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.

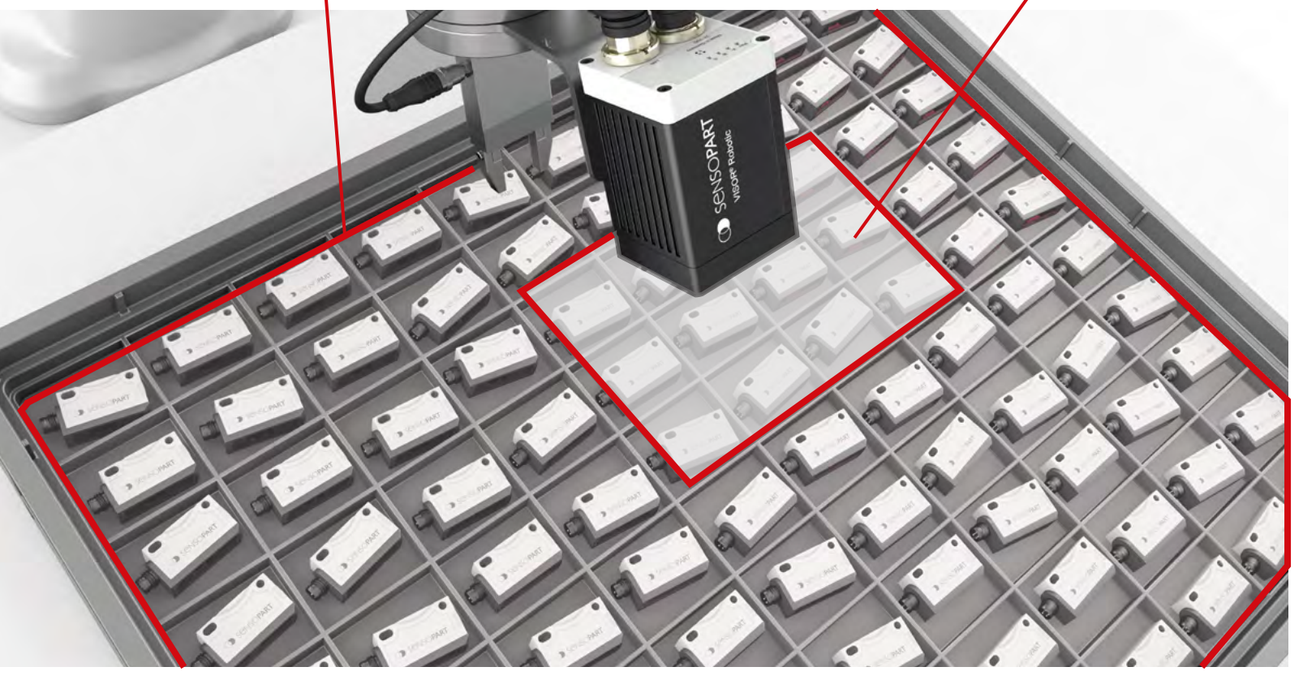
sensopart.com

VISOR® V50

Detects everything at one glance

Resolution V50: 2560 x 1936 pixels

Resolution typical vision sensor: 800 x 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 x 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

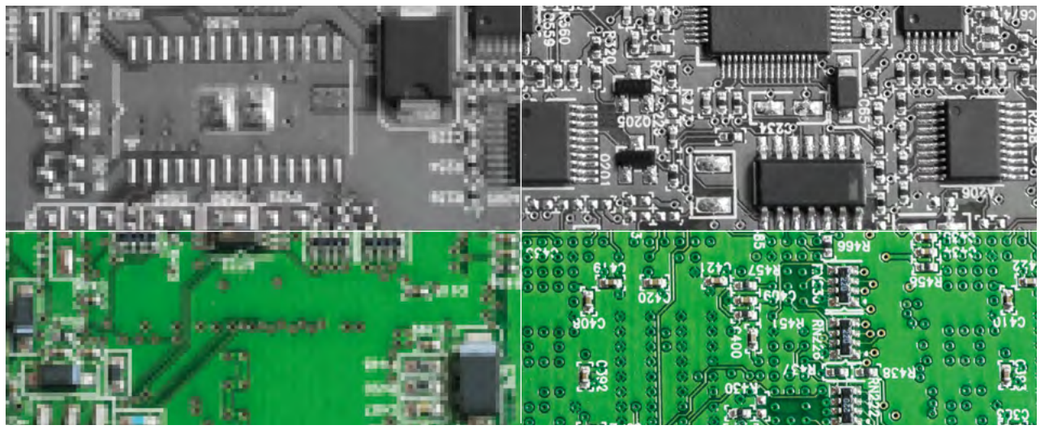
SENSOPART

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, measure-ment, 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

PRODUCT HIGHLIGHTS

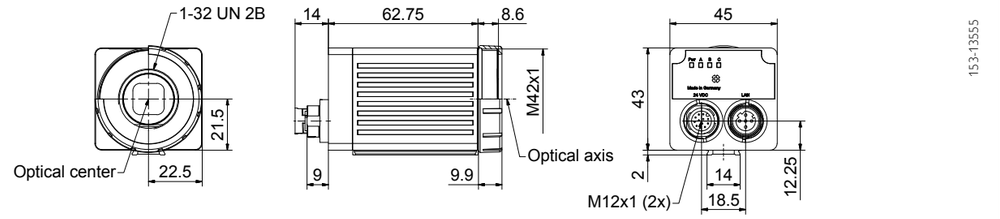
- Resolution of 2560 x 1936 pixels (monochrome or color version)
- Precise detection of smallest details
- Reduced installation costs with large fields of view

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; **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
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)[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		

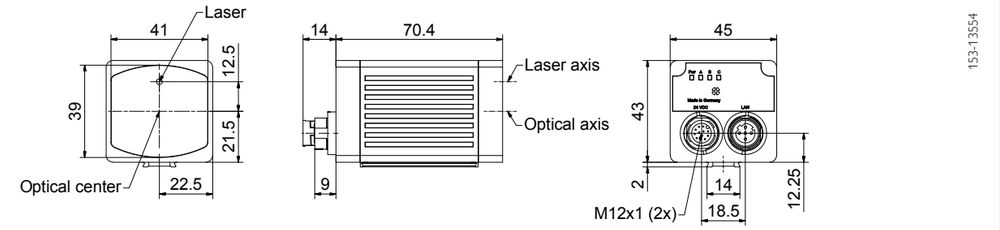
Electrical data		Mechanical data	
Operating voltage, $+U_B$	18 … 30 V DC[2]	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65[3]
Protective circuits	Reverse-polarity protection, U_B / short-circuit protection of all outputs	Material, 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[4]
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 … +60 °C[4]
Switching threshold inputs incl. encoder	PNP/NPN High > U_B-1 V / Low < 3 V	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	✓		

[1] Color hardware [2] max. ripple < 5 V_{SS} [3] only with protective casing [4] 80 % air humidity, noncondensing

VISOR® vision sensor C-Mount

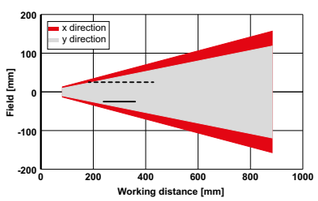


VISOR® vision sensor



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



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

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

Scan code for more information

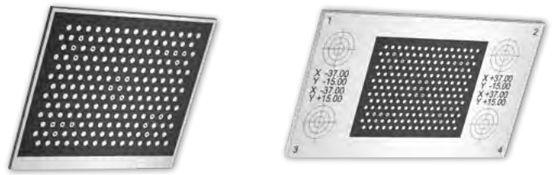
Optical accessories: Lenses, intermediate rings for c-mount, filters, protective casing and polarizer glasses

Scan code for more information

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

Scan code for more information

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 (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

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

Variant
- S = Standard
- A = Advanced
- P = Professional

Version

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

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

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

Focal point (optional)
- M = Motorized focal point

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

Laser

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08/2021 069-00148