PNP, 2 × PNP or analogue output

QR code for further information

Inductive sensors
Precise detection of metal objects

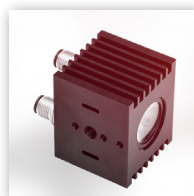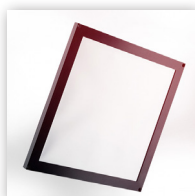|	Product	Housing	Switching distance	Special features
	IT 8 / 10 / 12 IS 455 / 588	cubic	0.8 mm / 1.5 mm / 3 mm / 4 mm / 8 mm / 15 mm / 20 mm / 35 mm	Miniature housing, AC/DC variants
	IS 33	cylindrical Ø 3 mm	0.6 mm	PNP, NPN
	ISN 44-20 IS 34 IT 4	cylindrical Ø 4 mm	0.8 mm	PNP, NPN, NAMUR, stainless steel housing
	IMT 5	cylindrical Ø 5 mm	0.8 mm	PNP, NPN, stainless steel housing
	ISZ 46 IS 46 / 56 IDT 6	cylindrical Ø 6.5 mm	1.5 mm / 2 mm / 3 mm	PNP, NPN
	IS 48 / 58 IMT 8	cylindrical Ø 8 mm	1.5 mm / 2 mm / 3 mm / 6 mm	PNP, NPN
	IMT 12 IT 12 IS 512	cylindrical Ø 12 mm	2 mm / 4 mm / 6 mm / 10 mm	PNP, NPN
	IMT 18 IS 518 IT 18	cylindrical Ø 18 mm	5 mm / 8 mm / 10 mm / 12 mm / 20 mm	PNP, NPN, stainless steel housing
	IMT 30 IS 530 IT 30	cylindrical Ø 30 mm	10 mm / 15 mm / 20 mm / 22 mm / 40 mm	PNP, NPN, stainless steel housing
	IS 512 / 518	cylindrical Ø 12 mm / 18 mm analogue	6 mm / 10 mm	Analogue output

QR code for further information

Accessories

Supporting every application requirement
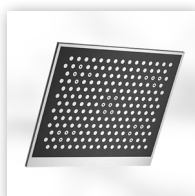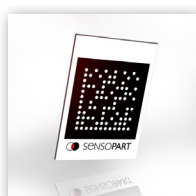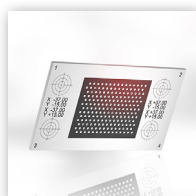
Illumination

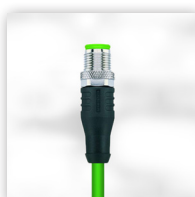|	Illumination:
Categories	Surface lights, ring lights, spotlights, light strips, coaxial lights, DOM, laser line

QR code for further information

Robotics

	Robotics:
Categories	Calibration plates and target marks for VISOR® vision sensors

QR code for further information

Cables

	Cables:
Categories	Power supply cables, Ethernet cables, data cables, cables for illumination

QR code for further information

Mounting

	Mounting:
Categories	Brackets, mounting angles, mounting rods, clamps, mounting joints

QR code for further information

Optical Accessories

Categories

Optical accessories:

Lenses, intermediate rings for C-Mount, filters, protective casing and polarizer glasses

QR code for further information

Peripherals

Categories

Peripherals:

Electrical accessories, interfaces, software, switching devices

QR code for further information

Reflectors

Categories

Reflectors:

Reflectors and reflective foils

QR code for further information

SmartPlug

Categories

SmartPlug:

SmartPlug

QR code for further information

We are SensoPart

SensoPart is a leading manufacturer of photoelectric and machine vision sensors for factory automation. We also offer inductive and ultrasonic sensors, covering a wide spectrum of industrial automation tasks. Our products are used in a variety of industries, including automotive assembly, mechanical engineering, electronics manufacturing, solar, food, and pharmaceuticals. We take great pride in our renowned, German-made quality products, developed and manufactured at our two facilities in Germany and shipped worldwide.

made in Germany

SensoPart worldwide

With our global network and worldwide subsidiaries, we are always ready to support you.

You can find your local team at:
www.sensopart.com/contact

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