

# VISOR<sup>®</sup> 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.



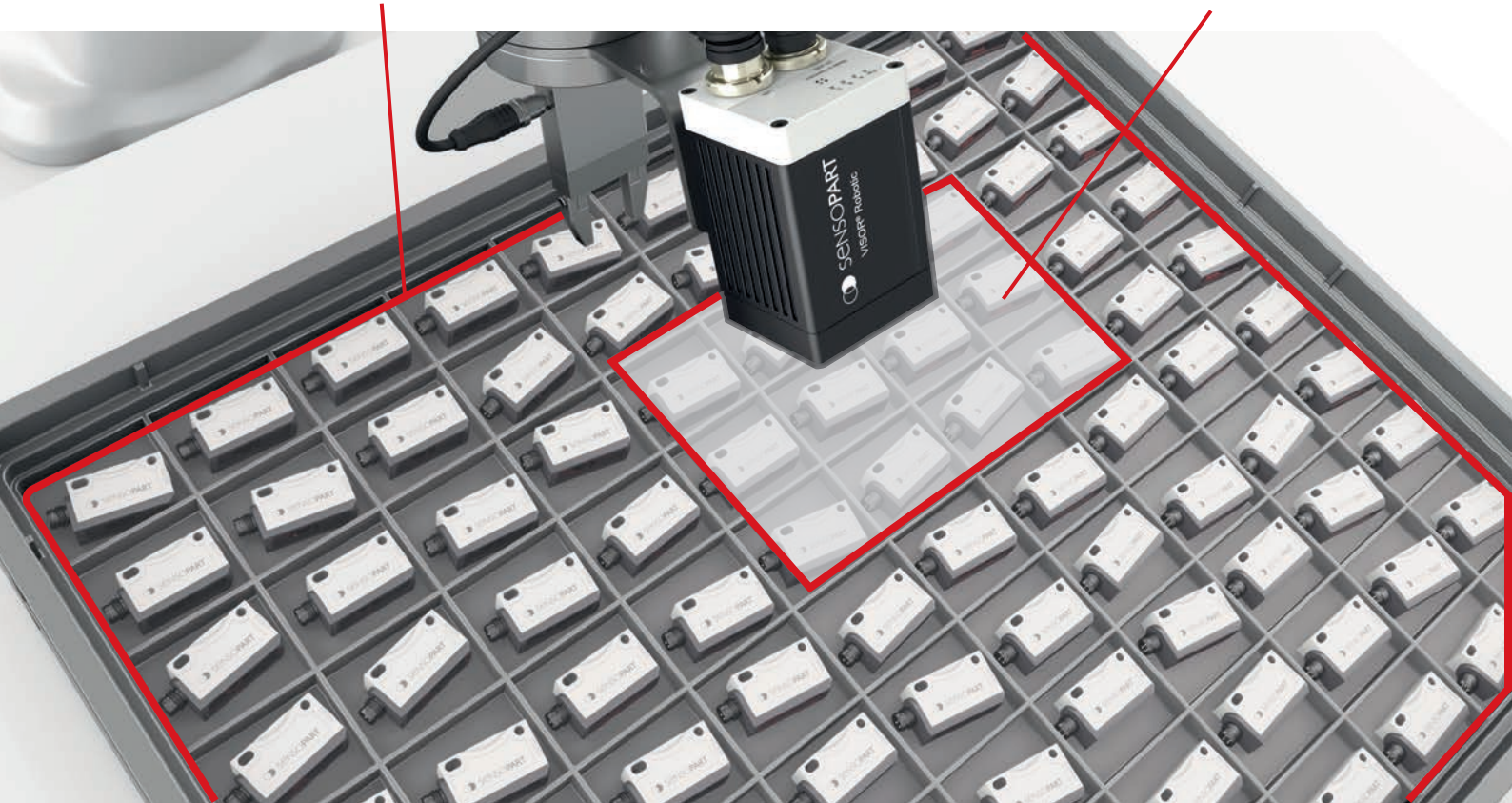


# VISOR® V50

Detects everything at one glance

Resolution V50: 2560 × 1936 pixels

Resolution typical vision sensor: 800 × 600 pixels



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



## High performance in a compact design

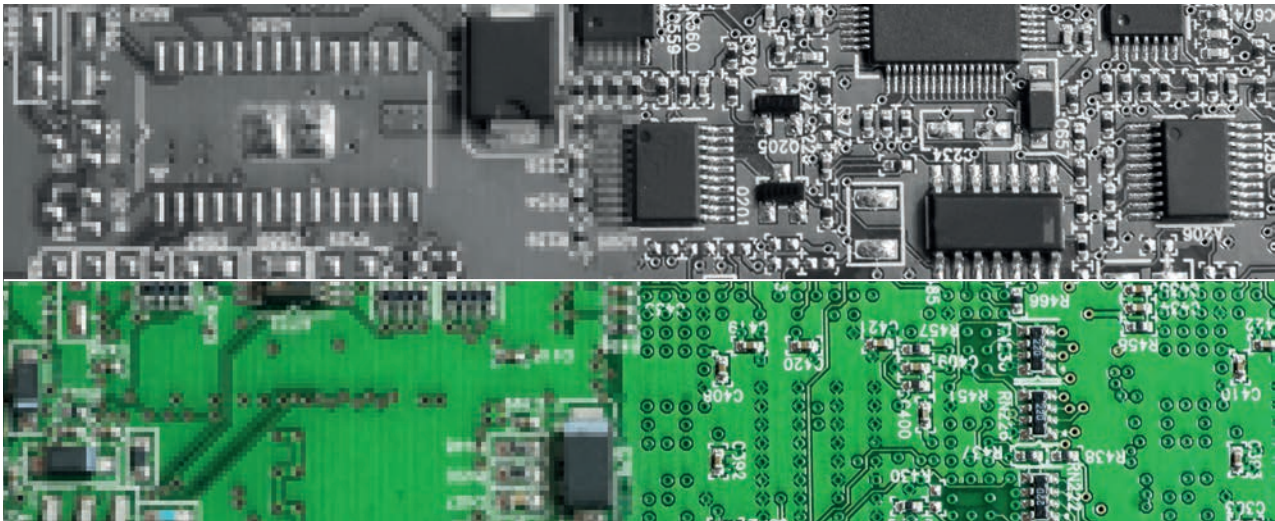
With a resolution of 5 megapixels, the **VISOR® V50** is unique on the market. Thanks to global shutter technology, the **VISOR® V50** supplies even better results in certain applications – for example, when reading moving bar codes.

### 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


# VISOR® V50

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



## PRODUCT HIGHLIGHTS

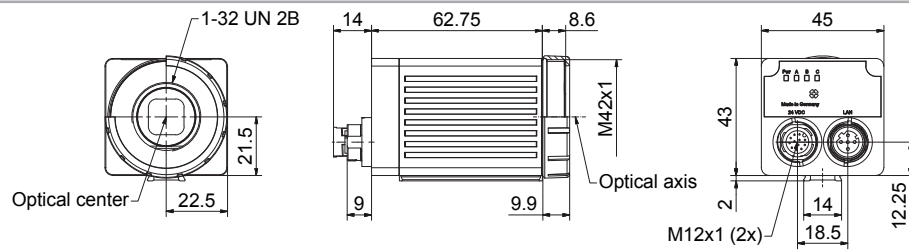
- Resolution of 2560 x 1936 pixels (monochrome or color version)
- Precise detection of smallest details
- Reduced installation costs with large fields of view

Optical data		Functions	
Resolution	2560 x 1936 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/1.8", monochrome / color	Detectors (dependent on product version)	Position tracking; X/Y and orientation; <b>Pattern matching, contour, 3D 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>Color value</b> <sup>1</sup> : output of color values; <b>Color area</b> <sup>1</sup> : area inspection of colors, with selectable tolerance; <b>Color list</b> <sup>1</sup> : finding the most similar colors; <b>Barcode</b> : 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; <b>Datacode</b> : reading 2D codes: ECC200, QR code, GS1, PDF 417; <b>OCR</b> : reading of fonts; <b>Result processing: Text, Math</b> : checking and calculating with results from detectors
Integrated lens, focal length [mm]	C-mount 9.6 mm (wide) 20 mm (medium)		
Pixel size	2.8 µm x 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) <sup>1</sup> , infrared (850 nm) <sup>1</sup> LEDs		
Minimum field of view, X x Y	32 x 24 mm		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30V DC <sup>2</sup>	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65 <sup>3</sup>
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	Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port	Vibration resistance	EN 60068-2-6
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs	Impact resistance	EN 60068-2-27
Encoder	✓		

<sup>1</sup> Color hardware    <sup>2</sup> Max. ripple < 5V<sub>SS</sub>    <sup>3</sup> C-mount only with protective casing    <sup>4</sup> 80 % air humidity, noncondensing

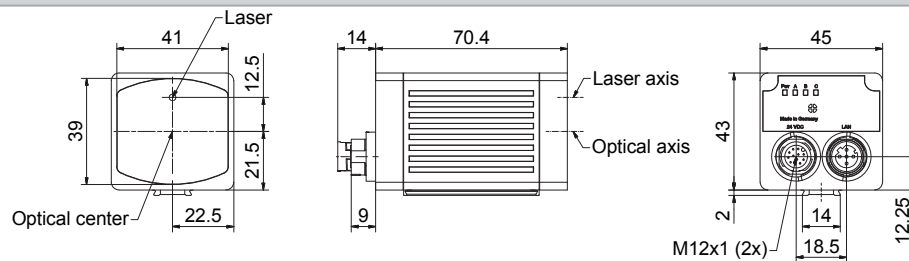


VISOR® vision sensor C-mount



153-13555

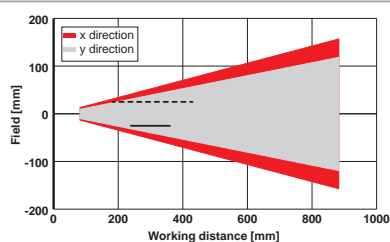
VISOR® vision sensor



153-13554

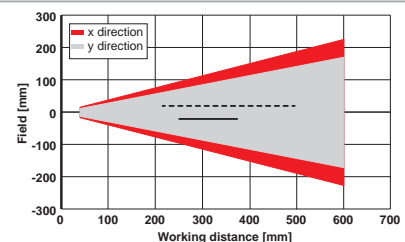
Part number	Article no	Part number	Article no	Part number	Article no
V50-ALL-P3-C-2	635-91006	V50-OB-A3-R-MD-M2-L	635-91052	V50-CR-A3-W-MD-M2-L	635-91048
V50C-ALL-P3-C-2	635-91009	V50-OB-A3-R-WD-M2-L	635-91067	V50-CR-A3-W-WD-M2-L	635-91063
V50-ALL-P3-W-M-M2-L	635-91001	V50-OB-A3-I-MD-M2-L	635-91053	V50-CR-A3-R-MD-M2-L	635-91049
V50-ALL-P3-W-W-M2-L	635-91000	V50-OB-A3-I-WD-M2-L	635-91068	V50-CR-A3-R-WD-M2-L	635-91064
V50-ALL-P3-R-M-M2-L	635-91003			V50-CR-A3-I-MD-M2-L	635-91050
V50-ALL-P3-R-W-M2-L	635-91002	V50-RO-P3-C-2	635-91040	V50-CR-A3-I-WD-M2-L	635-91065
V50-ALL-P3-I-M-M2-L	635-91005	V50C-RO-P3-C-2	635-91043	V50-SO-A3-C-2	635-91044
V50-ALL-P3-I-W-M12-L	635-91004	V50-RO-P3-W-M-M2-L	635-91035		
V50C-ALL-P3-W-M-M2-L	635-91008	V50-RO-P3-W-W-M2-L	635-91034	V50-CR-P3-C-2	635-91026
V50C-ALL-P3-W-W-M2-L	635-91007	V50-RO-P3-R-M-M2-L	635-91037	V50-CR-P3-W-M-M2-L	635-91021
		V50-RO-P3-R-W-M2-L	635-91036	V50-CR-P3-W-W-M2-L	635-91020
V50-OB-A3-C-2	635-91016			V50-CR-P3-R-M-M2-L	635-91023
V50C-OB-A3-C-2	635-91019	V50-RO-P3-I-M-M2-L	635-91039	V50-CR-P3-R-W-M2-L	635-91022
V50-OB-A3-W-M-M2-L	635-91011	V50-RO-P3-I-W-M2-L	635-91038	V50-CR-P3-R-M-M2-L	635-91025
V50-OB-A3-W-W-M2-L	635-91010			V50-CR-P3-I-M-M2-L	635-91025
V50-OB-A3-R-M-M2-L	635-91013	V50C-RO-P3-W-M-M2-L	635-91042	V50-CR-P3-W-MD-M2-L	635-91045
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V50-OB-A3-I-M-M2-L	635-91015			V50-CR-P3-R-MD-M2-L	635-91045
V50-OB-A3-I-W-M2-L	635-91014	V50-CR-A3-C-2	635-91033	V50-CR-P3-R-WD-M2-L	635-91061
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V50C-OB-A3-W-W-M2-L	635-91017	V50-CR-A3-W-W-M2-L	635-91027	V50-CR-P3-I-MD-M2-L	635-91047
V50-OB-A3-W-MD-M2-L	635-91051	V50-CR-A3-R-M-M2-L	635-91030	V50-CR-P3-I-WD-M2-L	635-91062
V50-OB-A3-W-WD-M2-L	635-91066	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		

Field of view V50, medium



155-03559

Field of view V50, wide

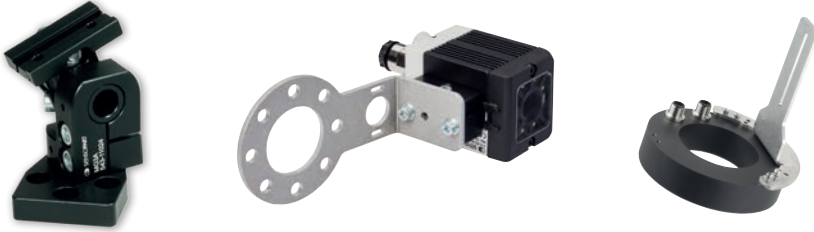


155-03626

----- Increased depth of field  
 \_\_\_\_\_ Normal depth of field

# Accessories

**Mounting:** Brackets and mounting angles for VISOR® and illumination accessories



Scan code for more information

**Optical accessories:** Lenses, intermediate rings for c-mount, filters, protective casing and polarizer glasses



Scan code for more information

**Illumination:** Surface lights, ring lights, spot lights, light strips, coaxial lights, DOM, laser line, Multishot



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Sold & Serviced By:



Canadian and International Sales

**ELECTROMATE**

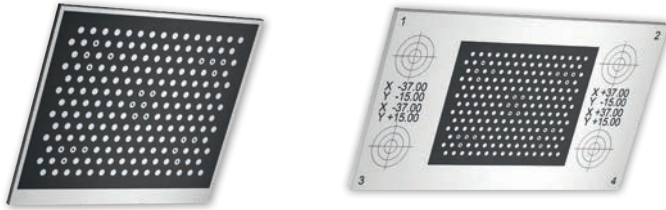
877-737-8698  
sales@electromate.com  
www.electromate.com

U.S. Sales

**SERVO2GO.com**

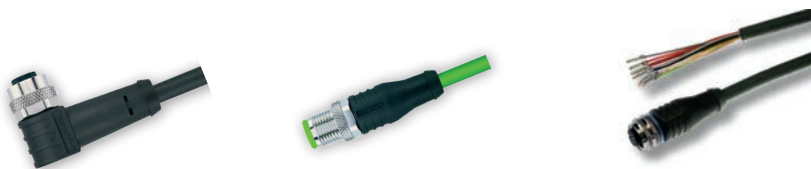
877-378-0240  
sales@servo2go.com  
www.servo2go.com

**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**

<p><b>V = VISOR®</b></p> <p><b>Hardware / resolution</b>  V10: SVGA (800x600), QSVGA (400x300) mono  V10C: SVGA (800x600), QSVGA (400x300) color  V20: HDV2 (1440x1080), WGA (720x540) mono  V20C: HDV2 (1440x1080), WGA (720x540) color  V50: QSXGA (2560 x 1936), SXVGA (1280 x 968) mono  V50C: QSXGA (2560 x 1936), SXVGA (1280 x 968) color</p> <p><b>Sensor type</b>  ALL = Allround  OB = Object  CR = Code Reader  RO = Robotic  SO = Solar</p> <p><b>Variant</b>  S = Standard  A = Advanced  P = Professional</p> <p><b>Version</b></p> <p><b>Lighting</b>  W = White LEDs  R = Red LEDs  I = Infrared LEDs</p>	<p><b>Laser</b></p> <p><b>Connections (optional)</b>  2 = Two connections (1 x I/O, 1 x Ethernet)</p> <p><b>Focal point (optional)</b>  M = Motorized focal point</p> <p><b>Depth of focus</b>  " " = Depth of field: Normal  D = Depth of field: Increased</p> <p><b>Objective</b>  C = C-Mount  W = Wide  M = Medium  N = Narrow</p>
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We are SensoPart



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