# VISOR® V50 Object Advanced, wide field of view

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



## PRODUCT HIGHLIGHTS

- User-friendly configuration and viewer software with hierarchical user rights
- Object detection with 5 megapixel chip
- Real-world engineering units at a mouse click
- Precise position determination: X/Y-position and orientation
- Comprehensive logic and calculation functions for maximum flexibility
- Encoder input

| Optical data | |
|---|---|
| Resolution | 2560 x 1936 pixels |
| Imaging chip CMOS | 1/1.8", monochrome / color |
| Integrated lens, focal length [mm] | 9.6 (wide) |
| Pixel size | 2.8 µm x 2.8 µm |
| Focus | Motorized |
| Adjustment range | 40 mm to infinity |
| Integrated illumination | White (5000 K), red (635 nm)[1], infrared (850 nm)[1] LEDs |
| Minimum field of view, X x Y | 32 x 24 mm |
| Target laser | Laser: red (635 nm) class 1 (IEC 60825-1) |

| Functions | |
|---|---|
| Number of jobs / detectors | Max. 255 / max. 255 |
| Detectors | Position tracking: X/Y and orientation; **Pattern matching, contour:** teach-in and detection of patterns and contours; **Calliper:** distance between edges; **BLOB, grey threshold, brightness:** evaluation of brightness; **Contrast:** evaluation of contrast; **Color value[2]:** output of color values; **Color area[2]:** area inspection of colors, with selectable tolerance; **Color list[2]:** finding the most similar colors; **Result processing: Math:** checking and calculating with results from detectors |

| Electrical data | |
|---|---|
| Operating voltage, $+U_B$ | 18 ... 30 DC[3] |
| Current consumption (without I/O) | ≤ 300 mA |
| Protective circuits | Reverse-polarity protection, $U_B$ / short-circuit protection of all outputs |
| Power On Delay | Approx. 13 s after Power on |
| Outputs | PNP/NPN (switchable) |
| Max. output current (per output) | 50 mA, 100 mA (pin 12) |
| Switching threshold inputs incl. encoder | PNP/NPN High > $U_B$-1 V / Low < 3 V |
| Input resistance | > 20 kΩ |
| Interfaces | Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port |
| Inputs/outputs | 2 inputs, 2 outputs, 6 selectable inputs/outputs |
| Encoder | ✓ |

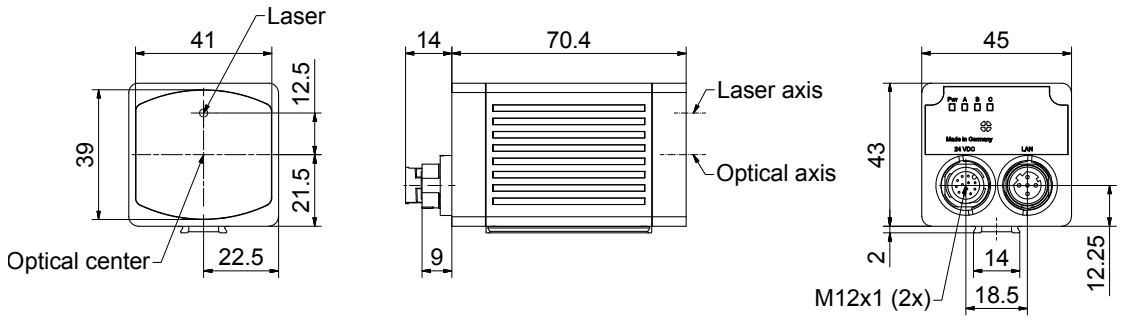
| Mechanical data | |
|---|---|
| Dimensions | 70.4 x 45 x 45 mm (without plug) |
| Enclosure rating | IP 67 & IP 65 |
| Material, housing | Aluminium, die-cast, RoHS compliant |
| Material, front screen | Plastic |
| Ambient temperature: operation | 0 … +50 °C[4] |
| Ambient temperature: storage | -20 … +60 °C[4] |
| Weight | Approx. 200 g |
| Plug connections | Supply and I/O M12, 12-pin, Ethernet M12, 4-pin |
| Vibration resistance | EN 60068-2-6 |
| Shock resistance | EN 60068-2-27 |

[1] Not color hardware [2] Color hardware [3] Max. ripple < 5 $V_{SS}$ [4] 80 % air humidity, noncondensing

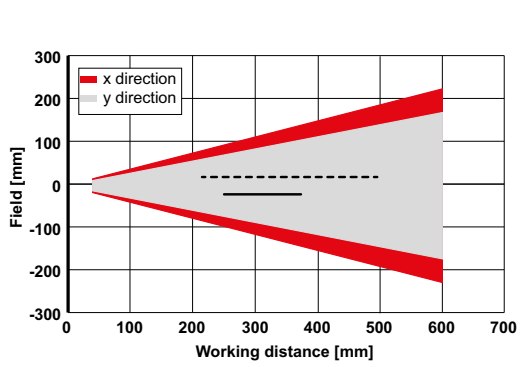


Version: 07/2021. Subject to changes; diagrams similar

## VISOR® vision sensor




## Field of view V50, wide




Increased depth of field

Normal depth of field

| Illumination | Part number | Article number | Accessories | |
|---|---|---|---|---|
| White | V50-OB-A3-W-W-M2-L | 635-91010 | Connection cables | www.sensopart.com/en/accessories |
| Red | V50-OB-A3-R-W-M2-L | 635-91012 | Illumination | |
| Infrared | V50-OB-A3-I-W-M2-L | 635-91014 | Brackets | |
| White | V50C-OB-A3-W-W-M2-L | 635-91017 | Interface accessories | |
| White | V50-OB-A3-W-WD-M2-L | 635-91066 | | |
| Red | V50-OB-A3-R-WD-M2-L | 635-91067 | | |
| Infrared | V50-OB-A3-I-WD-M2-L | 635-91068 | | |