

## Vision sensor with 5 megapixels for more details

VISOR® V50

**NEW**  
Available with  
C-mount lens or  
integrated lens and  
illumination

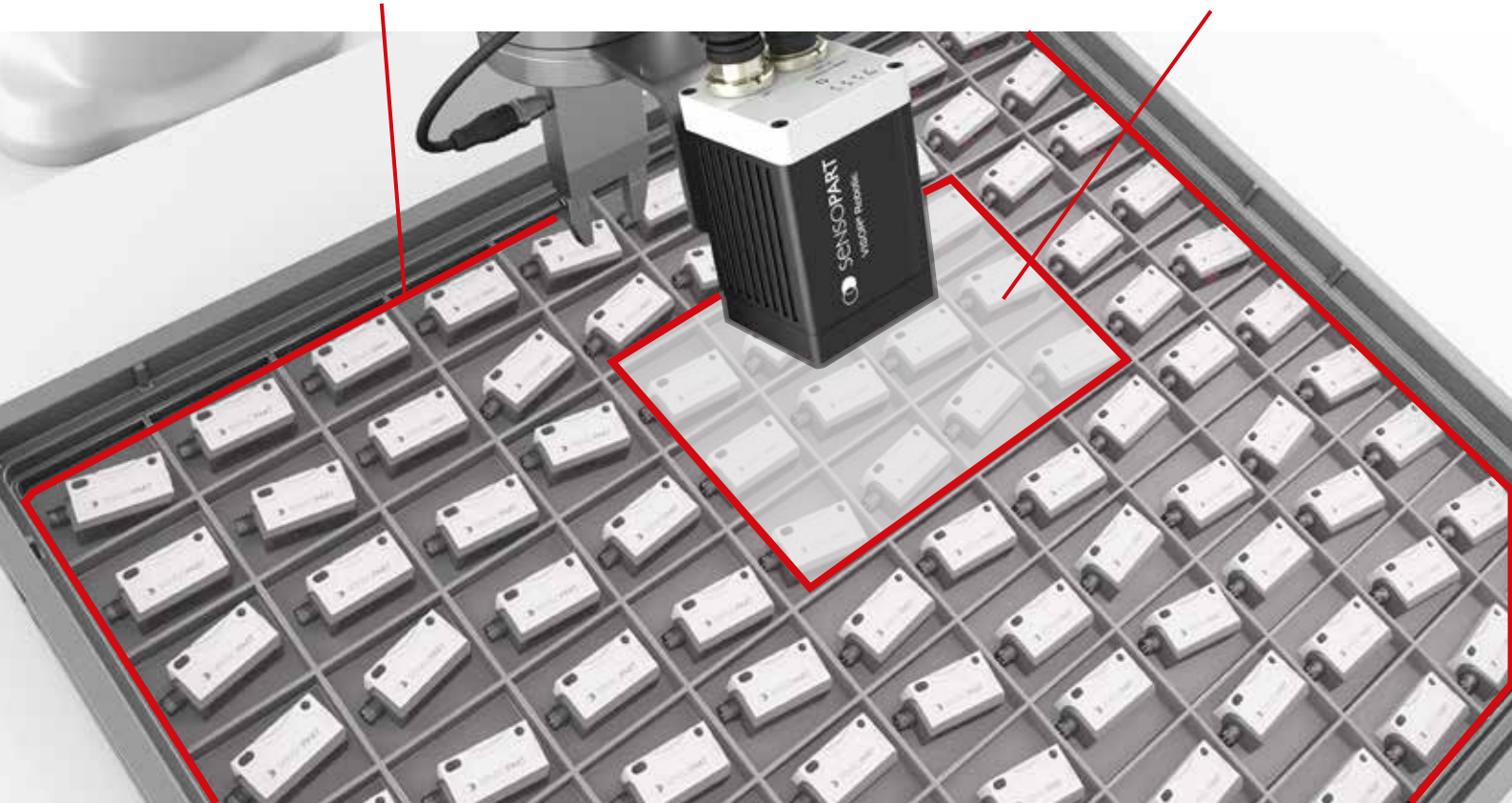


# VISOR® V50


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 three 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

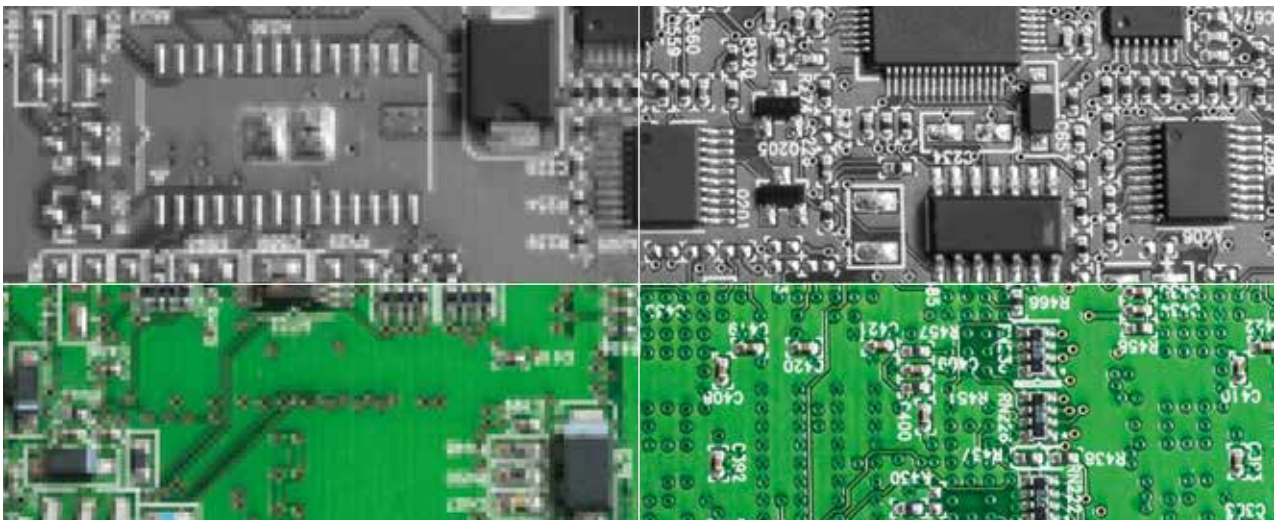
With a resolution of 5 megapixels, the **VISOR® V50** is unique on the market. Thanks to global shutter technology, the **VISOR® V50** supplies even better results in certain applications – for example, when reading moving bar codes.

### 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.*



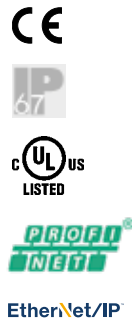
### Low resolution (color variant):

*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



## PRODUCT HIGHLIGHTS

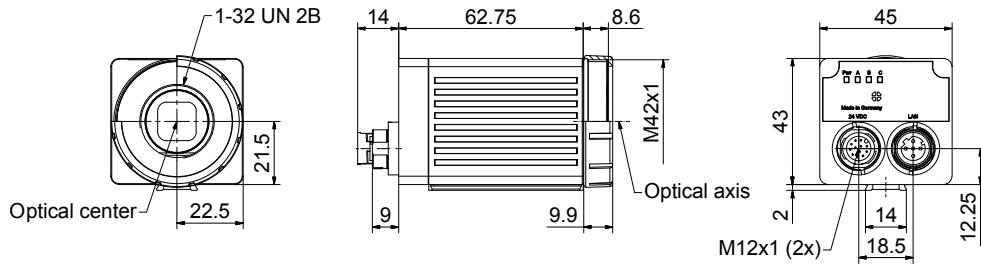
- Resolution of 2560 x 1936 pixels (monochrome or color version)
- Precise detection of smallest details
- Reduced installation costs with large fields of view

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<sup>1</sup>:</b> output of color values; <b>Color area<sup>1</sup>:</b> area inspection of colors, with selectable tolerance; <b>Color list<sup>1</sup>:</b> 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 / 20 mm (medium)		
Pixel size	2.8 µm x 2.8 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 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	Vibrationsfestigkeit	EN 60068-2-6
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs	Schockfestigkeit	EN 60068-2-27
Encoder	✓		

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

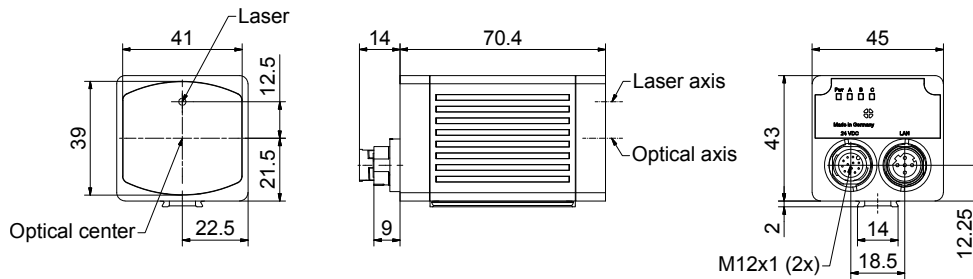


### VISOR® vision sensor C-Mount



153-13555

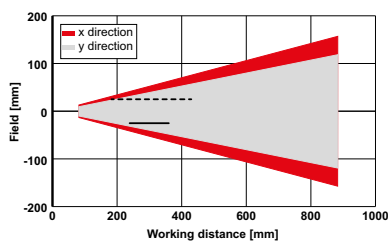
### VISOR® vision sensor



153-13554

Part number	Article no	Part number	Article no	Part number	Article no
V50-ALL-P3-C-2	635-91006	V50-RO-P3-C-2	635-91040	V50-CR-P3-C-2	635-91026
V50C-ALL-P3-C-2	635-91009	V50C-RO-P3-C-2	635-91043	V50-CR-P3-W-M-M2-L	635-91021
V50-ALL-P3-W-M-M2-L	635-91001	V50-RO-P3-W-M-M2-L	635-91035	V50-CR-P3-R-M-M2-L	635-91023
V50-ALL-P3-R-M-M2-L	635-91003	V50-RO-P3-R-M-M2-L	635-91037	V50-CR-P3-I-M-M2-L	635-91025
V50-ALL-P3-I-M-M2-L	635-91005	V50-RO-P3-I-M-M2-L	635-91039	V50-CR-P3-W-MD-M2-L	635-91045
V50C-ALL-P3-W-M-M2-L	635-91008	V50C-RO-P3-W-M-M2-L	635-91042	V50-CR-P3-R-MD-M2-L	635-91046
				V50-CR-P3-I-MD-M2-L	635-91047
V50x-OB-A3-C-2	635-91016	V50-CR-A3-C-2	635-91033		
V50C-OB-A3-C-2	635-91019	V50-CR-A3-W-M-M2-L	635-91028	V50-SO-A3-C-2	635-91044
V50-OB-A3-W-M-M2-L	635-91011	V50-CR-A3-R-M-M2-L	635-91030		
V50-OB-A3-R-M-M2-L	635-91013	V50-CR-A3-I-M-M2-L	635-91032		
V50-OB-A3-I-M-M2-L	635-91015	V50-CR-A3-W-MD-M2-L	635-91048		
V50C-OB-A3-W-M-M2-L	635-91018	V50-CR-A3-R-MD-M2-L	635-91049		
V50-OB-A3-W-MD-M2-L	635-91051	V50-CR-A3-I-MD-M2-L	635-91050		
V50-OB-A3-R-MD-M2-L	635-91052				
V50-OB-A3-I-MD-M2-L	635-91053				

### Field of view V50, medium



155-03559

- Increased depth of field
- Normal depth of field

# Accessories

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



Click this code for more information

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



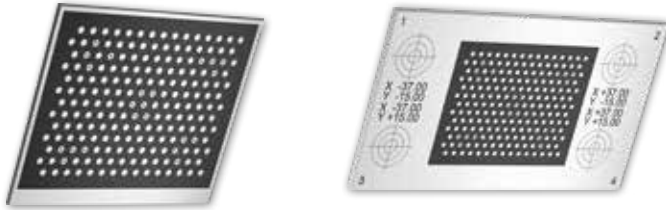
Click this code for more information

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



Click this code for more information

**Calibration:** Calibration plates for VISOR® vision sensors



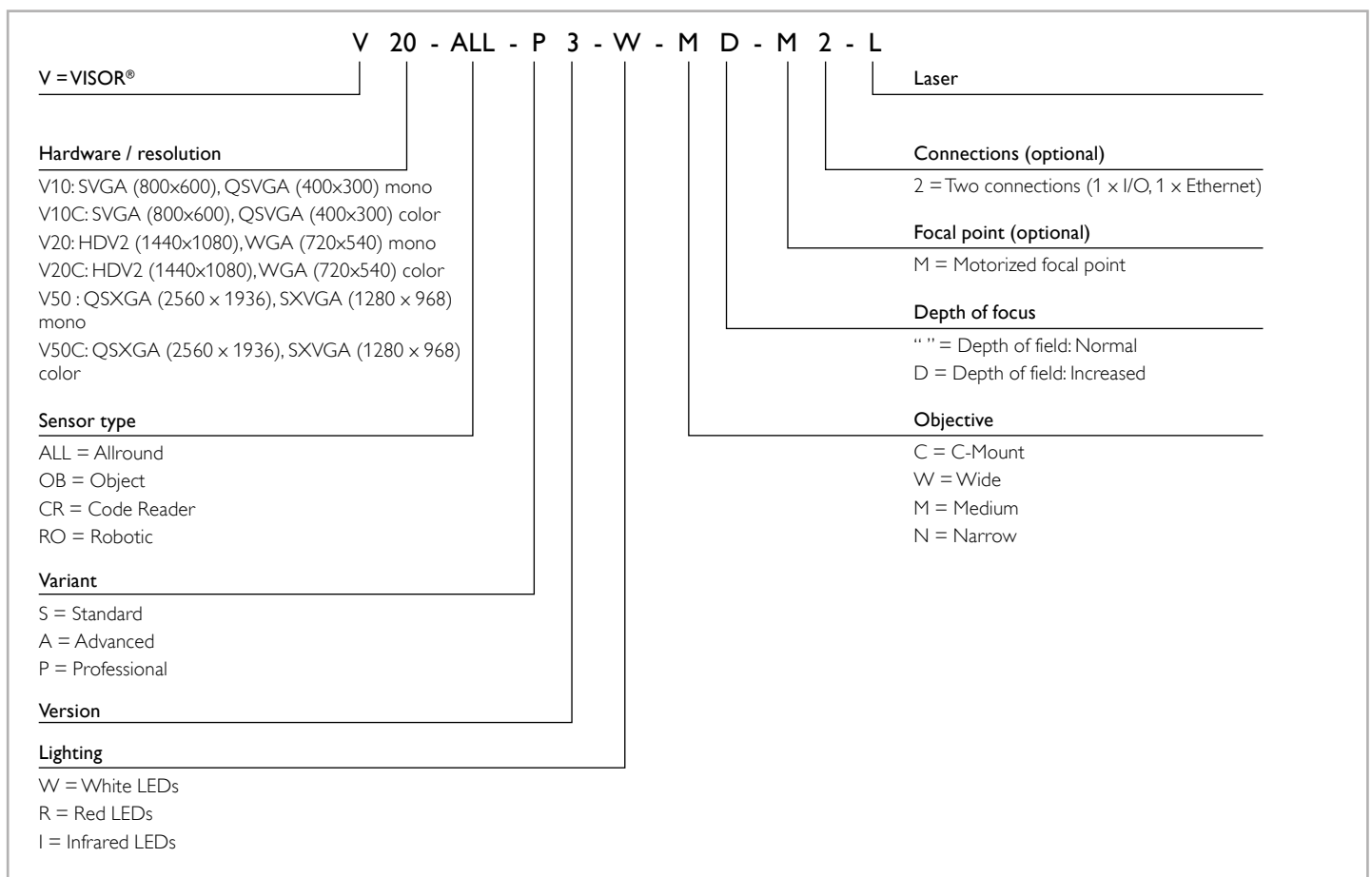
Click this code for more information

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



Click this code for more information

## Type key



**SensoPart** is one of the leading manufacturers of photoelectric sensors and image processing vision sensors for factory automation. We also offer inductive and ultrasonic sensors, thereby covering a wide spectrum of industrial automation tasks. Our products are used in countless applications and sectors today – from automotive construction and mechanical engineering to electronics manufacturing and the solar industry, as well as the food sector and pharmaceutical industry.



## SensoPart worldwide

### Germany

SensoPart  
Industriesensorik GmbH  
Nägelseestraße 16  
79288 Gottenheim  
Tel. +49 7665 94769-0  
info@sensopart.de

### France

SensoPart France Sarl  
662, rue des Jonchères – Bât. A  
F-69730 GENAY  
Tel. +33 164 730061  
info@sensopart.fr

### United Kingdom

SensoPart UK Limited  
Pera Business Park, Nottingham Road  
Melton Mowbray, Leicestershire  
LE13 0PB  
Tel. +44 1664 561539  
info@sensopart.co.uk

### USA

SensoPart Inc.  
30600 Telegraph Rd.  
Suite 2345  
Bingham Farms, MI, 48025  
Tel. +1 866 2827610  
usa@sensopart.com

### China

SensoPart China  
202, No. 35, Lane 1555  
West Jinshajiang Road  
Jiading District  
201803 Shanghai  
Tel. +86 21 69017660  
china@sensopart.cn

Find your local supplier at: <https://www.sensopart.com/en/company/contact/>