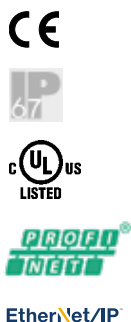



# VISOR® V20 Robotic Advanced, medium field of view

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



## PRODUCT HIGHLIGHTS

- Simple calibration methods for robotics applications
- 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

| Optical data                             |   | Functions                      |  |                 |  |
|--|---|--------------------------------|--|-----------------|--|
| Resolution                               | 1440 x 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;<br><b>Pattern matching, contour:</b> teach-in and detection of patterns and contours;<br><b>Target Mark 3D:</b> 3D pose determination;<br><b>Calliper:</b> distance between edges;<br><b>BLOB, grey threshold, brightness:</b> evaluation of brightness;<br><b>Contrast:</b> evaluation of contrast;<br><b>Result processing: Math:</b> checking and calculating with results from detectors |                 |  |
| Integrated lens, focal length [mm]       | 12 (medium)   |                                |  |                 |  |
| Pixel size                               | 3.45 µm x 3.45 µm   |                                |  |                 |  |
| Focus                                    | Motorized   |                                |  |                 |  |
| Adjustment range                         | 25 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 x Y             | 10 x 8 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 x 45 x 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<br>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,<br>Ethernet M12, 4-pin   |                 |  |
| Interfaces                               | Ethernet (LAN), EtherNet/IP,<br>PROFINET, SensoWeb, Service Port  | Vibration resistance           | EN 60068-2-6   |                 |  |
| Inputs/outputs                           | 2 inputs, 2 outputs,<br>6 selectable inputs/outputs   | Shock resistance               | EN 60068-2-27  |                 |  |
| Encoder                                  | ✓   |                                |  |                 |  |

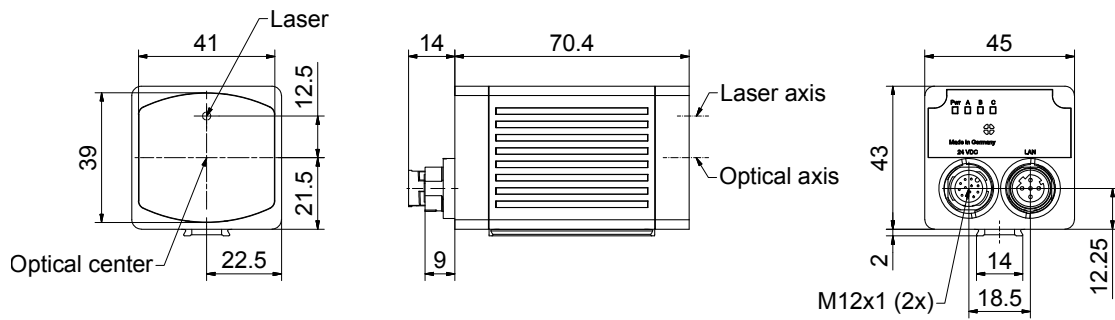
<sup>1</sup> Not color hardware    <sup>2</sup> Color hardware    <sup>3</sup> Max. ripple < 5V<sub>s</sub>    <sup>4</sup> 80 % air humidity, noncondensing

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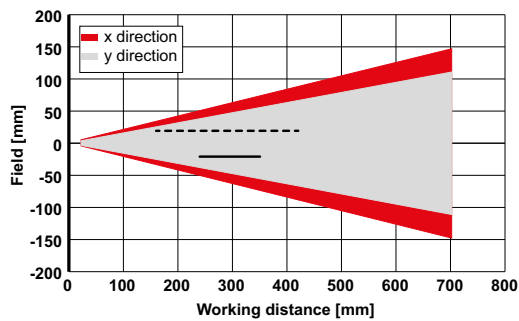
VISOR® vision sensor



153-13554

3

Field of view V20, medium



155-03099

----- Increased depth of field  
 ——— Normal depth of field

| Illumination | Part number         | Article number | Accessories           |
|--------------|---------------------|----------------|-----------------------|
| White        | V20-RO-A3-W-M-M2-L  | 632-91065      | Connection cables     |
| Red          | V20-RO-A3-R-M-M2-L  | 632-91068      | Illumination          |
| Infrared     | V20-RO-A3-I-M-M2-L  | 632-91071      | Brackets              |
| White        | V20C-RO-A3-W-M-M2-L | 632-91075      | Interface accessories |
|              |                     |                | Target Marks          |

[www.sensopart.com/en/accessories](http://www.sensopart.com/en/accessories)

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