

# VISOR® V20 Robotic Advanced, narrow field of view

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

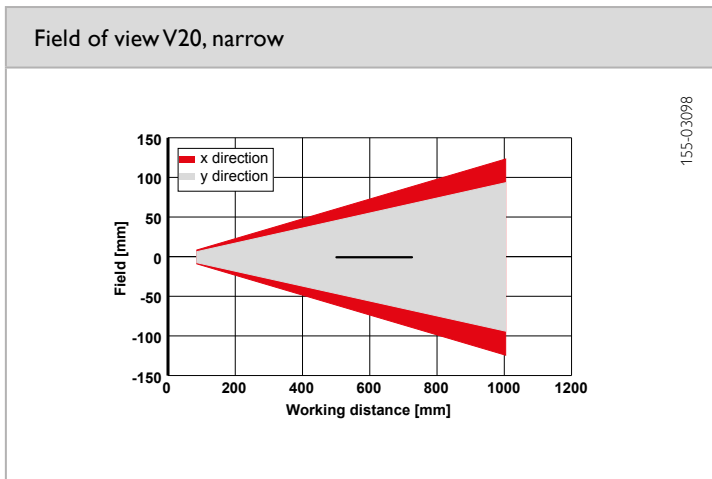
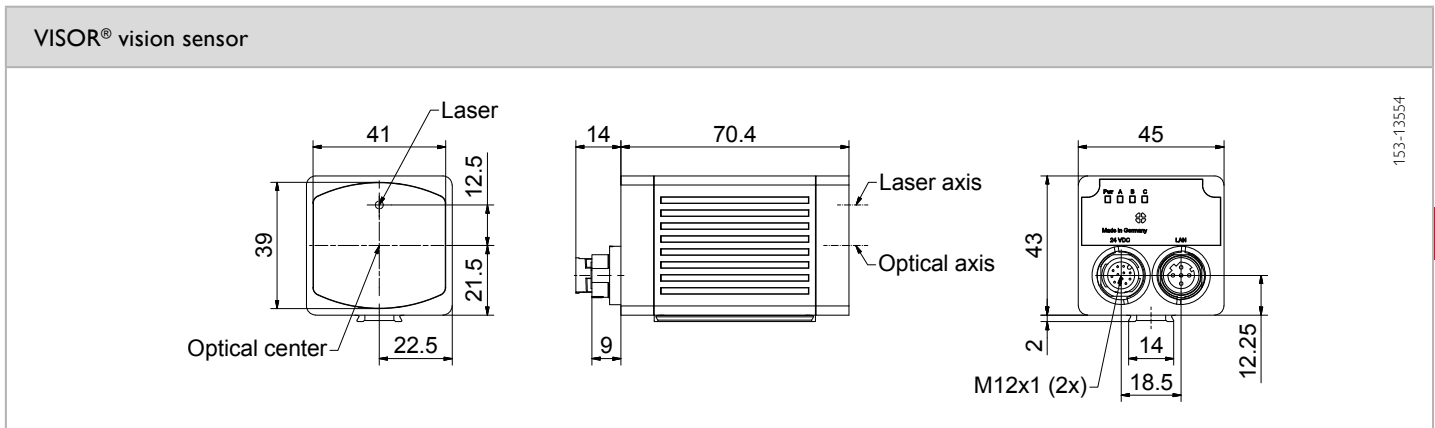


## PRODUCT HIGHLIGHTS

- Calibration methods for robotics applications
- Result offset 3D for direct gripper point transmission to robot
- Offset of work plane

Optical data		Functions	
Resolution	1440 × 1080 Pixel	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome / color	Detectors	Position tracking: X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Calliper:</b> distance between edges; <b>BLOB, grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <b>Result processing: Math:</b> checking and calculating with results from detectors
Integrated lens, focal length [mm]	20 (narrow)		
Pixel size	3.45 µm × 3.45 µm		
Focus	Motorized		
Adjustment range	100 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm) <sup>1</sup> , infrared (850 nm) <sup>1</sup> LEDs		
Minimum field of view, X × Y	18 × 14 mm		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>3</sup>	Dimensions	70,4 × 45 × 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
Protective circuits	Reverse-polarity protection, U <sub>B</sub> / short-circuit protection of all outputs	Material, housing	Aluminium, die-cast, RoHS compliant
Power On Delay	Approx. 13 s after Power on	Material, front screen	Plastic
Outputs	PNP/NPN (switchable)	Ambient temperature: operation	0 ... +50 °C <sup>4</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>4</sup>
Switching threshold inputs incl. encoder	PNP/NPN High > U <sub>B</sub> -1V / Low < 3V	Weight	Approx. 200 g
Input resistance	> 20 kΩ	Plug connections	Supply and I/O M12, 12-pin Ethernet M12, 4-pin
Interfaces VISOR® V20-CR-Advanced	Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port	Vibration resistance	EN 60068-2-6
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs	Shock resistance	EN 60068-2-27
Encoder	✓		

<sup>1</sup> Not color hardware    <sup>2</sup> color hardware    <sup>3</sup> max. ripple < 5V<sub>s</sub>    <sup>4</sup> 80 % air humidity, noncondensing



— Normal depth of field

illumination	Part number	Article number	Accessories	
White	V20-RO-A3-W-N-M2-L	632-91066	Connection cables	From Page A-46
Red	V20-RO-A3-R-N-M2-L	632-91069	Illumination	From Page A-33
Infrared	V20-RO-A3-I-N-M2-L	632-91072	Brackets	From Page A-4
White	V20C-RO-A3-W-N-M2-L	632-91076	Interface accessories	From Page A-53