## VISOR® V50 Robotic Professional, medium field of view

Vision sensor for object detection, presence check, completeness check, measurement and positioning tasks











EtherNet/IP

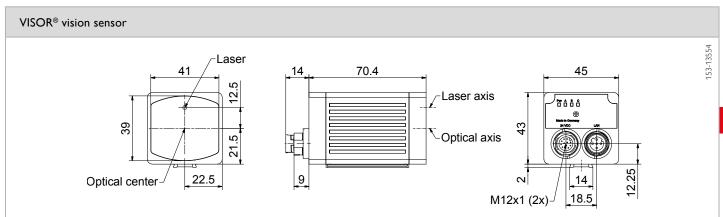
## PRODUCT HIGHLIGHTS

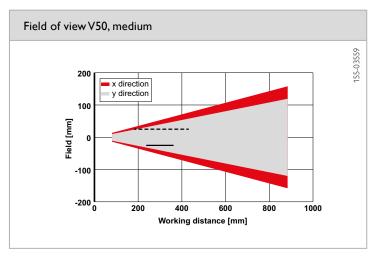
- Calibration methods tailored to the application
- Result offset 3D for direct gripper point transmission to robot
- Easy adjustment of the work plane
- Target Mark technology provides 3D object poses in no time
- Can be used for all common 2D codes (ECC 200 data matrix), common 1D barcodes and OCR

Optical data		Functions		
Resolution	2560 x 1936 Pixel	Number of jobs / detectors	Max. 255 / max. 255	
Imaging chip CMOS	1/1.8", monochrome / color	Detectors	Position tracking: X/Y and orientation; Pattern matching, contour, 3D contour: teach-in and detection of patterns and	
Integrated lens, focal length [mm]	20 (medium)			
Pixel size	2.8 μm × 2.8 μm			
Focus	Motorized		contours; Target Mark 3D: 3D pose determination	
Adjustment range	100 mm to infinity		Calliper: distance between edges;	
Integrated illumination	White (5000 K), red (635 nm) <sup>1</sup> , infrared (850 nm) <sup>1</sup> LEDs		BLOB, grey threshold, brightness: evaluation of brightness;	
Minimum field of view, X xY	32 × 24 mm		Contrast: evaluation of contrast;	
Target laser	Laser: red (635 nm) class 1 🛕 (IEC 60825-1)		Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrict code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes: ECC200 (GS1), QR code (GS1), Micro QR codes attected (GS1), PDF 417; OCR: reading of fonts; Result processing: Text, Math: checking and productions of the second codes and processing: Text, Math: checking and productions of the second codes and processing: Text, Math: checking and productions of the second codes and produ	
			and calculating with results from detector	
Electrical data		Mechanical data	and calculating with results from detector	
Electrical data  Operating voltage, +U <sub>B</sub>	18 30 DC <sup>3</sup>	Mechanical data  Dimensions	and calculating with results from detectors $70.4 \times 45 \times 45 \text{ mm}$ (without plug)	
Operating voltage, +U <sub>B</sub> Current consumption	18 30 DC <sup>3</sup> ≤ 300 mA			
Operating voltage, +U <sub>B</sub> Current consumption (without I/O)	≤ 300 mA	Dimensions	70.4 × 45 × 45 mm (without plug)	
Operating voltage, +U <sub>B</sub> Current consumption	≤ 300 mA  Reverse-polarity protection, U <sub>B</sub> /	Dimensions Enclosure rating	70.4 x 45 x 45 mm (without plug) IP 67 & IP 65	
Operating voltage, +U <sub>B</sub> Current consumption (without I/O) Protective circuits	≤ 300 mA  Reverse-polarity protection, U <sub>B</sub> / short-circuit protection of all outputs	Dimensions Enclosure rating Material, housing	70.4 × 45 × 45 mm (without plug) IP 67 & IP 65 Aluminium, die-cast, RoHS compliant	
Operating voltage, +U <sub>B</sub> Current consumption (without I/O) Protective circuits  Power On Delay	≤ 300 mA  Reverse-polarity protection, U <sub>B</sub> / short-circuit protection of all outputs  Approx. 13 s after Power on	Dimensions Enclosure rating Material, housing Material, front screen	70.4 × 45 × 45 mm (without plug) IP 67 & IP 65 Aluminium, die-cast, RoHS compliant Plastic	
Operating voltage, +U <sub>B</sub> Current consumption (without I/O) Protective circuits  Power On Delay Outputs	≤ 300 mA  Reverse-polarity protection, U <sub>B</sub> / short-circuit protection of all outputs  Approx. 13 s after Power on PNP/NPN (switchable)	Dimensions  Enclosure rating  Material, housing  Material, front screen  Ambient temperature: operation  Ambient temperature: storage  Weight	70.4 x 45 x 45 mm (without plug) IP 67 & IP 65 Aluminium, die-cast, RoHS compliant Plastic 0 +50 °C <sup>4</sup> -20 +60 °C <sup>4</sup> Approx. 200 g	
Operating voltage, +U <sub>B</sub> Current consumption (without I/O) Protective circuits  Power On Delay Outputs Max. output current (per output)	≤ 300 mA  Reverse-polarity protection, U <sub>B</sub> / short-circuit protection of all outputs  Approx. 13 s after Power on  PNP/NPN (switchable)  50 mA, 100 mA (pin 12)	Dimensions  Enclosure rating  Material, housing  Material, front screen  Ambient temperature: operation  Ambient temperature: storage	70.4 × 45 × 45 mm (without plug) IP 67 & IP 65 Aluminium, die-cast, RoHS compliant Plastic 0 +50 °C <sup>4</sup> -20 +60 °C <sup>4</sup> Approx. 200 g Supply and I/O M12, 12-pin,	
Operating voltage, +U <sub>B</sub> Current consumption (without I/O) Protective circuits  Power On Delay Outputs	≤ 300 mA  Reverse-polarity protection, U <sub>B</sub> / short-circuit protection of all outputs  Approx. 13 s after Power on  PNP/NPN (switchable)  50 mA, 100 mA (pin 12)  PNP / NPN	Dimensions  Enclosure rating  Material, housing  Material, front screen  Ambient temperature: operation  Ambient temperature: storage  Weight  Plug connections	70.4 × 45 × 45 mm (without plug) IP 67 & IP 65 Aluminium, die-cast, RoHS compliant Plastic 0 +50 °C <sup>4</sup> -20 +60 °C <sup>4</sup> Approx. 200 g Supply and I/O M12, 12-pin, Ethernet M12, 4-pin	
Operating voltage, +U <sub>B</sub> Current consumption (without I/O) Protective circuits  Power On Delay Outputs Max. output current (per output) Switching threshold inputs incl.	≤ 300 mA  Reverse-polarity protection, U <sub>B</sub> / short-circuit protection of all outputs  Approx. 13 s after Power on  PNP/NPN (switchable)  50 mA, 100 mA (pin 12)	Dimensions  Enclosure rating Material, housing Material, front screen  Ambient temperature: operation  Ambient temperature: storage  Weight Plug connections  Vibration resistance	70.4 × 45 × 45 mm (without plug)  IP 67 & IP 65  Aluminium, die-cast, RoHS compliant  Plastic  0 +50 °C <sup>4</sup> -20 +60 °C <sup>4</sup> Approx. 200 g  Supply and I/O M12, 12-pin,  Ethernet M12, 4-pin  EN 60068-2-6	
Operating voltage, +U <sub>B</sub> Current consumption (without I/O) Protective circuits  Power On Delay Outputs Max. output current (per output) Switching threshold inputs incl. encoder	≤ 300 mA  Reverse-polarity protection, U <sub>B</sub> / short-circuit protection of all outputs  Approx. 13 s after Power on  PNP/NPN (switchable)  50 mA, 100 mA (pin 12)  PNP / NPN  High > U <sub>B</sub> -1 V / Low < 3 V	Dimensions  Enclosure rating  Material, housing  Material, front screen  Ambient temperature: operation  Ambient temperature: storage  Weight  Plug connections	70.4 × 45 × 45 mm (without plug) IP 67 & IP 65 Aluminium, die-cast, RoHS compliant Plastic 0 +50 °C <sup>4</sup> -20 +60 °C <sup>4</sup> Approx. 200 g Supply and I/O M12, 12-pin, Ethernet M12, 4-pin	
Operating voltage, +U <sub>B</sub> Current consumption (without I/O) Protective circuits  Power On Delay Outputs Max. output current (per output) Switching threshold inputs incl. encoder Input resistance	≤ 300 mA  Reverse-polarity protection, U <sub>B</sub> / short-circuit protection of all outputs  Approx. 13 s after Power on  PNP/NPN (switchable)  50 mA, 100 mA (pin 12)  PNP / NPN  High > U <sub>B</sub> -1 V / Low < 3 V  > 20 kΩ  Ethernet (LAN), EtherNet/IP,	Dimensions  Enclosure rating Material, housing Material, front screen  Ambient temperature: operation  Ambient temperature: storage  Weight Plug connections  Vibration resistance	70.4 × 45 × 45 mm (without plug)  IP 67 & IP 65  Aluminium, die-cast, RoHS compliant  Plastic  0 +50 °C <sup>4</sup> -20 +60 °C <sup>4</sup> Approx. 200 g  Supply and I/O M12, 12-pin,  Ethernet M12, 4-pin  EN 60068-2-6	

 $<sup>^{1}</sup>$  Not color hardware  $^{2}$  Color hardware  $^{3}$  Max. ripple < 5  $V_{s}$   $^{4}$  80 % air humidity, noncondensing







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Illumination	Part number	Article number	Accessories	Accessories	
White Red Infrared White	V50-RO-P3-W-M-M2-L V50-RO-P3-R-M-M2-L V50-RO-P3-I-M-M2-L V50C-RO-P3-W-M-M2-L	635-91035 635-91037 635-91039 635-91042	Connection cables Illumination Brackets Interface accessories Target Marks	www.sensopart.com/en/accessories	