SENSOPART

VISOR® V50

Clearly better

Leaves
the others
in the dark

Visionary optics where you need it most.
With integrated illumination and a resolution
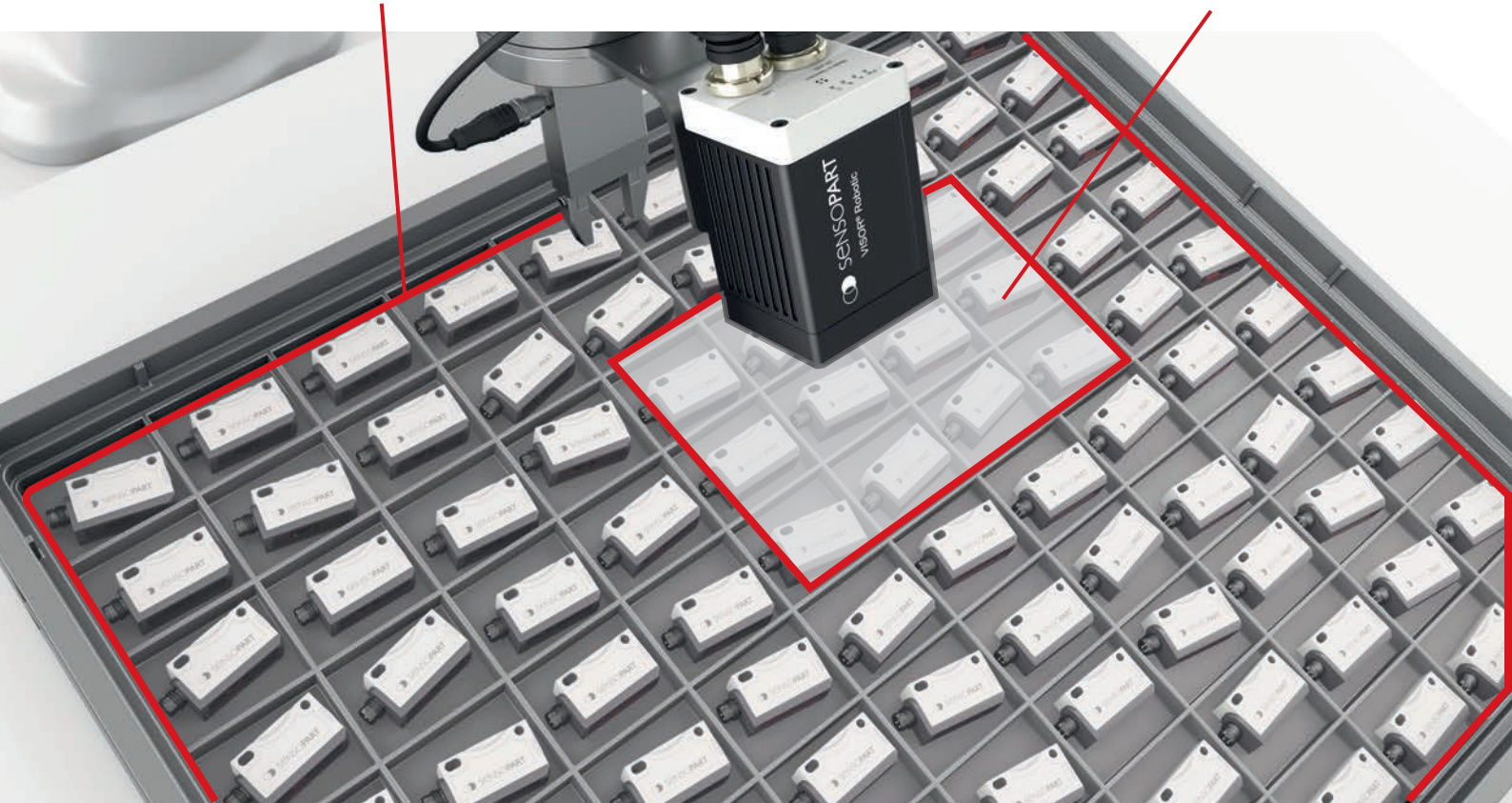ten times that of standard vision sensors.

sensopart.com/contact

VISOR® V50

Detects everything at one glance

*The **VISOR® V50** captures more objects with higher detail in a single image compared to standard vision sensors.*

■■■ made in Germany

SensoPart presents a new addition to its established vision sensor family: The new **5 megapixel VISOR® V50** offers an image resolution that is ten times greater than that of standard vision sensors.

These new sensors achieve an image quality that was previously only available with expensive, complex vision systems; the potential applications of the user-friendly vision sensors have therefore been considerably expanded.

The field of view or operating distance can be flexibly adapted to the most diverse requirements by selecting a suitable **C-mount lens**. For example, switch from long-range code reading to inspecting an entire instrument panel just by swapping the lens.

All-new integrated lens and lighting versions of the V50 allow automatic focus and brightness adjustments. Changing working distances and image settings can be done instantly with a click of a button.

HIGHLIGHTS OF VISOR® V50

- Resolution of 2560 × 1936 pixels (5 megapixels)
- Monochrome or color version
- NEW all-in-one light + lens versions
- Automatic focus and brightness
- Precise detection of smallest details
- Reduced installation costs with large fields of view by requiring fewer cameras

Version: 12/2021. Subject to changes; diagrams similar

# High performance in a compact design

With a resolution of 5 megapixels, the **VISOR® V50** is unique on the market. Thanks to global shutter technology, the **VISOR® V50** supplies even better results in certain applications – for example, when reading moving bar codes.

Low resolution (monochrome variant):
When recording with low resolution, contours remain partially blurred.

High resolution (monochrome variant):
When recording with high resolution, contours appear clearly, recognition of even small details becomes possible.
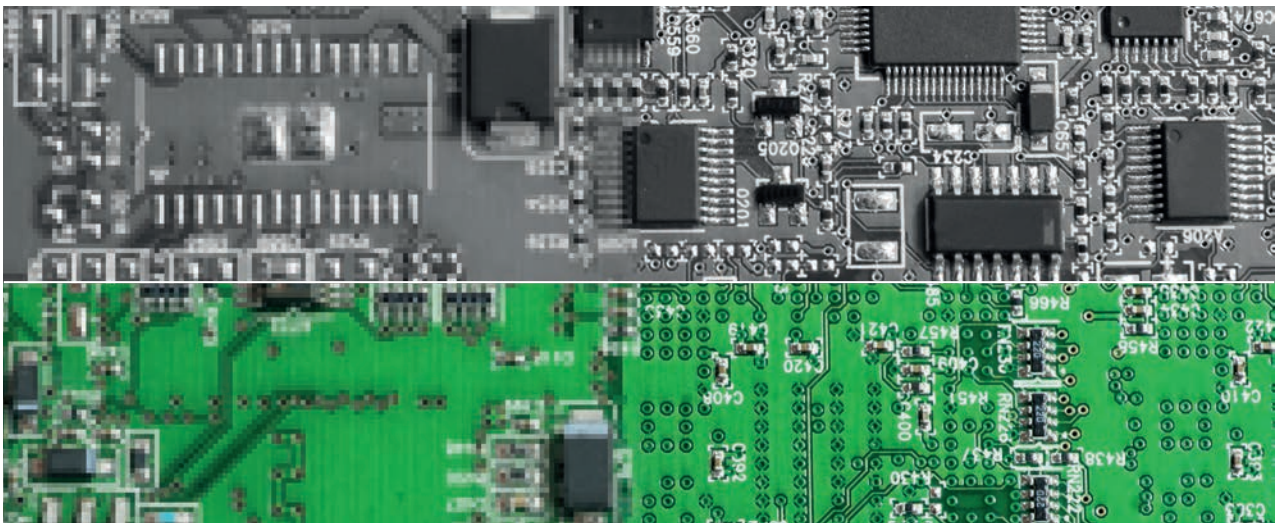
Low resolution (color variant):
Through additionally captured color information, further features can be recognised and distinguished.
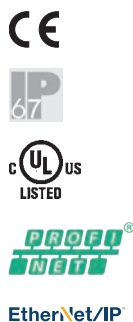
High resolution (color variant):
The highest evaluation accuracy is achieved by combining high resolution and color variant.

VISOR® V50 – Product overview		
Sensor type / Product variant	Focus applications	Field of view
V50 Allround Professional	Presence, completeness, measurement, position check, color, reading of bar codes, data codes, text, multishot	C-mount / Medium
V50 Object Advanced	Presence, completeness, measurement, position check, color	C-mount / Medium / Medium with increased depth of field
V50 Robotic Professional	Robotics, presence, completeness, measurement, positioning	C-mount / Medium
V50 Code Reader Advanced and Professional	Reading of bar codes, 2D codes, text	C-mount / Medium / Medium with increased depth of field
V50 Solar Advanced	Position detection and quality inspection of solar cells	C-mount

To product finder and other details:
https://www.sensopart.com/en/products

VISOR® V50

Versions: Allround, Object, Robotic, Code Reader and Solar

CE
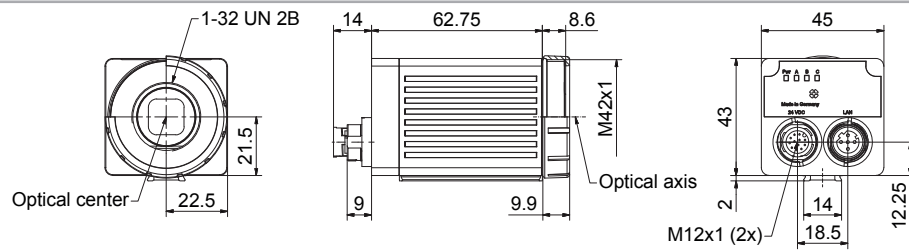IP 67
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PROFINET®
EtherNet/IP™

PRODUCT HIGHLIGHTS

- Resolution of 2560 × 1936 pixels (monochrome or color version)
- Precise detection of smallest details
- Reduced installation costs with large fields of view

Optical data	
Resolution	2560 × 1936 pixels
Imaging chip CMOS	1/1.8'', monochrome / color
Integrated lens, focal length [mm]	C-mount 9.6 mm (wide) 20 mm (medium)
Pixel size	2.8 µm × 2.8 µm
Focus	Motorized
Adjustment range	Depending on object (C-mount) 40 mm to infinity (wide) 100 mm to infinity (medium)
Integrated illumination	White (5000 K), red (635 nm)[1], infrared (850 nm)[1] LEDs
Minimum field of view, X × Y	32 × 24 mm
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1

Functions	
Number of jobs / detectors	max. 255 / max. 255
Detectors (dependent on product version)	Position tracking: X/Y and orientation; **Pattern matching, contour, 3D 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[1]:** output of color values; **Color area[1]:** area inspection of colors, with selectable tolerance; **Color list[1]:** finding the most similar colors; **Barcode:** reading 1D bar codes, EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, GS1, pharm code, codabar; **Datacode:** reading 2D codes: ECC200, QR code, GS1, PDF 417; **OCR:** reading of fonts; **Result processing: Text, Math:** checking and calculating with results from detectors

Electrical data	
Operating voltage, +U$_B$	18 … 30 V DC[2]
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	✓

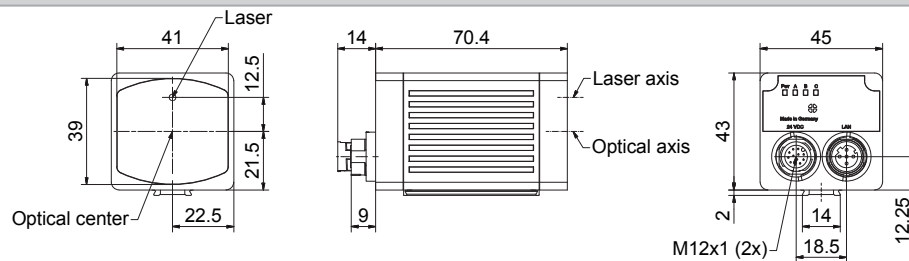| Mechanical data	
Dimensions	70.4 × 45 × 45 mm (without plug)
Enclosure rating	IP 67 & IP 65[3]
Material, housing	Aluminium, die-cast, RoHS compliant
Material, front screen	Plastic
Ambient temperature: operation	0 … +50 °C[4]
Ambient temperature: storage	-20 … +60 °C[4]
Weight	Approx. 200 g
Plug connections	Supply and I/O M12, 12-pin Ethernet M12, 4-pin
Vibration resistance	EN 60068-2-6
Impact resistance	EN 60068-2-27

[1] Color hardware   [2] Max. ripple < 5 V$_{SS}$ [3] C-mount only with protective casing   [4] 80 % air humidity, noncondensing
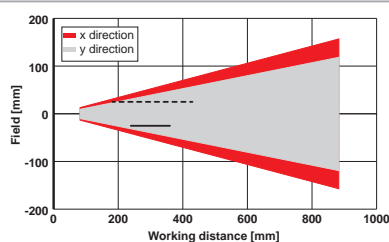
VISOR® vision sensor C-mount

1-32 UN 2B · 14 · 62.75 · 8.6 · 45 · M42x1 · Optical axis · 21.5 · 22.5 · Optical center · 9 · 9.9 · 43 · 2 · 14 · 18.5 · 12.25 · M12x1 (2x) · 153-13555

VISOR® vision sensor

Laser · 41 · 12.5 · 14 · 70.4 · 45 · Laser axis · Optical axis · 39 · 21.5 · 22.5 · Optical center · 9 · 43 · 2 · 14 · 18.5 · 12.25 · M12x1 (2x) · 153-13554

Part number	Article no
V50-ALL-P3-C-2	635-91006
V50C-ALL-P3-C-2	635-91009
V50-ALL-P3-W-M-M2-L	635-91001
V50-ALL-P3-W-W-M2L	635-91000
V50-ALL-P3-R-M-M2-L	635-91003
V50-ALL-P3-R-W-M2-L	635-91002
V50-ALL-P3-I-M-M2-L	635-91005
V50-ALL-P3-I-W-M12-L	635-91004
V50C-ALL-P3-W-M-M2-L	635-91008
V50C-ALL-P3-W-W-M2-L	635-91007
V50-OB-A3-C-2	635-91016
V50C-OB-A3-C-2	635-91019
V50-OB-A3-W-M-M2-L	635-91011
V50-OB-A3-W-W-M2-L	635-91010
V50-OB-A3-R-M-M2-L	635-91013
V50-OB-A3-R-W-M2-L	635-91012
V50-OB-A3-I-M-M2-L	635-91015
V50-OB-A3-I-W-M2-L	635-91014
V50C-OB-A3-W-M-M2-L	635-91018
V50C-OB-A3-W-W-M2-L	635-91017
V50-OB-A3-W-MD-M2-L	635-91051
V50-OB-A3-W-WD-M2-L	635-91066

Part number	Article no
V50-OB-A3-R-MD-M2-L	635-91052
V50-OB-A3-R-WD-M2-L	635-91067
V50-OB-A3-I-MD-M2-L	635-91053
V50-OB-A3-I-WD-M2-L	635-91068
V50-RO-P3-C-2	635-91040
V50C-RO-P3-C-2	635-91043
V50-RO-P3-W-M-M2-L	635-91035
V50-RO-P3-W-W-M2-L-	635-91034
V50-RO-P3-R-M-M2-L	635-91037
V50-RO-P3-R-W-M2-L	635-91036
V50-RO-P3-I-M-M2-L-	635-91039
V50-RO-P3-I-W-M2-L	635-91038
V50C-RO-P3-W-M-M2-L	635-91042
V50C-RO-P3-W-W-M2-L	635-91041
V50-CR-A3-C-2	635-91033
V50-CR-A3-W-M-M2-L	635-91028
V50-CR-A3-W-W-M2-L	635-91027
V50-CR-A3-R-M-M2-L	635-91030
V50-CR-A3-R-W-M2-L	635-91029
V50-CR-A3-I-M-M2-L	635-91032
V50-CR-A3-I-W-M2-L	635-91031

Part number	Article no
V50-CR-A3-W-MD-M2-L	635-91048
V50-CR-A3-W-WD-M2-L	635-91063
V50-CR-A3-R-MD-M2-L	635-91049
V50-CR-A3-R-WD-M2-L	635-91064
V50-CR-A3-I-MD-M2-L	635-91050
V50-CR-A3-I-WD-M2-L	635-91065
V50-SO-A3-C-2	635-91044
V50-CR-P3-C-2	635-91026
V50-CR-P3-W-M-M2-L	635-91021
V50-CR-P3-W-W-M2-L	635-91020
V50-CR-P3-R-M-M2-L	635-91023
V50-CR-P3-R-W-M2-L	635-91022
V50-CR-P3-I-M-M2-L	635-91025
V50-CR-P3-W-MD-M2-L	635-91045
V50-CR-P3-WD-W-M2-L	635-91060
V50-CR-P3-R-MD-M2-L	635-91045
V50-CR-P3-R-WD-M2-L	635-91061
V50-CR-P3-I-W-M2-L	635-91024
V50-CR-P3-I-MD-M2-L	635-91047
V50-CR-P3-I-WD-M2-L	635-91062

Field of view V50, medium

155-03559

Field of view V50, wide
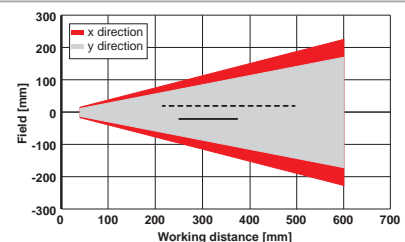
155-03626

- - - - - Increased depth of field

——— Normal depth of field

Accessories

Sold & Serviced By:
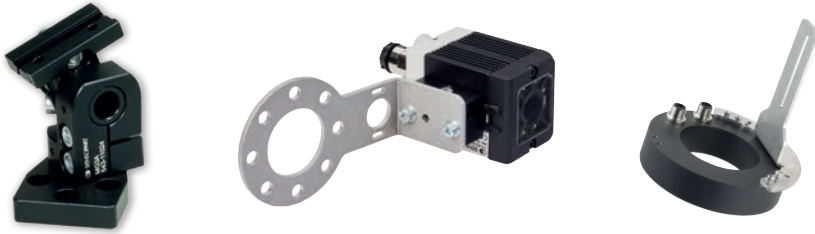
ELECTROMATE
Canadian and International Sales
877-737-8698
sales@electromate.com
www.electromate.com

SERVO2GO.com
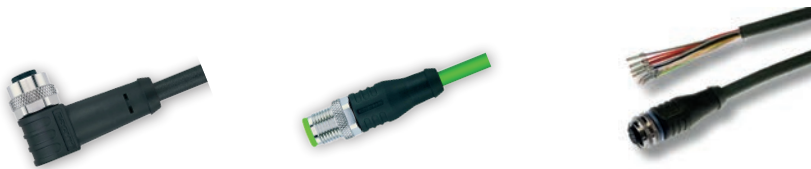U.S. Sales
877-378-0240
sales@servo2go.com
www.servo2go.com

Calibration: Calibration plates for VISOR® vision sensors
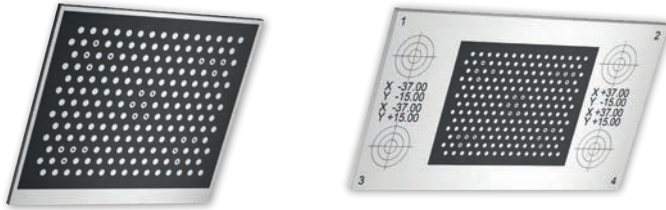
Scan code for more information

Cables: Power supply cables, Ethernet cables, data cables, cables for illumination. Different lengths, angled or straight

Scan code for more information

Type key

V 20 - ALL - P 3 - W - M D - M 2 - L

V = VISOR®

Hardware / resolution
V10: SVGA (800×600), QSVGA (400×300) mono
V10C: SVGA (800×600), QSVGA (400×300) color
V20: HDV2 (1440×1080), WGA (720×540) mono
V20C: HDV2 (1440×1080), WGA (720×540) color
V50: QSXGA (2560 × 1936), SXVGA (1280 × 968) mono
V50C: QSXGA (2560 × 1936), SXVGA (1280 × 968) color

Sensor type
ALL = Allround
OB = Object
CR = Code Reader
RO = Robotic
SO = Solar

Variant
S = Standard
A = Advanced
P = Professional

Version

Lighting
W = White LEDs
R = Red LEDs
I = Infrared LEDs

Laser

Connections (optional)
2 = Two connections (1 × I/O, 1 × Ethernet)

Focal point (optional)
M = Motorized focal point

Depth of focus
" " = Depth of field: Normal
D = Depth of field: Increased

Objective
C = C-Mount
W = Wide
M = Medium
N = Narrow

We are SensoPart

12/2021 069-00148