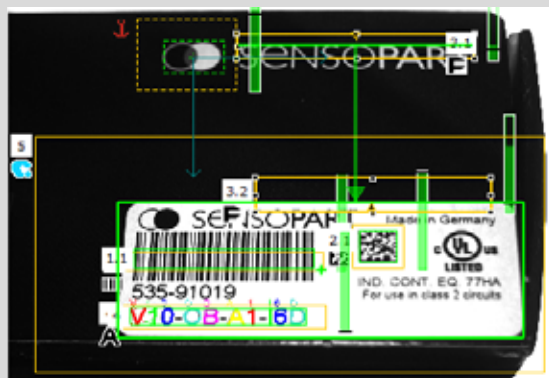
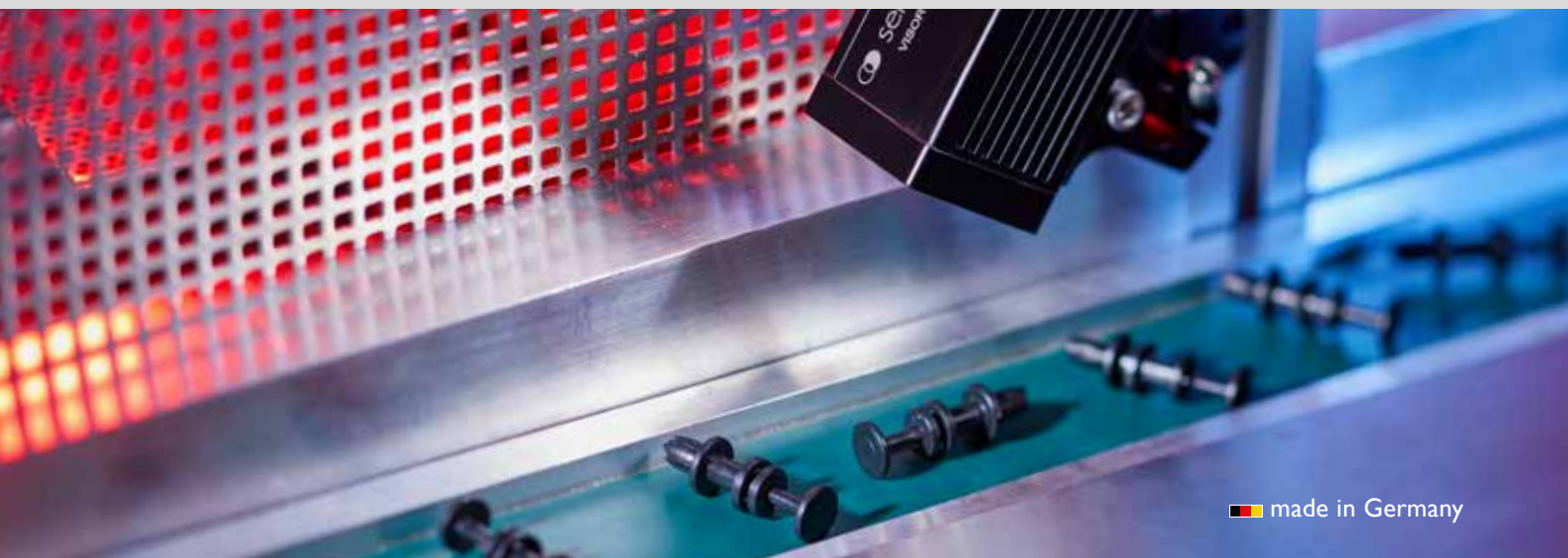


VISOR® Allround

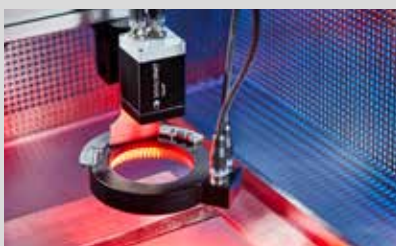
Advanced allround vision sensor for complex inspection tasks.



VISOR® Allround – Object detection in color plus identification united in one device.
The VISOR® Allround is the latest member in the VISOR family and a real multi-talent among vision sensors. In the new allround version, the device unites the functions of the object sensor (i.e. calibration, pattern matching, contour, calliper, BLOB) with the powerful tools of the code reader (bar code, datamatrix and optical character recognition).

HIGHLIGHTS OF VISOR® ALLROUND

- All evaluations ("Detectors") of VISOR® Object and VISOR® Code Reader united in one device
- Highly accurate evaluation via 5 megapixel chip
- Powerful color detection of version with color chip
- EtherNet/IP PROFINET (conformance class B), EtherNet (TCP/IP) supported
- Multishot function reveals minimal height differences and suppresses printed markings
- Calibration function for measurement tasks and robotics applications



VISOR® Multishot:
Raised or recessed object details – such as embossed digits and characters on a credit card – are difficult to detect with standard image processing methods. The solution comes in the shape of SensoPart's VISOR® vision sensor series with the new multishot function.

VISOR® Allround – Object detection in color plus identification united in one device.

The VISOR® Allround is the latest member in the VISOR® family and a real multi-talent among vision sensors. In the new allround version, the device unites the functions of the object sensor (i.a. calibration, pattern matching, contour, calliper, BLOB) with the powerful tools of the code reader (bar code, datamatrix and optical character recognition). When feeding parts in correct alignment or positioning components, additional data matrix codes for example can now also be read. With a resolution of up to 5 megapixel even the smallest details are reliably detected and evaluated.

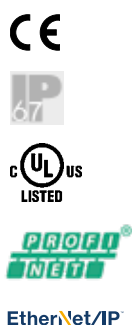
In addition to the monochrome version, the VISOR® Allround is also available as a color version with up to 5 megapixel. Thus additional “Detectors” are available for color evaluation. Even the subtlest nuances in shade can be reliably detected. The relevant object colors, for example, can be taught-in quite simply by push of a button or - thanks to the intuitive color histogram - set graphically for each channel in the color space. The authorised color tolerances can be defined by the user.

VISOR® Allround – Product Overview					
	Product variant	Resolution	Field of view	Integrated illumination	Page
V50x-ALL-P3-xxx	Professional	2560 x 1936 mono/color	Wide	White, red ¹ or infrared ¹ LEDs	35
V50x-ALL-P3-xxx			Medium	White, red ¹ or infrared ¹ LEDs	37
V50x-ALL-P3-C-2			C-mount	None	39
V20x-ALL-A3-xxx	Advanced	1440 x 1080 mono/color	Wide	White, red ¹ or infrared ¹ LEDs	41
V20x-ALL-A3-xxx			Medium	White, red ¹ or infrared ¹ LEDs	43
V20x-ALL-A3-xxx			Narrow	White, red ¹ or infrared ¹ LEDs	45
V20x-ALL-A3-C-2			C-mount	None	47
V20x-ALL-P3-xxx	Professional	1440 x 1080 mono/color	Wide	White, red ¹ or infrared ¹ LEDs	49
V20x-ALL-P3-xxx			Medium	White, red ¹ or infrared ¹ LEDs	51
V20x-ALL-P3-xxx			Narrow	White, red ¹ or infrared ¹ LEDs	53
V20x-ALL-P3-C-2			C-mount	None	55
V10x-ALL-A3-xxx	Advanced	800 x 600 mono/color	Wide	White, red ¹ or infrared ¹ LEDs	57
V10x-ALL-A3-xxx			Medium	White, red ¹ or infrared ¹ LEDs	59
V10x-ALL-A3-xxx			Narrow	White, red ¹ or infrared ¹ LEDs	61
V10x-ALL-A3-C-2			C-mount	None	63

¹ Only with monochrome version

VISOR® V50 Allround Professional, wide field of view

Combines VISOR® Object Color, Code Reader and Robotic



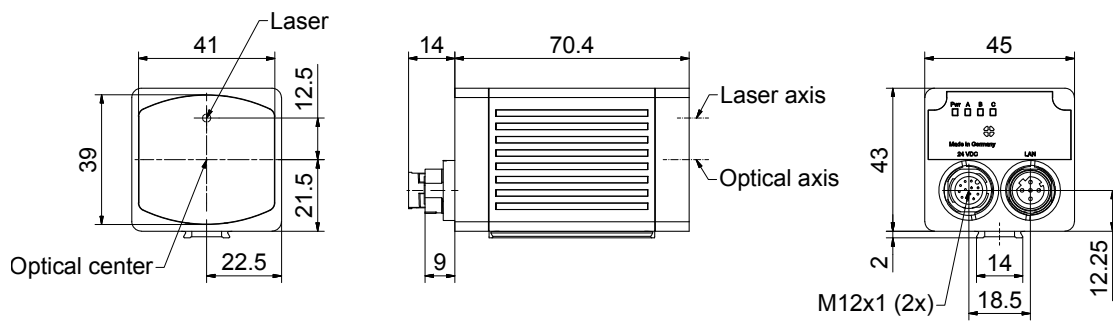
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 5 megapixel chip
- Real-world engineering units and robot coordinates at a mouse click
- Precise position determination: X/Y-position and orientation
- Detection of differences in height in the pseudo height image with multishot technology
- User-friendly configuration and viewer software with graded user rights and online help

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	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 value²: output of color values; Color field²: area inspection of colors, with selectable tolerance; Color list²: finding the most similar colors; Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
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)		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Weight	Approx. 200 g
Input resistance	High > U _B -1 V / Low < 3 V	Plug connections	Supply and I/O M12, 12-pin Ethernet M12, 4-pin
Interfaces	> 20 kΩ	Vibration resistance	EN 60068-2-6
Inputs/outputs	Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port	Shock resistance	EN 60068-2-27
Encoder	2 inputs, 2 outputs, 6 selectable inputs/outputs		
	✓		

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

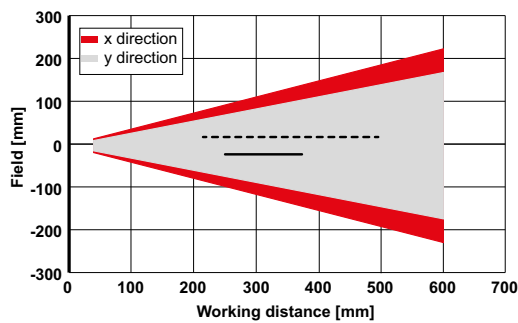
VISOR® vision sensor



153-13554

3

Field of view V50, wide



155-03626

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

Illumination, Multishot



155-02565

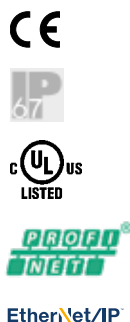
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V50-ALL-P3-W-W-M2-L	635-91000	Connection cables
Red	V50-ALL-P3-R-W-M2-L	635-91002	Illumination
Infrared	V50-ALL-P3-I-W-M2-L	635-91004	Brackets
White	V50C-ALL-P3-W-W-M2-L	635-91007	Interface accessories

www.sensopart.com/en/accessories

VISOR® V50 Allround Professional, medium field of view

Combines VISOR® Object Color, Code Reader and Robotic



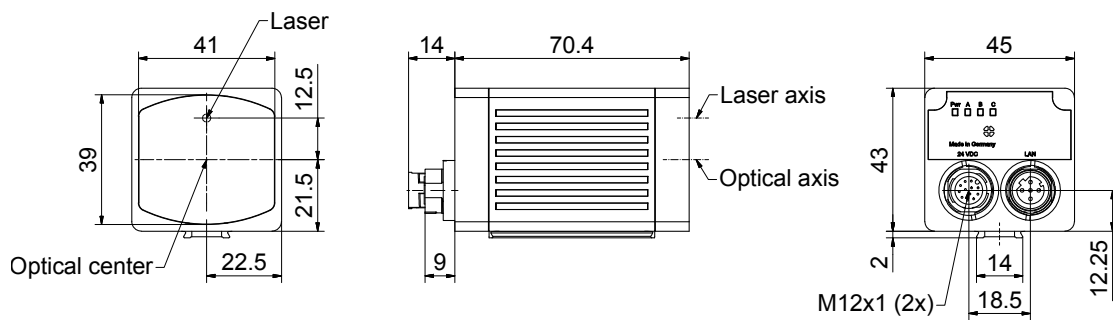
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 5 megapixel chip
- Real-world engineering units and robot coordinates at a mouse click
- Precise position determination: X/Y-position and orientation
- Detection of differences in height in the pseudo height image with multishot technology
- User-friendly configuration and viewer software with graded user rights and online help

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	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 value²: output of color values; Color field²: area inspection of colors, with selectable tolerance; Color list²: finding the most similar colors; Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	20 (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 DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Weight	Approx. 200 g
Input resistance	High > U _B -1 V / Low < 3 V	Plug connections	Supply and I/O M12, 12-pin Ethernet M12, 4-pin
Interfaces	> 20 kΩ	Vibration resistance	EN 60068-2-6
Inputs/outputs	Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port	Shock resistance	EN 60068-2-27
Encoder	2 inputs, 2 outputs, 6 selectable inputs/outputs		
	✓		

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

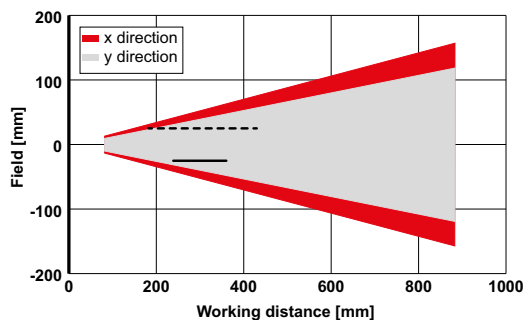
VISOR® vision sensor



153-13554

3

Field of view V50, medium



155-03559

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

Illumination, Multishot



155-02565

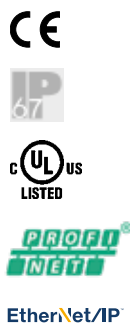
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V50-ALL-P3-W-M-M2-L	635-91001	Connection cables
Red	V50-ALL-P3-R-M-M2-L	635-91003	Illumination
Infrared	V50-ALL-P3-I-M-M2-L	635-91005	Brackets
White	V50C-ALL-P3-W-M-M2-L	635-91008	Interface accessories

www.sensopart.com/en/accessories

VISOR® V50 Allround Professional, C-mount

Combines VISOR® Object Color, Code Reader and Robotic



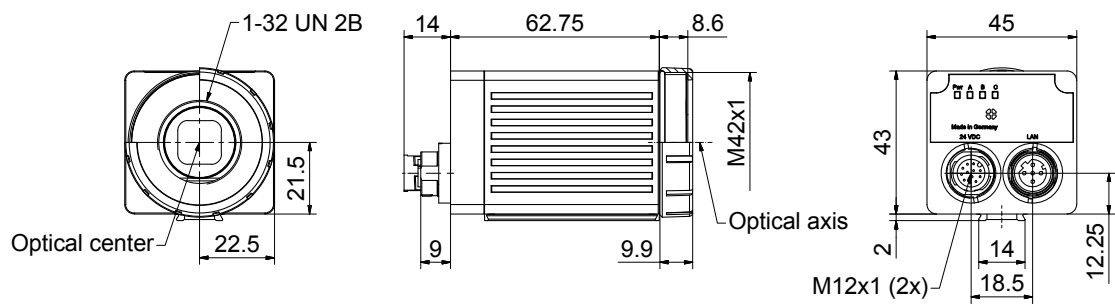
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 5 megapixel chip
- Real-world engineering units and robot coordinates at a mouse click
- Precise position determination: X/Y-position and orientation
- Detection of differences in height in the pseudo height image with multishot technology
- User-friendly configuration and viewer software with graded user rights and online help

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	Position tracking: X/Y and orientation;
Integrated lens, focal length [mm]	C-mount		Pattern matching, contour, 3D contour: teach-in and detection of patterns and contours;
Pixel size	2.8 µm x 2.8 µm		Calliper: distance between edges;
Focus	Manual		BLOB, grey threshold, brightness: evaluation of brightness;
Adjustment range	Dependent on lens		Contrast: evaluation of contrast;
Integrated illumination	None		Color value¹: output of color values;
Minimum field of view, X x Y	Dependent on lens		Color area¹: area inspection of colors, with selectable tolerance;
Target laser	No		Color list¹: finding the most similar colors;
			Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar;
			Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1;
			OCR: reading of fonts;
			Result processing: Text, Math: checking and calculating with results from detectors
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	Weight	Approx. 200 g
Input resistance	High > U _B -1 V / Low < 3 V	Plug connections	Supply and I/O M12, 12-pin
Interfaces	> 20 kΩ	Vibrationsfestigkeit Schockfestigkeit	Ethernet M12, 4-pin
Inputs/outputs	Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port		EN 60068-2-6
Encoder	2 inputs, 2 outputs, 6 selectable inputs/outputs		EN 60068-2-27
	✓		

¹ Color hardware ² Max. ripple < 5V_{SS} ³ Only with protective casing ⁴ 80 % air humidity, noncondensing

VISOR® vision sensor C-mount



153-13555

3

Lens	Illumination
	

155-02565

Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

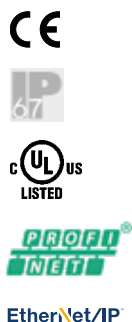
	LOC-08-HD-30.5x0.5	LOC-12-HD-27x0.5	LOC-16-HD-27x0.5	LOC-25-HD-27x0.5	LOC-35-HD-27x0.5	LOC-50-HD-27x0.5	LOC-75-HD-34x0.5
Focal length	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm	75 mm
Article number	526-51535	526-51536	526-51537	526-51538	526-51539	526-51540	526-51541

Part number	Article number	Accessories
V50-ALL-P3-C-2	635-91006	Connection cables
V50C-ALL-P3-C-2	635-91009	Illumination
		Lenses
		Brackets
		Interface accessories

www.sensopart.com/en/accessories

VISOR® V20 Allround Advanced, wide field of view

Combines VISOR® Object Color, Code Reader



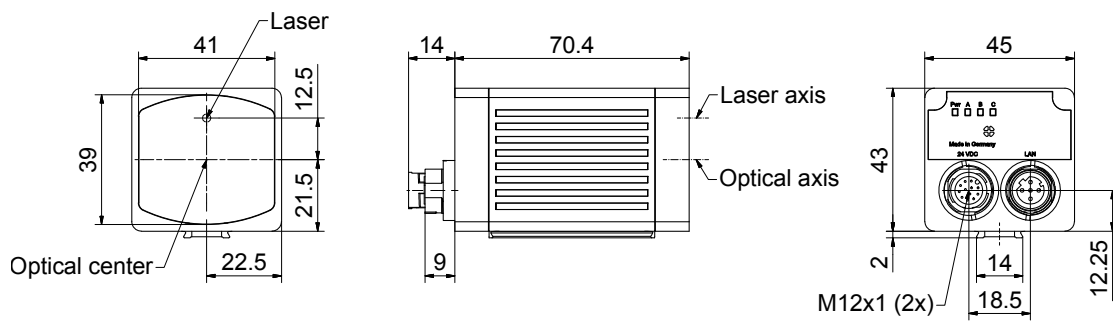
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 1.5 megapixel chip
- Real-world engineering units at a mouse click
- Precise determination of X/Y position, orientation and tracking
- Can be used for all common 2D codes (ECC 200-Datamatrix) and common 1D barcodes
- Detection of differences in height in the pseudo height image with multishot technology

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome / color	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 value²: output of color values; Color area²: area inspection of colors, with selectable tolerance; Color list²: finding the most similar colors Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	6.5 (wide)		
Pixel size	3.45 µm x 3.45 µm		
Focus	Motorized		
Adjustment range	10 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm) ¹ , infrared (850 nm) ¹ LEDs		
Minimum field of view, X x Y	6 x 4 mm		
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 V DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Vibration resistance	EN 60068-2-6
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs	Shock resistance	EN 60068-2-27
Encoder	✓		

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

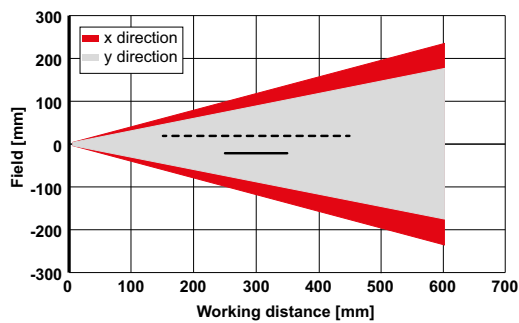
VISOR® vision sensor



153-13554

3

Field of view V20, wide



155-03279

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

Illumination, Multishot



155-02565

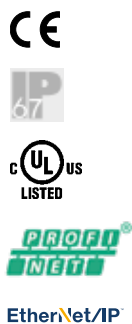
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V20-ALL-A3-W-W-M2-L	632-91026	Connection cables
Red	V20-ALL-A3-R-W-M2-L	632-91023	Illumination
Infrared	V20-ALL-A3-I-W-M2-L	632-91020	Brackets
White	V20C-ALL-A3-W-W-M2-L	632-91030	Interface accessories

www.sensopart.com/en/accessories

VISOR® V20 Allround Advanced, medium field of view

Combines VISOR® Object Color, Code Reader



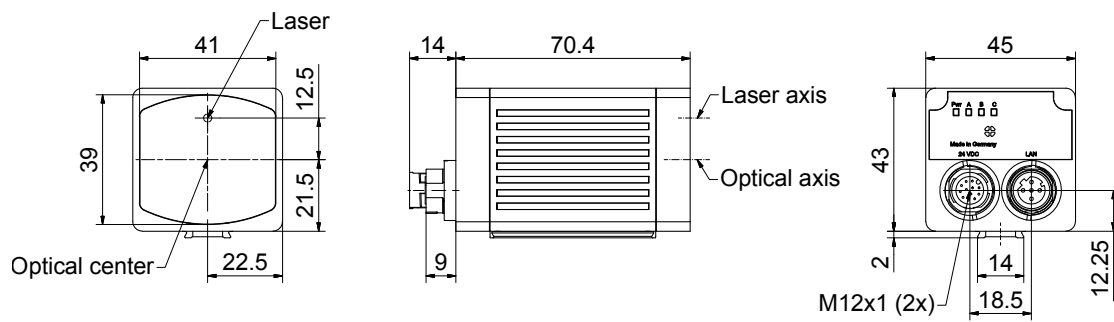
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 1.5 megapixel chip
- Real-world engineering units at a mouse click
- Precise determination of X/Y position, orientation and tracking
- Can be used for all common 2D codes (ECC 200-Datamatrix) and common 1D barcodes
- Detection of differences in height in the pseudo height image with multishot technology

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome / color	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 value²: output of color values; Color field²: area inspection of colors, with selectable tolerance; Color list²: finding the most similar colors; Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	12 (medium)		
Pixel size	3.45 µm x 3.45 µm		
Focus	Motorized		
Adjustment range	25 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm) ¹ , infrared (850 nm) ¹ LEDs		
Minimum field of view, X x Y	10 x 8 mm		
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Vibration resistance	EN 60068-2-6
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs	Shock resistance	EN 60068-2-27
Encoder	✓		

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

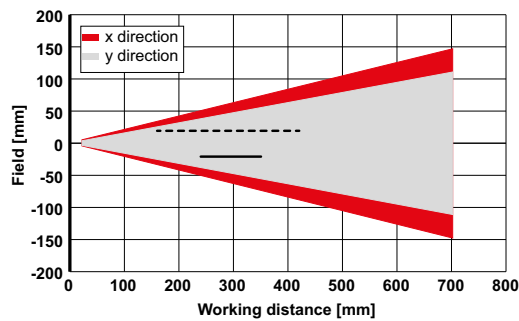
VISOR® vision sensor



153-13554

3

Field of view V20, medium



155-03099

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

Illumination, Multishot



155-02565

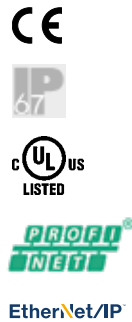
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V20-ALL-A3-W-M-M2-L	632-91024	Connection cables
Red	V20-ALL-A3-R-M-M2-L	632-91021	Illumination
Infrared	V20-ALL-A3-I-M-M2-L	632-91018	Brackets
White	V20C-ALL-A3-W-M-M2-L	632-91028	Interface accessories

www.sensopart.com/en/accessories

VISOR® V20 Allround Advanced, narrow field of view

Combines VISOR® Object Color, Code Reader



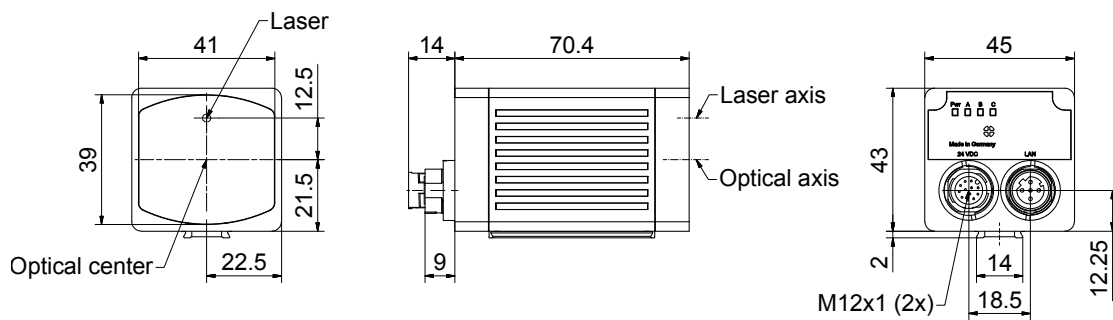
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 1.5 megapixel chip
- Real-world engineering units at a mouse click
- Precise determination of X/Y position, orientation and tracking
- Can be used for all common 2D codes (ECC 200-Datamatrix) and common 1D barcodes
- Detection of differences in height in the pseudo height image with multishot technology

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome / color	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 value²: output of color values; Color field²: area inspection of colors, with selectable tolerance; Color list²: finding the most similar colors; Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	20 (narrow)		
Pixel size	3.45 µm x 3.45 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	18 x 14 mm		
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Weight	Approx. 200 g
Input resistance	High > U _B -1 V / Low < 3 V	Plug connections	Supply and I/O M12, 12-pin Ethernet M12, 4-pin
Interfaces	> 20 kΩ	Vibration resistance	EN 60068-2-6
Inputs/outputs	Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port	Shock resistance	EN 60068-2-27
Encoder	2 inputs, 2 outputs, 6 selectable inputs/outputs		
	✓		

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

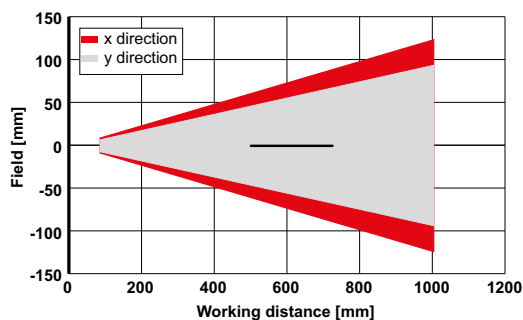
VISOR® vision sensor



153-13554

3

Field of view V20, narrow



155-03098

— Normal depth of field

Illumination, Multishot



155-02565

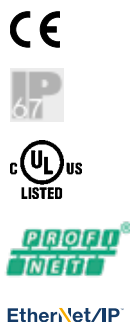
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V20-ALL-A3-W-N-M2-L	632-91025	Connection cables
Red	V20-ALL-A3-R-N-M2-L	632-91022	Illumination
Infrared	V20-ALL-A3-I-N-M2-L	632-91019	Brackets
White	V20C-ALL-A3-W-N-M2-L	632-91029	Interface accessories

www.sensopart.com/en/accessories

VISOR® V20 Allround Advanced, C-mount

Combines VISOR® Object Color, Code Reader



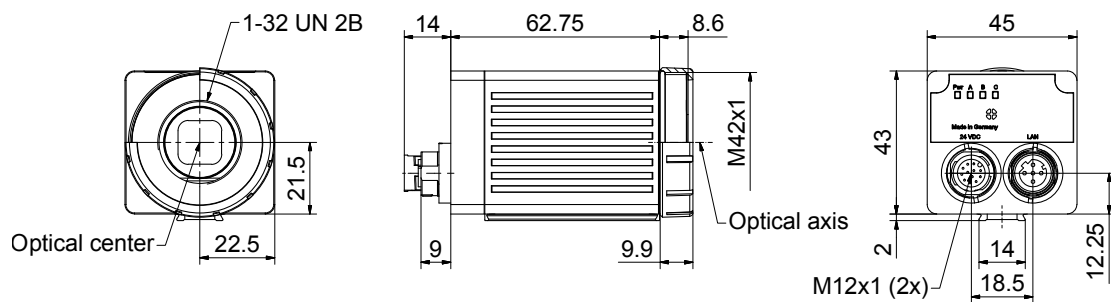
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 1.5 megapixel chip
- Real-world engineering units at a mouse click
- Precise determination of X/Y position, orientation and tracking
- Can be used for all common 2D codes (ECC 200-Datamatrix) and common 1D barcodes
- Detection of differences in height in the pseudo height image with multishot technology

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome / color	Detectors	Position tracking: X/Y and orientation;
Integrated lens, focal length [mm]	C-mount		Pattern matching, contour: teach-in and detection of patterns and contours;
Pixel size	3.45 µm x 3.45 µm		Calliper: distance between edges;
Focus	Manual		BLOB, grey threshold, brightness: evaluation of brightness;
Adjustment range	Dependent on lens		Contrast: evaluation of contrast;
Integrated illumination	None		Color value¹: output of color values;
Minimum field of view, X x Y	Dependent on lens		Color area¹: area inspection of colors, with selectable tolerance;
Target laser	No		Color list¹: finding the most similar colors;
			Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar;
			Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1;
			OCR: reading of fonts;
			Result processing: Text, Math: checking and calculating with results from detectors
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	Weight	Approx. 200 g
Input resistance	High > U _B -1 V / Low < 3 V	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



153-13555

3

Lens	Illumination
	

155-02565

Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

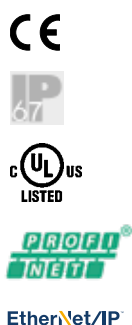
	LOC-08-HD-30.5x0.5	LOC-12-HD-27x0.5	LOC-16-HD-27x0.5	LOC-25-HD-27x0.5	LOC-35-HD-27x0.5	LOC-50-HD-27x0.5	LOC-75-HD-34x0.5
Focal length	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm	75 mm
Article number	526-51535	526-51536	526-51537	526-51538	526-51539	526-51540	526-51541

Part number	Article number	Accessories
V20-ALL-A3-C-2	632-91017	Connection cables
V20C-ALL-A3-C-2	632-91027	Illumination
		Lenses
		Brackets
		Interface accessories

www.sensopart.com/en/accessories

VISOR® V20 Allround Professional, wide field of view

Combines VISOR® Object Color, Code Reader and Robotic



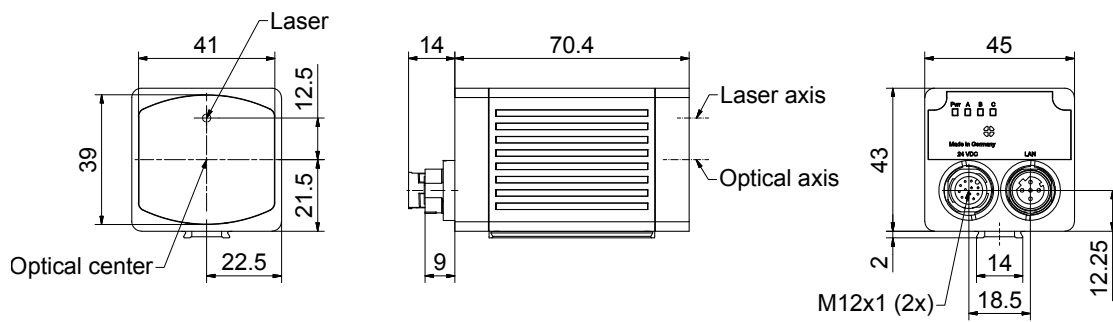
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 1.5 megapixel chip
- Real-world engineering units and robot coordinates at a mouse click
- Precise position determination: X/Y-position and orientation
- Detection of differences in height in the pseudo height image with multishot technology
- User-friendly configuration and viewer software with graded user rights and online help

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome / color	Detectors	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 value²: output of color values; Color field²: area inspection of colors, with selectable tolerance; Color list²: finding the most similar colors; Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	6.5 (wide)		
Pixel size	3.45 µm x 3.45 µm		
Focus	Motorized		
Adjustment range	10 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm) ¹ , infrared (850 nm) ¹ LEDs		
Minimum field of view, X x Y	6 x 4 mm		
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Vibration resistance	EN 60068-2-6
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs	Shock resistance	EN 60068-2-27
Encoder	✓		

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

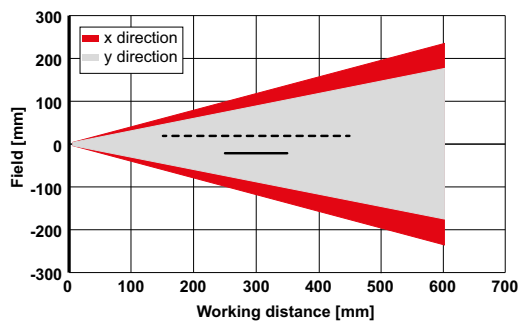
VISOR® vision sensor



153-13554

3

Field of view V20, wide



155-03279

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

Illumination, Multishot



155-02565

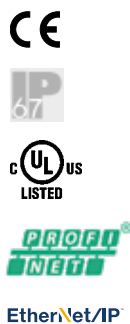
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V20-ALL-P3-W-W-M2-L	632-91012	Connection cables
Red	V20-ALL-P3-R-W-M2-L	632-91010	Illumination
Infrared	V20-ALL-P3-I-W-M2-L	632-91007	Brackets
White	V20C-ALL-P3-W-W-M2-L	632-91016	Interface accessories

www.sensopart.com/en/accessories

VISOR® V20 Allround Professional, medium field of view

Combines VISOR® Object Color, Code Reader and Robotic



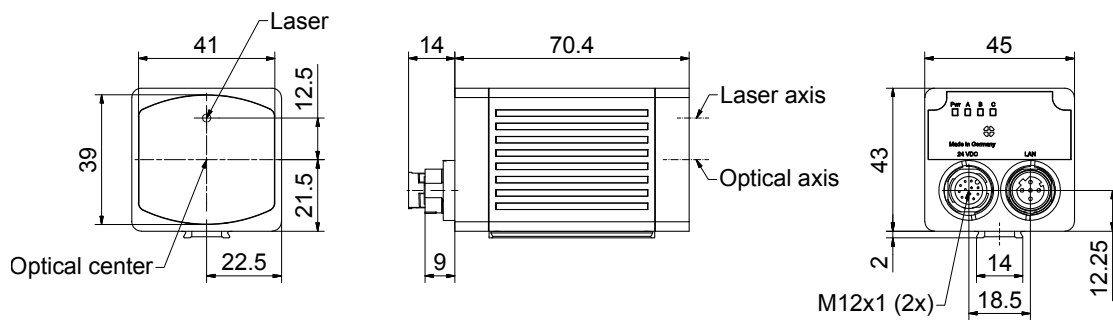
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 1.5 megapixel chip
- Real-world engineering units and robot coordinates at a mouse click
- Precise position determination: X/Y-position and orientation
- Detection of differences in height in the pseudo height image with multishot technology
- User-friendly configuration and viewer software with graded user rights and online help

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome / color	Detectors	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 value²: output of color values; Color field²: area inspection of colors, with selectable tolerance; Color list²: finding the most similar colors; Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	12 (medium)		
Pixel size	3.45 µm x 3.45 µm		
Focus	Motorized		
Adjustment range	25 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm) ¹ , infrared (850 nm) ¹ LEDs		
Minimum field of view, X x Y	10 x 8 mm		
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Weight	Approx. 200 g
Input resistance	High > U _B -1 V / Low < 3 V	Plug connections	Supply and I/O M12, 12-pin Ethernet M12, 4-pin
Interfaces	> 20 kΩ	Vibration resistance	EN 60068-2-6
Inputs/outputs	Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port	Shock resistance	EN 60068-2-27
Encoder	2 inputs, 2 outputs, 6 selectable inputs/outputs		
	✓		

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

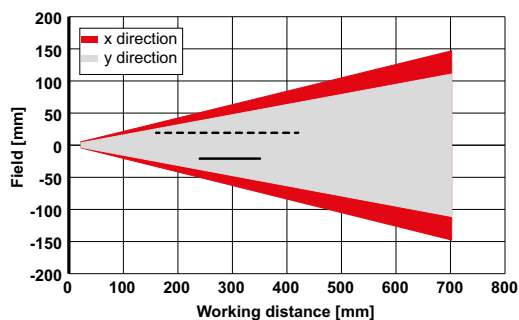
VISOR® vision sensor



153-13554

3

Field of view V20, medium



155-03099

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

Illumination, Multishot



155-02565

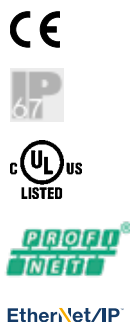
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V20-ALL-P3-W-M-M2-L	632-91000	Connection cables
Red	V20-ALL-P3-R-M-M2-L	632-91008	Illumination
Infrared	V20-ALL-P3-I-M-M2-L	632-91005	Brackets
White	V20C-ALL-P3-W-M-M2-L	632-91014	Interface accessories

www.sensopart.com/en/accessories

VISOR® V20 Allround Professional, narrow field of view

Combines VISOR® Object Color, Code Reader and Robotic



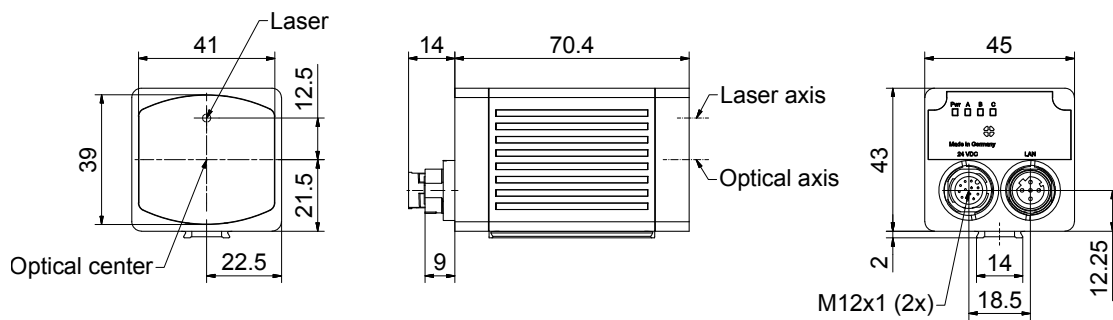
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 1.5 megapixel chip
- Real-world engineering units and robot coordinates at a mouse click
- Precise position determination: X/Y-position and orientation
- Detection of differences in height in the pseudo height image with multishot technology
- User-friendly configuration and viewer software with graded user rights and online help

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome / color	Detectors	Position tracking: X/Y and orientation;
Integrated lens, focal length [mm]	20 (narrow)		Pattern matching, contour, 3D contour: teach-in and detection of patterns and contours;
Pixel size	3.45 µm x 3.45 µm		Calliper: distance between edges;
Focus	Motorized		BLOB, grey threshold, brightness: evaluation of brightness;
Adjustment range	100 mm to infinity		Contrast: evaluation of contrast;
Integrated illumination	White (5000 K), red (635 nm) ¹ , infrared (850 nm) ¹ LEDs		Color value²: output of color values;
Minimum field of view, X x Y	18 x 14 mm		Color area²: area inspection of colors, with selectable tolerance;
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1)		Color list²: finding the most similar colors;
			Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar;
			Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1;
			OCR: reading of fonts;
			Result processing: Text, Math: checking and calculating with results from detectors
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 V DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Weight	Approx. 200 g
Input resistance	High > U _B -1 V / Low < 3 V	Plug connections	Supply and I/O M12, 12-pin
Interfaces	> 20 kΩ	Vibration resistance	Ethernet M12, 4-pin
	Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port	Shock resistance	EN 60068-2-6
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs		EN 60068-2-27
Encoder	✓		

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

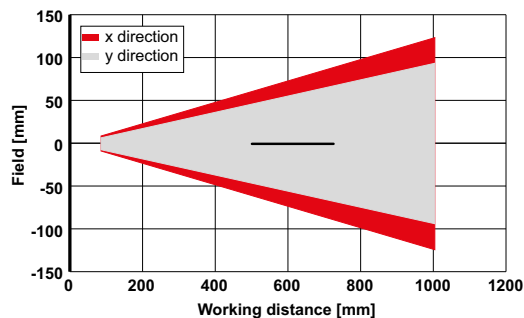
VISOR® vision sensor



153-13554

3

Field of view V20, narrow



155-03098

— Normal depth of field

Illumination, Multishot



155-02565

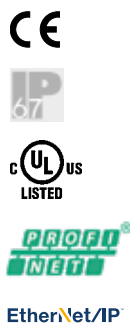
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V20-ALL-P3-W-N-M2-L	632-91011	Connection cables
Red	V20-ALL-P3-R-N-M2-L	632-91009	Illumination
Infrared	V20-ALL-P3-I-N-M2-L	632-91006	Brackets
White	V20C-ALL-P3-W-N-M2-L	632-91015	Interface accessories

www.sensopart.com/en/accessories

VISOR® V20 Allround Professional, C-mount

Combines VISOR® Object Color, Code Reader and Robotic



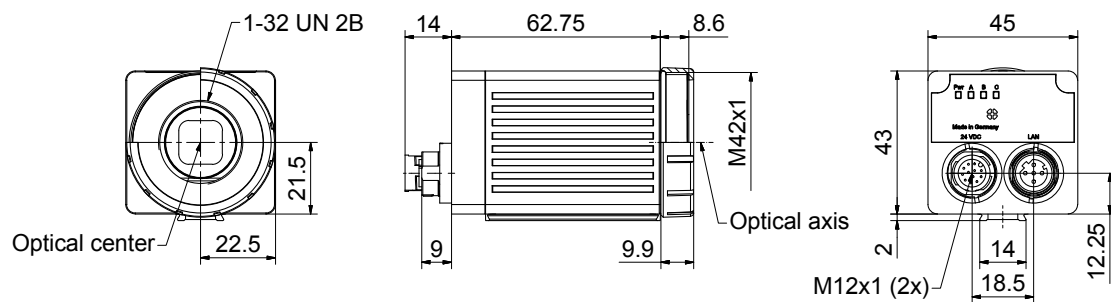
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Highly accurate evaluation via 1.5 megapixel chip
- Real-world engineering units and robot coordinates at a mouse click
- Precise position determination: X/Y-position and orientation
- Detection of differences in height in the pseudo height image with multishot technology
- User-friendly configuration and viewer software with graded user rights and online help

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome / color	Detectors	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 value¹: output of color values; Color area¹: area inspection of colors, with selectable tolerance; Color list¹: finding the most similar colors Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	C-mount		
Pixel size	3,45 µm x 3,45 µm		
Focus	Manual		
Adjustment range	Dependent on lens		
Integrated illumination	None		
Minimum field of view, X x Y	Dependent on lens		
Target laser	No		
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



153-13555

3

Lens	Illumination
	

155-02565

Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

	LOC-08-HD-30.5x0.5	LOC-12-HD-27x0.5	LOC-16-HD-27x0.5	LOC-25-HD-27x0.5	LOC-35-HD-27x0.5	LOC-50-HD-27x0.5	LOC-75-HD-34x0.5
Focal length	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm	75 mm
Article number	526-51535	526-51536	526-51537	526-51538	526-51539	526-51540	526-51541

Part number	Article number	Accessories
V20-ALL-P3-C-2	632-91004	Connection cables
V20C-ALL-P3-C-2	632-91013	Illumination
		Lenses
		Brackets
		Interface accessories

www.sensopart.com/en/accessories

VISOR® V10 Allround Advanced, wide field of view

Combines VISOR® Object Color, Code Reader



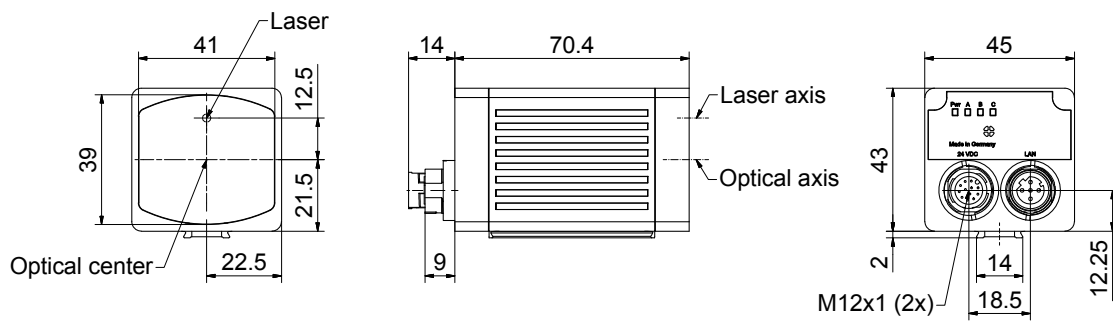
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Efficient part detection and tracking
- Real-world engineering units at a mouse click
- Can be used for all common 2D codes (ECC 200-Datamatrix) and common 1D barcodes
- User-friendly configuration and viewer software with graded user rights and online help

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome / color	Detectors	Position tracking: X/Y and orientation;
Integrated lens, focal length [mm]	5.2 (wide)		Pattern matching, contour: teach-in and detection of patterns and contours;
Pixel size	4.8 µm x 4.8 µm		Calliper: distance between edges;
Focus	Motorized		BLOB, grey threshold, brightness: evaluation of brightness;
Adjustment range	0 mm to infinity		Contrast: evaluation of contrast;
Integrated illumination	White (5000 K), red (635 nm) ¹ , infrared (850 nm) ¹ LEDs		Color value ² : output of color values;
Minimum field of view, X x Y	2 x 1 mm		Color area ² : area inspection of colors, with selectable tolerance;
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		Color list ² : finding the most similar colors;
			Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar;
			Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1;
			OCR: reading of fonts;
			Result processing: Text, Math: checking and calculating with results from detectors
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Weight	Approx. 200 g
Input resistance	High > U _B -1 V / Low < 3 V	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	Shock resistance	EN 60068-2-27
Encoder	✓		

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

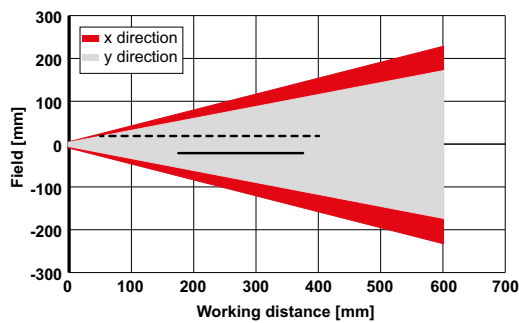
VISOR® vision sensor



153-13554

3

Field of view V10, wide



155-03101

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

Illumination, Multishot



155-02565

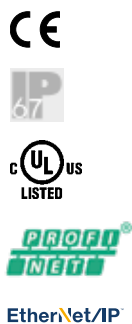
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V10-ALL-A3-W-W-M2-L	631-91004	Connection cables
Red	V10-ALL-A3-R-W-M2-L	631-91007	Illumination
Infrared	V10-ALL-A3-I-W-M2-L	631-91010	Brackets
White	V10C-ALL-A3-W-W-M2-L	631-91041	Interface accessories

www.sensopart.com/en/accessories

VISOR® V10 Allround Advanced, medium field of view

Combines VISOR® Object Color, Code Reader



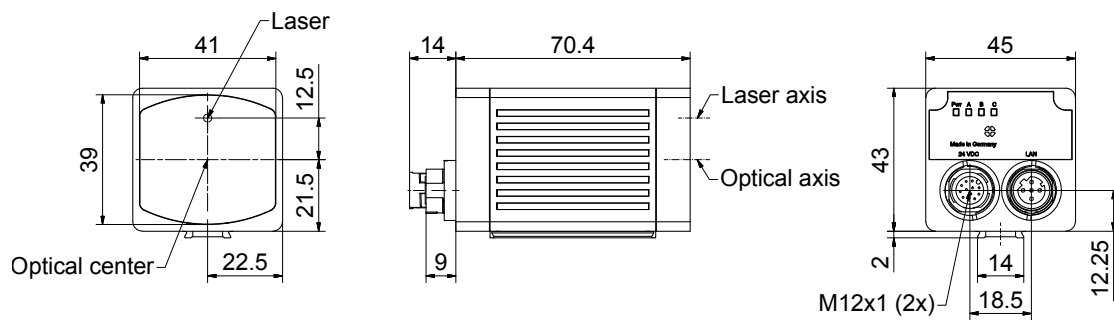
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Efficient part detection and tracking
- Real-world engineering units at a mouse click
- Can be used for all common 2D codes (ECC 200-Datamatrix) and common 1D barcodes
- User-friendly configuration and viewer software with graded user rights and online help

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome / color	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 value²: output of color values; Color area²: area inspection of colors, with selectable tolerance; Color list²: finding the most similar colors; Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	9.6 (medium)		
Pixel size	4.8 µm x 4.8 µm		
Focus	Motorized		
Adjustment range	12 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm) ¹ , infrared (850 nm) ¹ LEDs		
Minimum field of view, X x Y	7 x 3 mm		
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Weight	Approx. 200 g
Input resistance	High > U _B -1 V / Low < 3 V	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	Shock resistance	EN 60068-2-27
Encoder	✓		

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

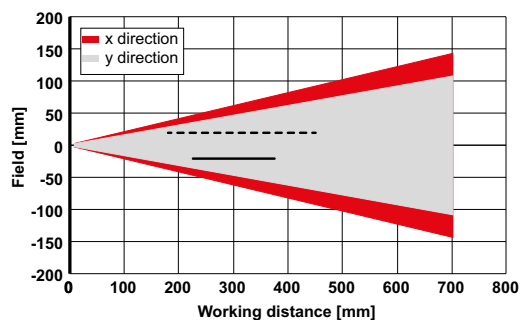
VISOR® vision sensor



153-13554

3

Field of view V10, medium



155-03100

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

Illumination, Multishot



155-02565

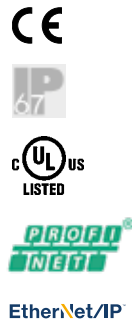
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V10-ALL-A3-W-M-M2-L	631-91005	Connection cables
Red	V10-ALL-A3-R-M-M2-L	631-91008	Illumination
Infrared	V10-ALL-A3-I-M-M2-L	631-91029	Brackets
White	V10C-ALL-A3-W-M-M2-L	631-91038	Interface accessories

www.sensopart.com/en/accessories

VISOR® V10 Allround Advanced, narrow field of view

Combines VISOR® Object Color, Code Reader



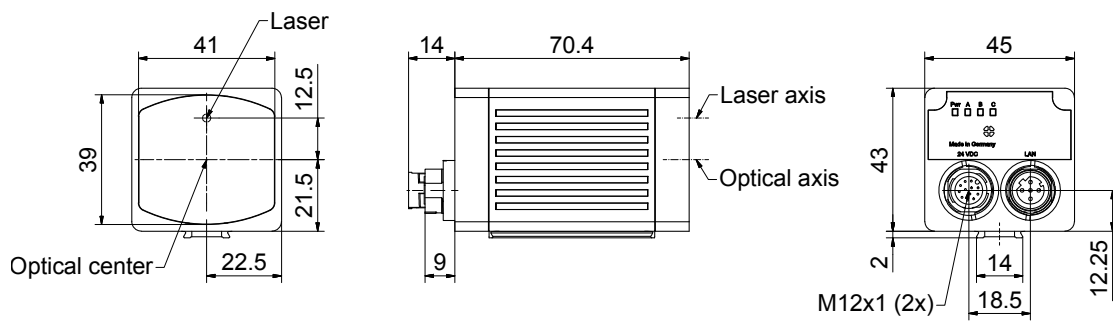
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Efficient part detection and tracking
- Real-world engineering units at a mouse click
- Can be used for all common 2D codes (ECC 200-Datamatrix) and common 1D barcodes
- User-friendly configuration and viewer software with graded user rights and online help

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome / color	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 value²: output of color values; Color area²: area inspection of colors, with selectable tolerance; Color list²: finding the most similar colors; Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	20 (narrow)		
Pixel size	4.8 µm x 4.8 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	14 x 10 mm		
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 DC ³	Dimensions	70.4 x 45 x 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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	Weight	Approx. 200 g
Input resistance	High > U _B -1V / Low < 3V	Plug connections	Supply and I/O M12, 12-pin Ethernet M12, 4-pin
Interfaces	> 20 kΩ	Vibration resistance	EN 60068-2-6
Inputs/outputs	Ethernet (LAN), EtherNet/IP, PROFINET, SensoWeb, Service Port	Shock resistance	EN 60068-2-27
Encoder	2 inputs, 2 outputs, 6 selectable inputs/outputs		
	✓		

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

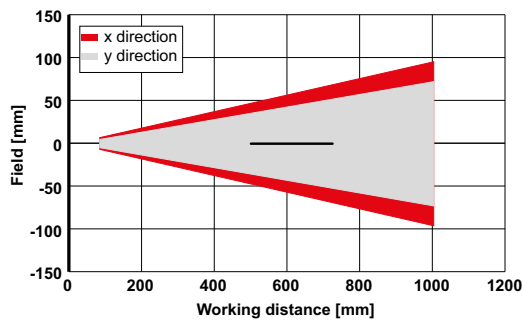
VISOR® vision sensor



153-13554

3

Field of view V10, narrow



155-03097

— Normal depth of field

Illumination, Multishot



155-02565

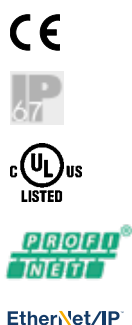
Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

Illumination	Part number	Article number	Accessories
White	V10-ALL-A3-W-N-M2-L	631-91006	Connection cables
Red	V10-ALL-A3-R-N-M2-L	631-91009	Illumination
Infrared	V10-ALL-A3-I-N-M2-L	631-91030	Brackets
White	V10C-ALL-A3-W-N-M2-L	631-91039	Interface accessories

www.sensopart.com/en/accessories

VISOR® V10 Allround Advanced, C-mount

Combines VISOR® Object Color, Code Reader



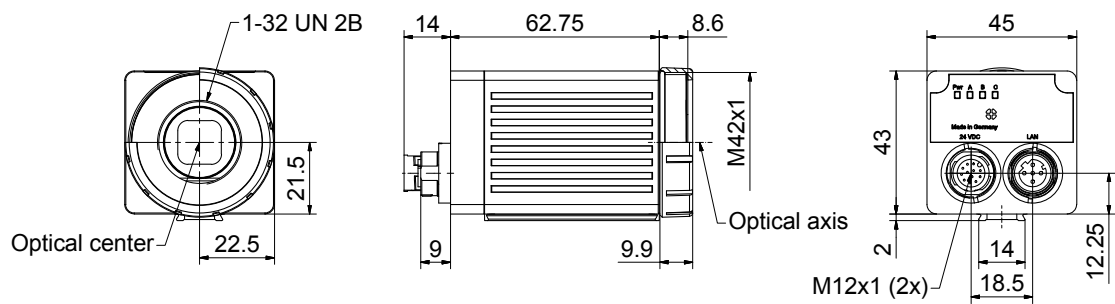
PRODUCT HIGHLIGHTS

- All evaluations ("Detectors") of object sensor and code reader united in one device
- Efficient part detection and tracking
- Real-world engineering units at a mouse click
- Can be used for all common 2D codes (ECC 200-Datamatrix) and common 1D barcodes
- User-friendly configuration and viewer software with graded user rights and online help

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	Max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome / color	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 value¹: output of color values; Color area¹: area inspection of colors, with selectable tolerance; Color list¹: finding the most similar colors; Barcode: reading 1D barcodes; EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, ECC200 GS1, pharm code, codabar; Datacode: reading 2D codes; ECC200, QR code, PDF 417, ECC200 GS1; OCR: reading of fonts; Result processing: Text, Math: checking and calculating with results from detectors
Integrated lens, focal length [mm]	C-mount		
Pixel size	4.8 µm x 4.8 µm		
Focus	Manual		
Adjustment range	Dependent on lens		
Integrated illumination	None		
Minimum field of view, X x Y	Dependent on lens		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30 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 -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	Shock resistance	EN 60068-2-27
Encoder	✓		

¹ Color hardware ² Max. ripple < 5V_{ss} ³ Only with protective casing ⁴ 80 % air humidity, noncondensing

VISOR® vision sensor C-mount



153-13555

3

Lens	Illumination, Multishot
	

155-02565

Illumination	Part number	Article number
White	LM 100 WWK-24Q4-2L12	532-51096
Red	LM 100 RWK-24Q4-2L12	532-51097
—	LM 100 W DF	532-51098

	LOC-08-HD-30.5x0.5	LOC-12-HD-27x0.5	LOC-16-HD-27x0.5	LOC-25-HD-27x0.5	LOC-35-HD-27x0.5	LOC-50-HD-27x0.5	LOC-75-HD-34x0.5
Focal length	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm	75 mm
Article number	526-51535	526-51536	526-51537	526-51538	526-51539	526-51540	526-51541

Part number	Article number	Accessories
V10-ALL-A3-C-2	631-91003	Connection cables
V10C-ALL-A3-C-2	631-91036	Illumination
		Lenses
		Brackets
		Interface accessories

www.sensopart.com/en/accessories