

# VISOR® Code Reader

Reads whatever is printed, dot-peened and lasered.



The VISOR® Code Reader from SensoPart easily reads barcodes of numerous types as well as printed and directly marked data matrix codes according to the ECC200 standard, regardless of the carrier materials (metal, plastic, paper, glass). The sensor even easily deciphers skewed or distorted codes, or those on convex, reflective or transparent surfaces.

**Built-in early warning system:** the VISOR® Code Reader evaluates the quality of your printed and directly marked data matrix codes on the basis of standardised quality parameters according to ISO and AIM standards.

The VISOR® Code Reader Standard offers suitable tools for easily readable barcodes and data matrix codes (e.g. printed). The Advanced or Professional versions provide high-performance reading algorithms for difficult codes (e.g. directly marked).

## HIGHLIGHTS OF VISOR® CODE READER

- Reliably reads barcodes as well as printed and directly marked data matrix codes, and even several codes simultaneously and mixed 1D/2D codes
- Supplementary object detection for characteristics other than codes
- Evaluation of quality parameters according to ISO/IEC 15415 and AIM DPM 2006
- Flexible definition of output data (header; trailer; user data)
- String comparison with message via the digital switching output
- EtherNet/IP PROFINET (conformance class B), EtherNet (TCP/IP) supported
- Comprehensive options for archiving images and data
- Optical character recognition



Printed barcodes



Code on shiny metallic surface



Dot-peened code with external lighting

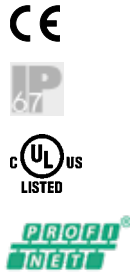


A lot of information in a small space:  
up to 2,334 ASCII symbols (7 bit) or  
3,116 digits can be coded with an  
ECC-200 data matrix code.

VISOR® Code Reader – product overview					
	Product variant	Resolution	Focal length	Integrated lighting	Page
V50-CR-A3-xxx	Advanced	2560 x 1936 monochrome	C-Mount	None	232
V50-CR-P3-xxx	Professional	2560 x 1936 monochrome	C-Mount	None	234
V20-CR-S3-xxx	Standard	1440 x 1080	wide	White, red or infrared LEDs	236
V20-CR-S3-xxx			medium	White, red or infrared LEDs	238
V20-CR-S3-xxx			narrow	White, red or infrared LEDs	240
V20-CR-A3-xxx	Advanced	1440 x 1080	wide	White, red or infrared LEDs	242
V20-CR-A3-xxx			medium	White, red or infrared LEDs	244
V20-CR-A3-xxx			narrow	White, red or infrared LEDs	246
V20-CR-A3-C-2			C-Mount	None	248
V20-CR-P3-xxx	Professional	1440 x 1080	wide	White, red or infrared LEDs	250
V20-CR-P3-xxx			medium	White, red or infrared LEDs	252
V20-CR-P3-xxx			narrow	White, red or infrared LEDs	254
V20-CR-P3-C-2			C-Mount	None	256
V10-CR-S3-xxx	Standard	800 x 600	wide	White, red or infrared LEDs	258
V10-CR-S3-xxx			medium	White, red or infrared LEDs	260
V10-CR-S3-xxx			narrow	White, red or infrared LEDs	262
V10-CR-A3-xxx	Advanced	800 x 600	wide	White, red or infrared LEDs	264
V10-CR-A3-xxx			medium	White, red or infrared LEDs	266
V10-CR-A3-xxx			narrow	White, red or infrared LEDs	268
V10-CR-A3-C-2			C-Mount	None	270
V10-CR-P3-xxx	Professional	800 x 600	wide	White, red or infrared LEDs	272
V10-CR-P3-xxx			medium	White, red or infrared LEDs	274
V10-CR-P3-xxx			narrow	White, red or infrared LEDs	276
V10-CR-P3-C-2			C-Mount	None	278

# VISOR® V50 Code Reader Advanced, C-Mount

Multi-Code Reader for 1D and 2D codes

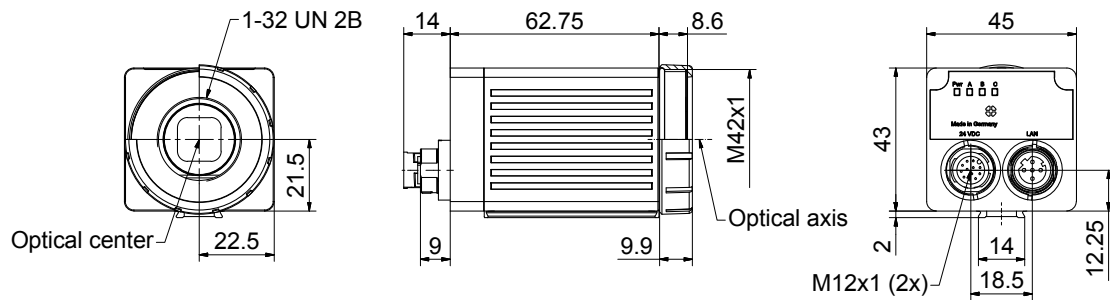


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass

Optical data		Functions	
Resolution	2560 x 1936 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/1.8", monochrome	Detectors	<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, PDF 417, GS1; <b>Result processing: Text:</b> checking and calculating with results from detectors
Integrated lens, focal length [mm]	C-Mount		
Pixel size	2,8 µm x 2,8 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 <sub>B</sub>	18 ... 30V DC <sup>1</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>2</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>3</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>3</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> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> only with protective casing    <sup>3</sup> 80 % air humidity, noncondensing

**VISOR® vision sensor C-Mount**


153-13555

4

Lens	C-Mount protective casing for VISOR®

Part number	Article number
LPTVxx-G37.5	651-01006
LPTVxx-25.0	651-01007

	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
<b>Focal length</b>	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm	75 mm
<b>Article number</b>	526-51535	526-51536	526-51537	526-51538	526-51539	526-51540	526-51541

Part number	Article number	Accessories										
V50-CR-A3-C-2	635-91033	<table border="1"> <tr> <td>Connection cables</td> <td>From Page A-38</td> </tr> <tr> <td>Illumination</td> <td>From Page A-27</td> </tr> <tr> <td>Lenses</td> <td>From Page A-25</td> </tr> <tr> <td>Brackets</td> <td>From Page A-4</td> </tr> <tr> <td>Interface accessories</td> <td>From Page A-38</td> </tr> </table>	Connection cables	From Page A-38	Illumination	From Page A-27	Lenses	From Page A-25	Brackets	From Page A-4	Interface accessories	From Page A-38
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Illumination	From Page A-27											
Lenses	From Page A-25											
Brackets	From Page A-4											
Interface accessories	From Page A-38											

# VISOR® V50 Code Reader Professional, C-Mount

Multi Code Reader for 1 D und 2 D Codes and OCR



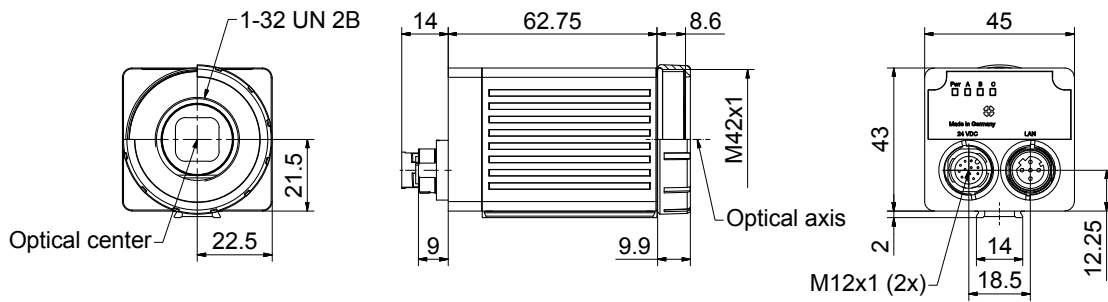
## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Combination of two functions in one device: code reading and object detection
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass
- Reading OCR fonts

Optical data		Functions	
Resolution	2560 x 1936 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/1.8", monochrome	Detectors	Position tracking: X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <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:</b> checking and calculating with results from detectors
Integrated lens, focal length [mm]	C-Mount		
Pixel size	2,8 µm x 2,8 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 <sub>B</sub>	18 ... 30V DC <sup>1</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>2</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>3</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>3</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 VISOR® V20-CR-Advanced	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> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> only with protective casing    <sup>3</sup> 80 % air humidity, noncondensing

VISOR® vision sensor C-Mount



153-13555

4

Lens	C-Mount protective casing for VISOR®
	

Part number	Article number
LPTVxx-G37.5	651-01006
LPTVxx-25.0	651-01007

	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-CR-P3-C-2	635-91026	<table border="1"> <tr> <td>Connection cables</td> <td>From Page A-38</td> </tr> <tr> <td>Illumination</td> <td>From Page A-27</td> </tr> <tr> <td>Lenses</td> <td>From Page A-25</td> </tr> <tr> <td>Brackets</td> <td>From Page A-4</td> </tr> <tr> <td>Interface accessories</td> <td>From Page A-38</td> </tr> </table>	Connection cables	From Page A-38	Illumination	From Page A-27	Lenses	From Page A-25	Brackets	From Page A-4	Interface accessories	From Page A-38
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Lenses	From Page A-25											
Brackets	From Page A-4											
Interface accessories	From Page A-38											


# VISOR® V20 Code Reader Standard, wide field of view

Reading of 1D and 2D codes

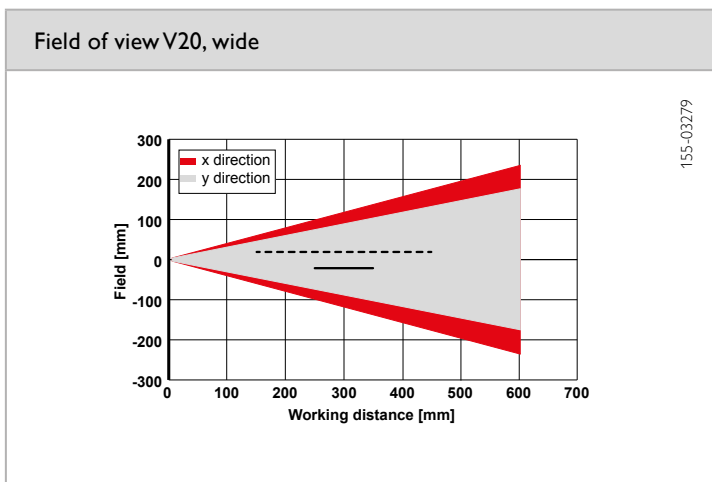
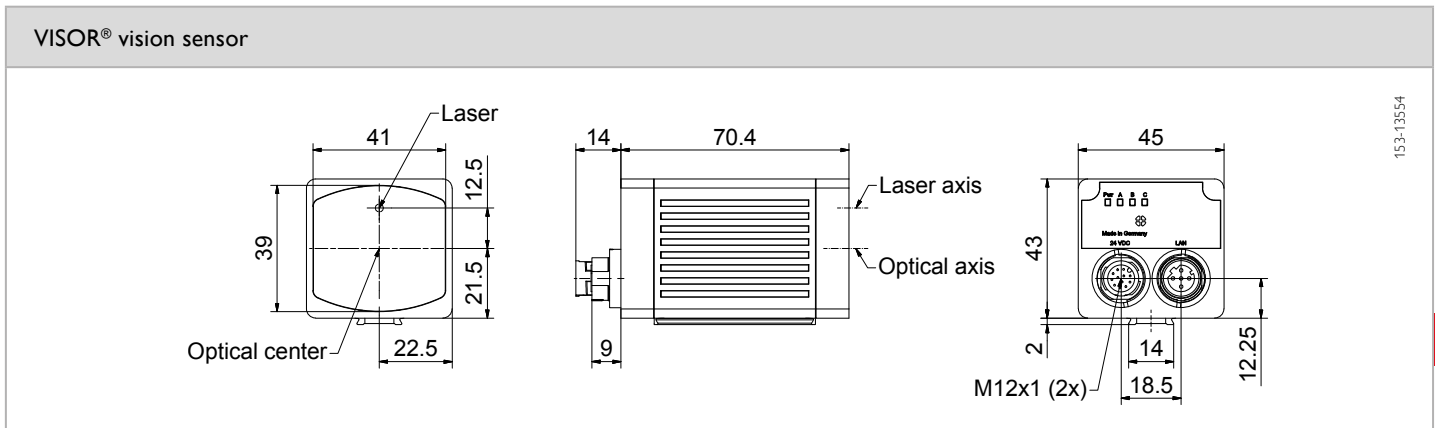


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Comprehensive tools for flexible and easy connection to PC and PLC environments

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	8 / 2
Imaging chip CMOS	1/2.9", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Data code:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1
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), infrared (850 nm) 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 <sub>B</sub>	18 ... 30V DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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 VISOR® V20-CR-Advanced	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	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



- Increased depth of field
- Normal depth of field

illumination	Part number	Article number	Accessories	
White	V20-CR-S3-W-W-M2-L	632-91055	Connection cables	From Page A-38
Red	V20-CR-S3-R-W-M2-L	632-91058	Illumination	From Page A-27
Infrared	V20-CR-S3-I-W-M2-L	632-91061	Brackets	From Page A-4
			Interface accessories	From Page A-38




# VISOR® V20 Code Reader Standard, medium field of view

Reading of 1D and 2D codes

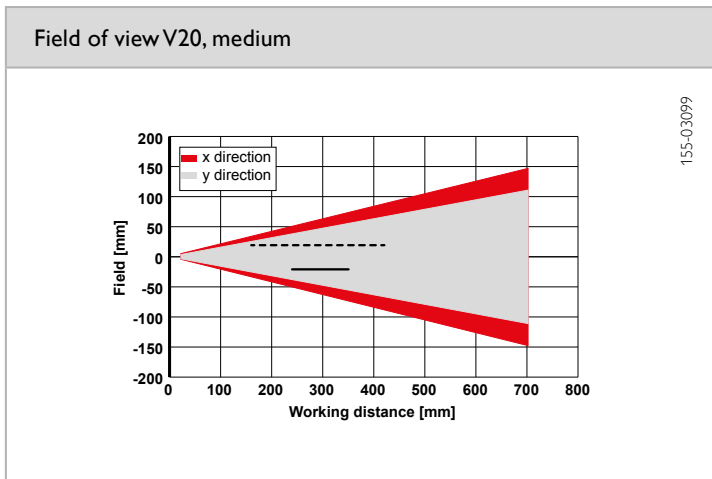
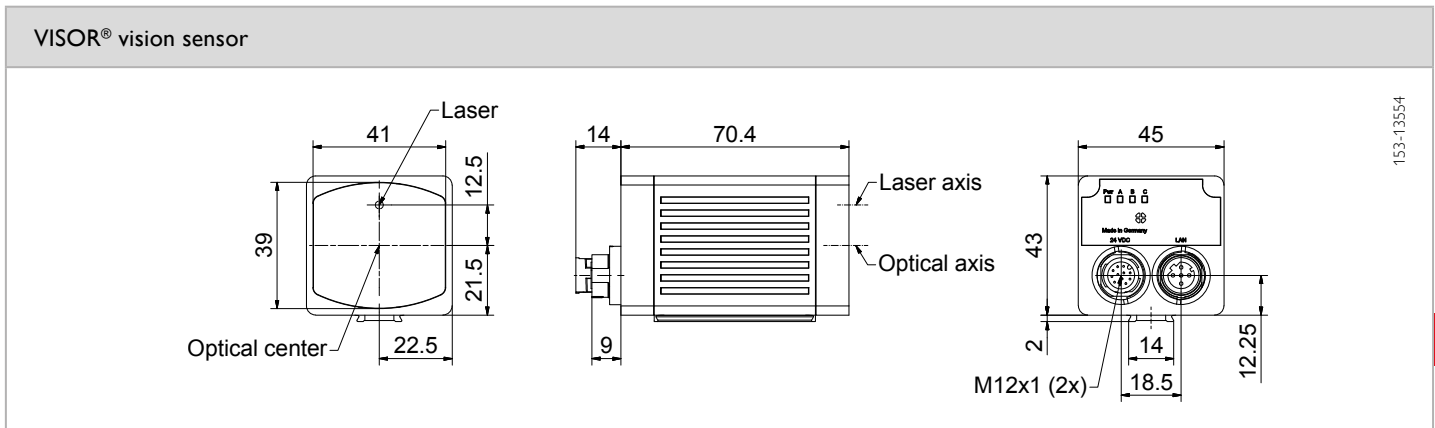


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Comprehensive tools for flexible and easy connection to PC and PLC environments

Optical data		Functions	
Resolution	1440 × 1080 pixels	Number of jobs / detectors	8 / 2
Imaging chip CMOS	1/2.9", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Data code:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1
Integrated lens, focal length [mm]	12 (medium)		
Pixel size	3.45 μm × 3.45 μm		
Focus	Motorized		
Adjustment range	25 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm), infrared (850 nm) LEDs		
Minimum field of view, X × Y	10 × 8 mm		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	Dimensions	70.4 × 45 × 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</sup>
Switching threshold inputs incl. encoder	PNP/NPN High > U <sub>B</sub> -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
VISOR® V20-CR-Advanced		Shock resistance	EN 60068-2-27
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs		
Encoder	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing

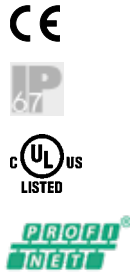


- Increased depth of field
- Normal depth of field

illumination	Part number	Article number	Accessories	
White	V20-CR-S3-W-M-M2-L	632-91056	Connection cables	From Page A-38
Red	V20-CR-S3-R-M-M2-L	632-91059	Illumination	From Page A-27
Infrared	V20-CR-S3-I-M-M2-L	632-91062	Brackets	From Page A-4
			Interface accessories	From Page A-38


# VISOR® V20 Code Reader Standard, narrow field of view

Reading of 1D and 2D codes

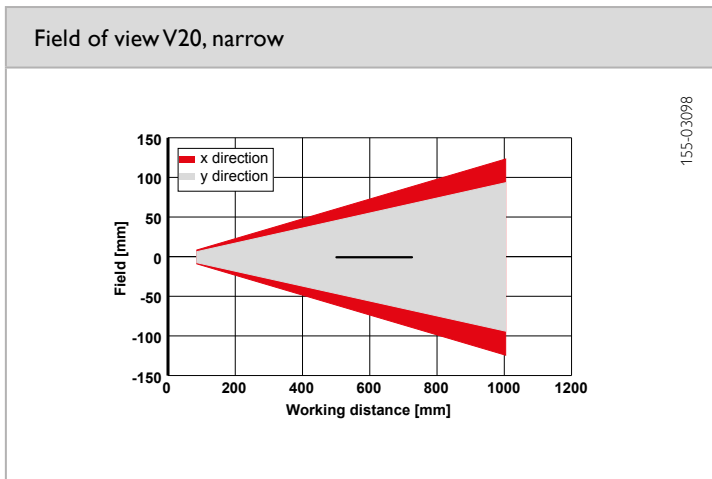
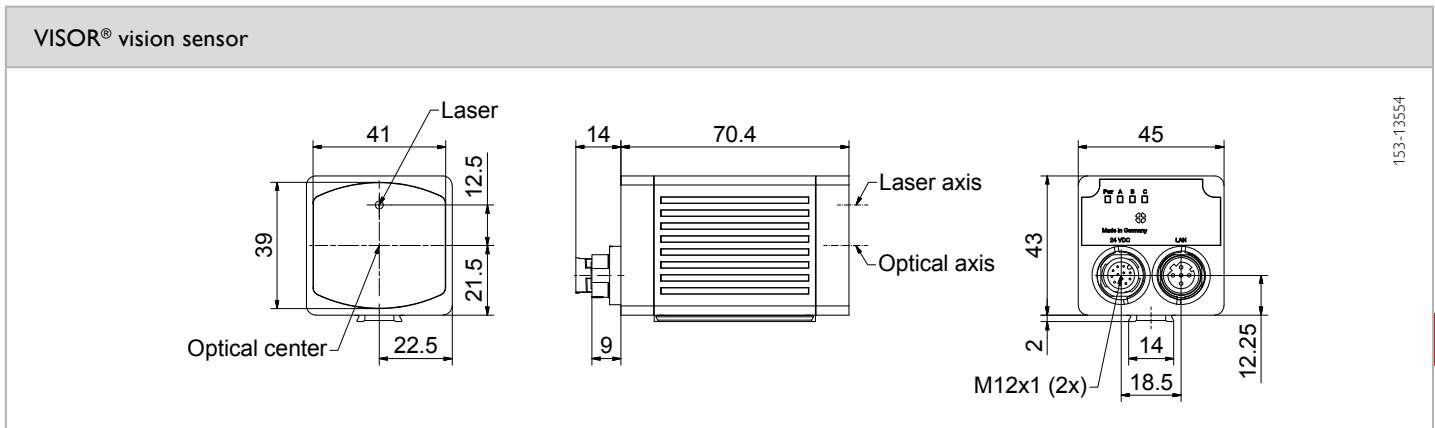


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Comprehensive tools for flexible and easy connection to PC and PLC environments

Optical data		Functions	
Resolution	1440 × 1080 pixels	Number of jobs / detectors	8 / 2
Imaging chip CMOS	1/2.9", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Data code:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1
Integrated lens, focal length [mm]	20 (narrow)		
Pixel size	3.45 μm × 3.45 μm		
Focus	Motorized		
Adjustment range	100 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm), infrared (850 nm) LEDs		
Minimum field of view, X × Y	18 × 14 mm		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	Dimensions	70.4 × 45 × 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</sup>
Switching threshold inputs incl. encoder	PNP/NPN High > U <sub>B</sub> -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 VISOR® V20-CR-Advanced	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	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



— Normal depth of field

illumination	Part number	Article number	Accessories	
White	V20-CR-S3-W-N-M2-L	632-91057	Connection cables	From Page A-38
Red	V20-CR-S3-R-N-M2-L	632-91060	Illumination	From Page A-27
Infrared	V20-CR-S3-I-N-M2-L	632-91063	Brackets	From Page A-4
			Interface accessories	From Page A-38


# VISOR® V20 Code Reader Advanced, wide field of view

Multi-Code Reader for 1D and 2D codes



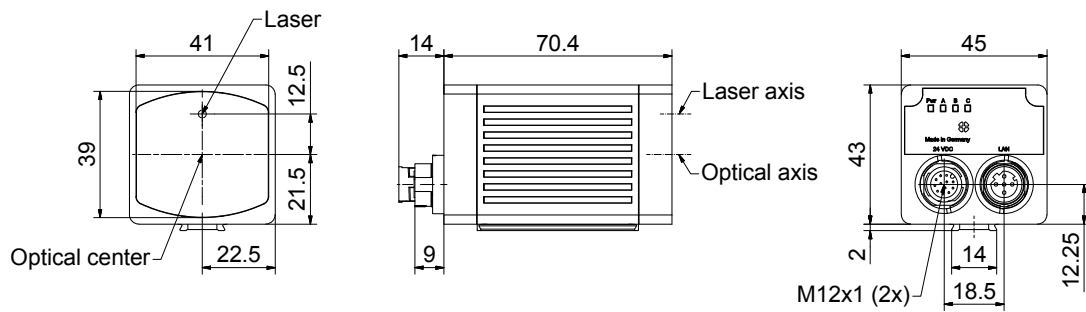
## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome	Detectors	<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, PDF 417, GS1; <b>Result processing:</b> Text: 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), infrared (850 nm) 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 <sub>B</sub>	18 ... 30V DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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 VISOR® V20-CR-Advanced	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	✓		

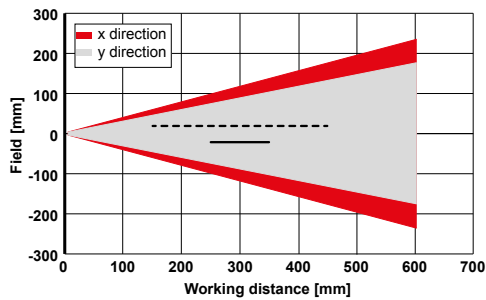
<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing

VISOR® vision sensor



153-13554

Field of view V20, wide



155-03279

- Increased depth of field
- Normal depth of field

illumination	Part number	Article number	Accessories	
White	V20-CR-A3-W-W-M2-L	632-91045	Connection cables	From Page A-38
White	V20-CR-A3-W-WD-M2-L	632-91094	Illumination	From Page A-27
Red	V20-CR-A3-R-W-M2-L	632-91048	Brackets	From Page A-4
Red	V20-CR-A3-R-WD-M2-L	632-91096	Interface accessories	From Page A-38
Infrared	V20-CR-A3-I-W-M2-L	632-91051		
Infrared	V20-CR-A3-I-WD-M2-L	632-91098		

# VISOR® V20 Code Reader Advanced, medium field of view

Multi-Code Reader for 1D and 2D codes

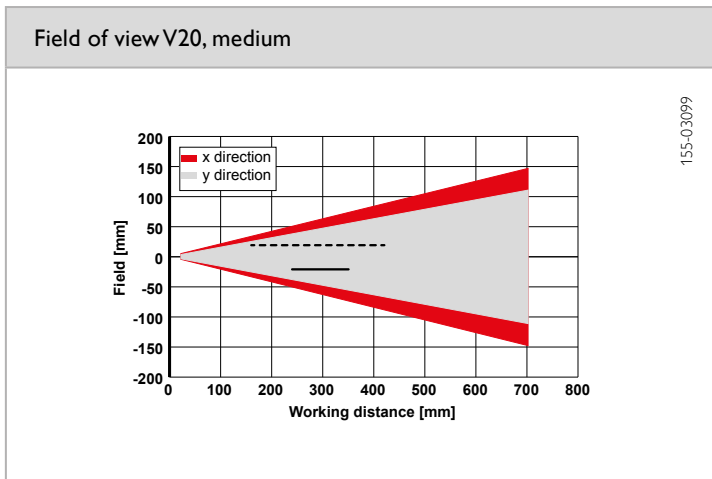
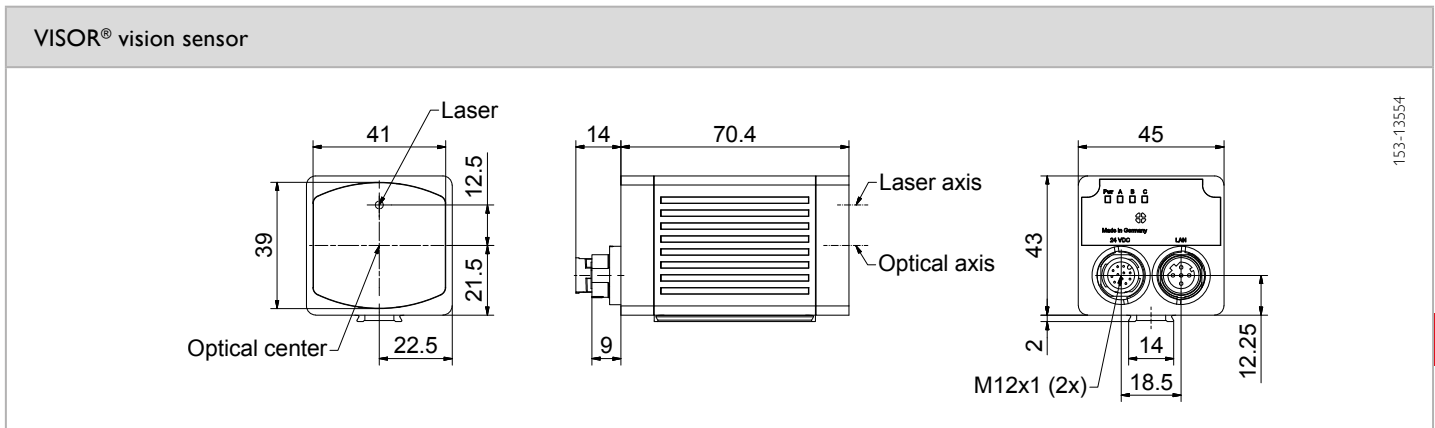


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass

Optical data		Functions	
Resolution	1440 × 1080 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome	Detectors	<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, PDF 417, GS1;
Integrated lens, focal length [mm]	12 (medium)		
Pixel size	3.45 µm × 3.45 µm		<b>Result processing:Text:</b> checking and calculating with results from detectors
Focus	Motorized		
Adjustment range	25 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm), infrared (850 nm) LEDs		
Minimum field of view, X × Y	10 × 8 mm		
Target laser	Laser: red (635 nm) class 1 ⚠ (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	Dimensions	70.4 × 45 × 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</sup>
Switching threshold inputs incl. encoder	PNP/NPN High > U <sub>B</sub> -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
VISOR® V20-CR-Advanced		Shock resistance	EN 60068-2-27
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs		
Encoder	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



- Increased depth of field
- Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V20-CR-A3-W-M-M2-L	632-91046	Connection cables	From Page A-38
White	V20-CR-A3-W-MD-M2-L	632-91095	Illumination	From Page A-27
Red	V20-CR-A3-R-M-M2-L	632-91049	Brackets	From Page A-4
Red	V20-CR-A3-R-MD-M2-L	632-91078	Interface accessories	From Page A-38
Infrared	V20-CR-A3-I-M-M2-L	632-91052		
Infrared	V20-CR-A3-I-MD-M2-L	632-91099		




# VISOR® V20 Code Reader Advanced, narrow field of view

Multi-Code Reader for 1D and 2D codes

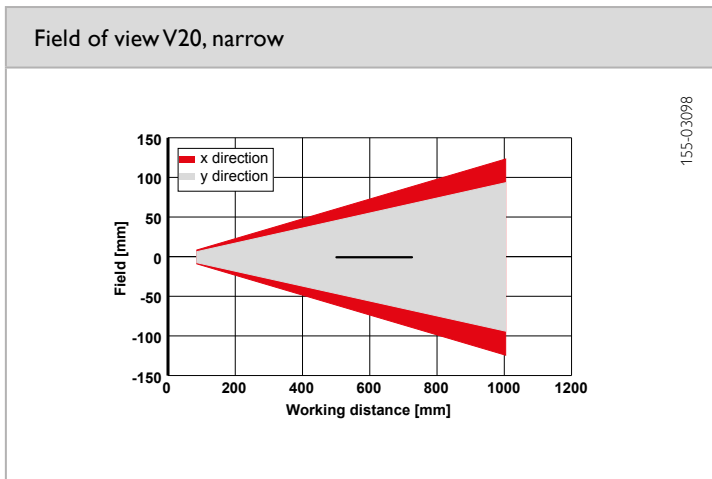
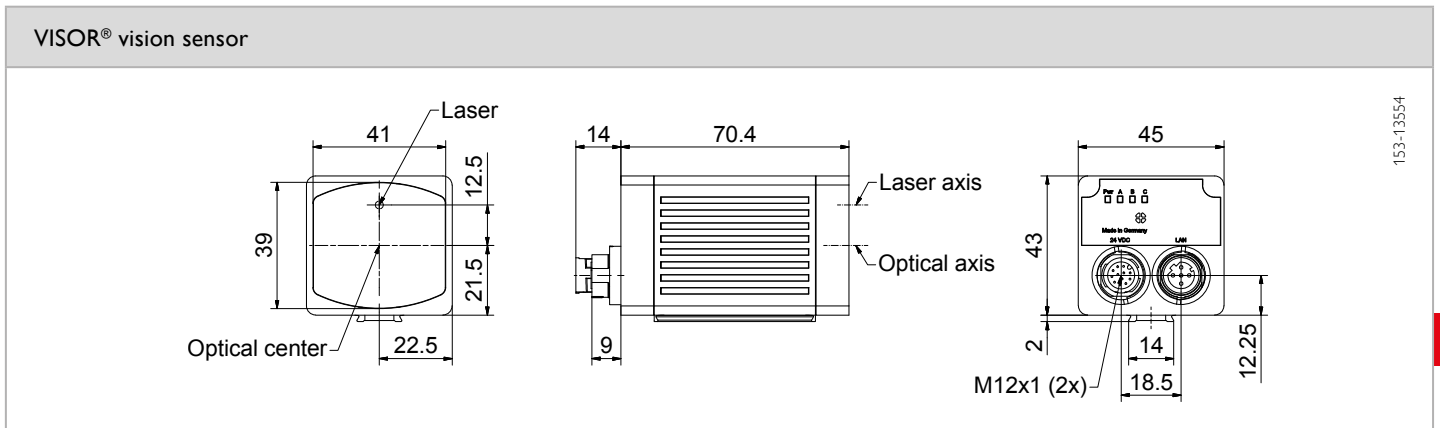


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass

Optical data		Functions	
Resolution	1440 × 1080 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome	Detectors	<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, PDF 417, GS1;
Integrated lens, focal length [mm]	20 (narrow)		
Pixel size	3.45 µm × 3.45 µm		<b>Result processing:Text:</b> checking and calculating with results from detectors
Focus	Motorized		
Adjustment range	100 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm), infrared (850 nm) LEDs		
Minimum field of view, X × Y	18 × 14 mm		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	Dimensions	70.4 × 45 × 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</sup>
Switching threshold inputs incl. encoder	PNP/NPN High > U <sub>B</sub> -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
VISOR® V20-CR-Advanced		Shock resistance	EN 60068-2-27
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs		
Encoder	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



— Normal depth of field

illumination	Part number	Article number	Accessories	
White	V20-CR-A3-W-N-M2-L	632-91047	Connection cables	From Page A-38
Red	V20-CR-A3-R-N-M2-L	632-91050	Illumination	From Page A-27
Infrared	V20-CR-A3-I-N-M2-L	632-91053	Brackets	From Page A-4
			Interface accessories	From Page A-38

# VISOR® V20 Code Reader Advanced, C-Mount

Multi-Code Reader for 1D and 2D codes

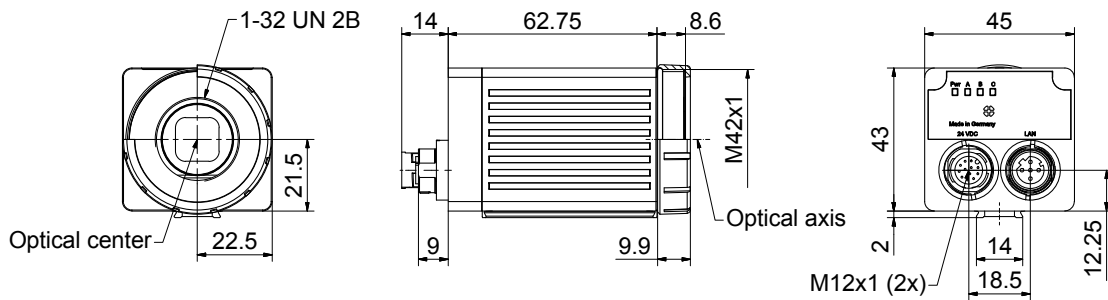


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass

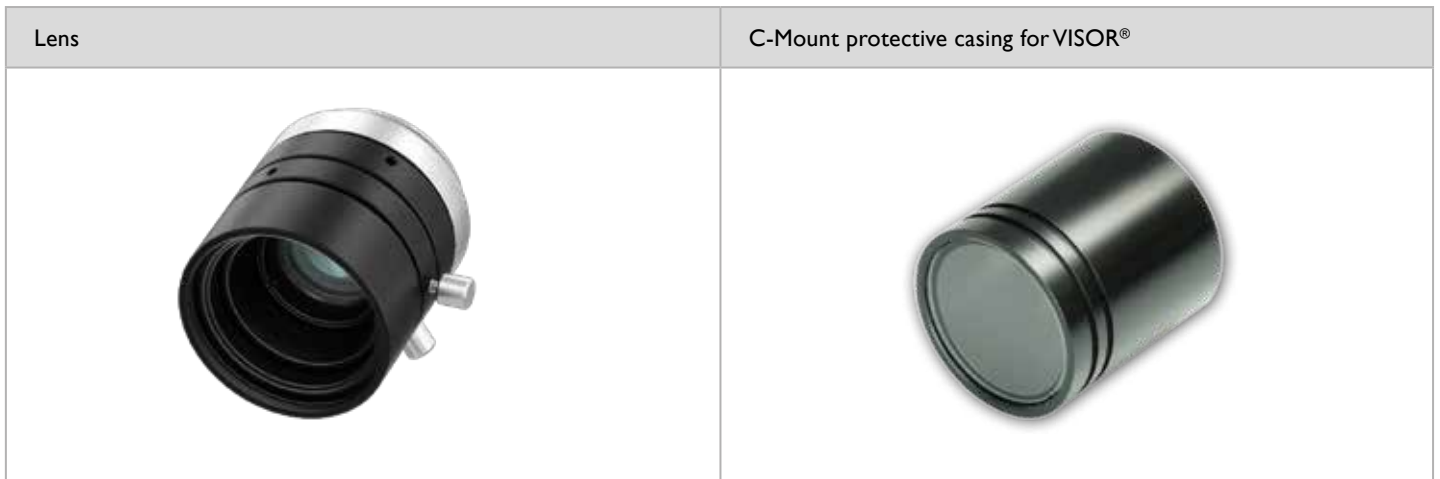
Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome	Detectors	<b>Barcode:</b> reading 1D bar codes, EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, code 32, code 39, code 93, code 128, GS1, pharm code, codabar; <b>Datacode:</b> reading 2D codes: ECC200, QR code, PDF 417, GS1; <b>Result processing: Text:</b> 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 <sub>B</sub>	18 ... 30V DC <sup>1</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>2</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>3</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>3</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 VISOR® V20-CR-Advanced	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	✓		

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

**VISOR® vision sensor C-Mount**


153-13555

4



Part number	Article number
LPTVxx-G37.5	651-01006
LPTVxx-25.0	651-01007

	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
<b>Focal length</b>	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm	75 mm
<b>Article number</b>	526-51535	526-51536	526-51537	526-51538	526-51539	526-51540	526-51541

Part number	Article number	Accessories										
V20-CR-A3-C-2	632-91054	<table border="1"> <tr> <td>Connection cables</td> <td>From Page A-38</td> </tr> <tr> <td>Illumination</td> <td>From Page A-27</td> </tr> <tr> <td>Lenses</td> <td>From Page A-25</td> </tr> <tr> <td>Brackets</td> <td>From Page A-4</td> </tr> <tr> <td>Interface accessories</td> <td>From Page A-38</td> </tr> </table>	Connection cables	From Page A-38	Illumination	From Page A-27	Lenses	From Page A-25	Brackets	From Page A-4	Interface accessories	From Page A-38
Connection cables	From Page A-38											
Illumination	From Page A-27											
Lenses	From Page A-25											
Brackets	From Page A-4											
Interface accessories	From Page A-38											


# VISOR® V20 Code Reader Professional, wide field of view

Multi Code Reader for 1D and 2D codes and OCR

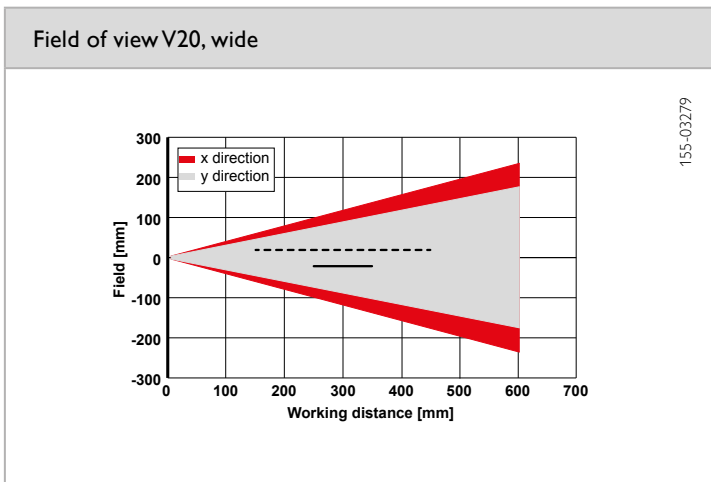
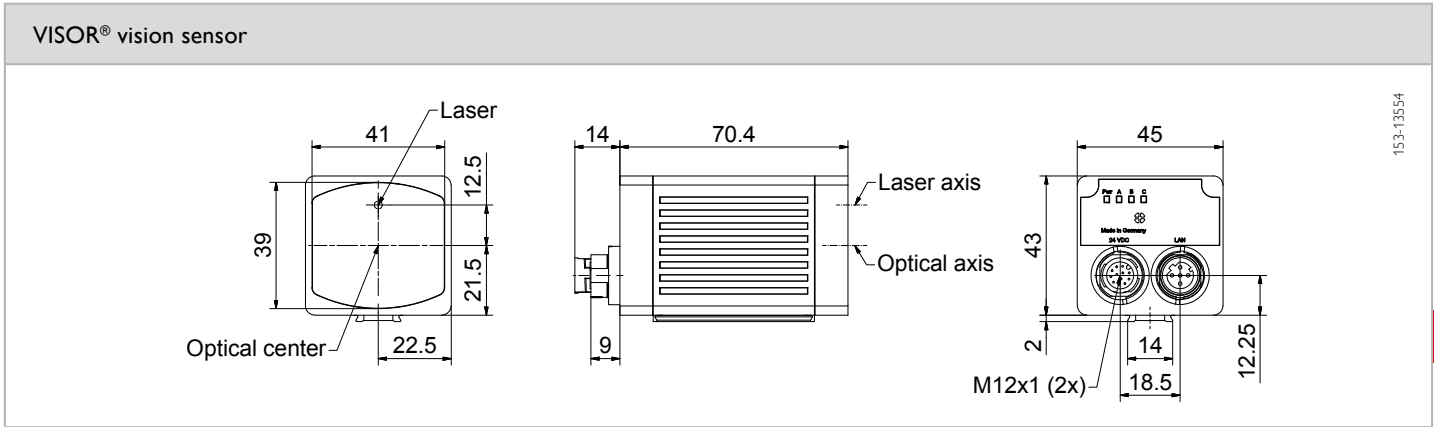


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Combination of two functions in one device: code reading and object detection
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass
- Reading OCR fonts

Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome	Detectors	Position tracking; X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <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:</b> 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), infrared (850 nm) 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 <sub>B</sub>	18 ... 30V DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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 VISOR® V20-CR-Advanced	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	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



- Increased depth of field
- Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V20-CR-P3-W-W-M2-L	632-91079	Connection cables	From Page A-38
White	V20-CR-P3-W-WD-M2-L	632-91082	Illumination	From Page A-27
Red	V20-CR-P3-R-W-M2-L	632-91084	Brackets	From Page A-4
Red	V20-CR-P3-R-WD-M2-L	632-91087	Interface accessories	From Page A-38
Infrared	V20-CR-P3-I-W-M2-L	632-91089		
Infrared	V20-CR-P3-I-WD-M2-L	632-91092		


# VISOR® V20 Code Reader Professional, medium field of view

Multi Code Reader for 1 D und 2 D Codes and OCR

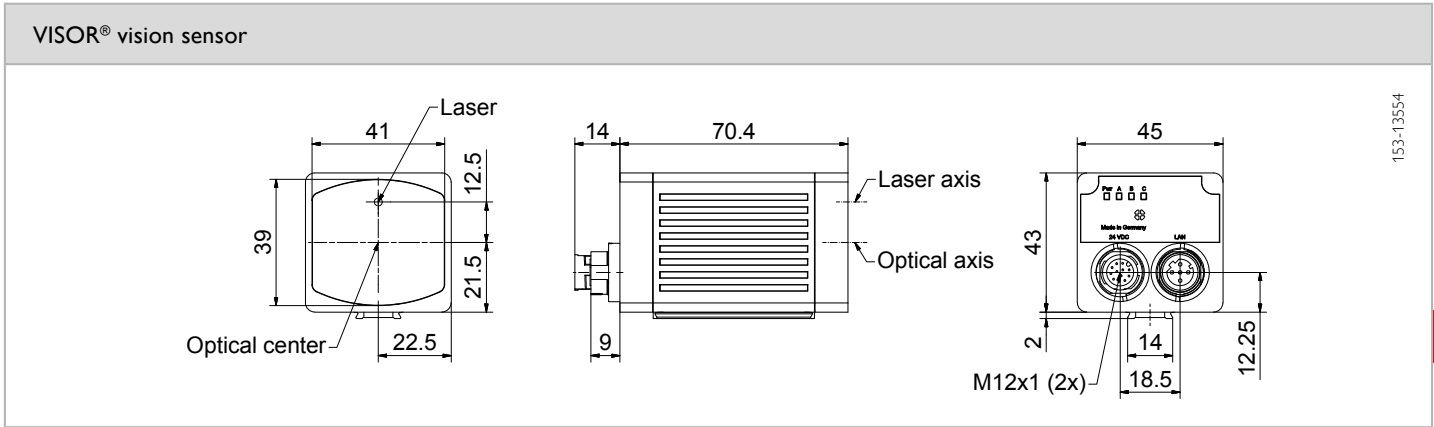


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Combination of two functions in one device: code reading and object detection
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass
- Reading OCR fonts

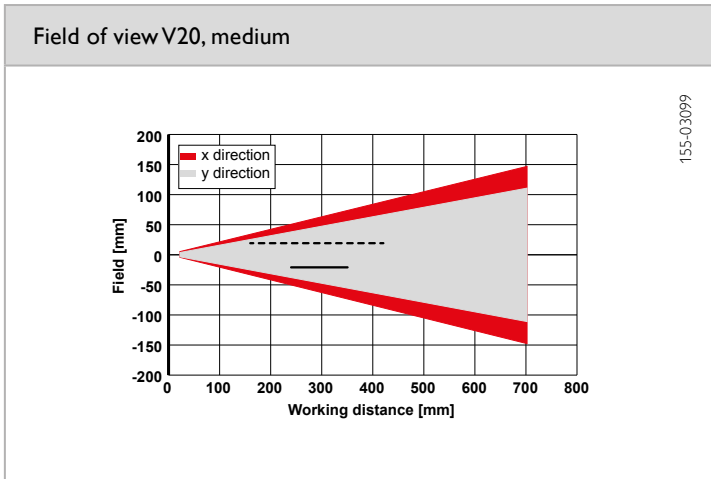
Optical data		Functions	
Resolution	1440 × 1080 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome	Detectors	Position tracking: X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <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:</b> checking and calculating with results from detectors
Integrated lens, focal length [mm]	12 (medium)		
Pixel size	3.45 µm × 3.45 µm		
Focus	Motorized		
Adjustment range	25 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm), infrared (850 nm) LEDs		
Minimum field of view, X × Y	10 × 8 mm		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	Dimensions	70,4 × 45 × 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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 VISOR® V20-CR-Advanced	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	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



153-13554

4



155-03099

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

illumination	Part number	Article number	Accessories	
White	V20-CR-P3-W-M-M2-L	632-91080	Connection cables	From Page A-38
White	V20-CR-P3-W-MD-M2-L	632-91083	Illumination	From Page A-27
Red	V20-CR-P3-R-M-M2-L	632-91085	Brackets	From Page A-4
Red	V20-CR-P3-R-MD-M2-L	632-91088	Interface accessories	From Page A-38
Infrared	V20-CR-P3-I-M-M2-L	632-91090		
Infrared	V20-CR-P3-I-MD-M2-L	632-91093		




# VISOR® V20 Code Reader Professional, narrow field of view

Multi Code Reader for 1 D und 2 D Codes and OCR

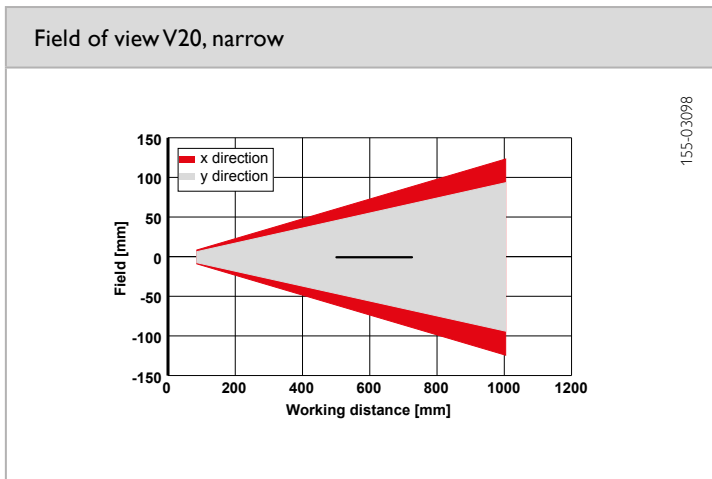
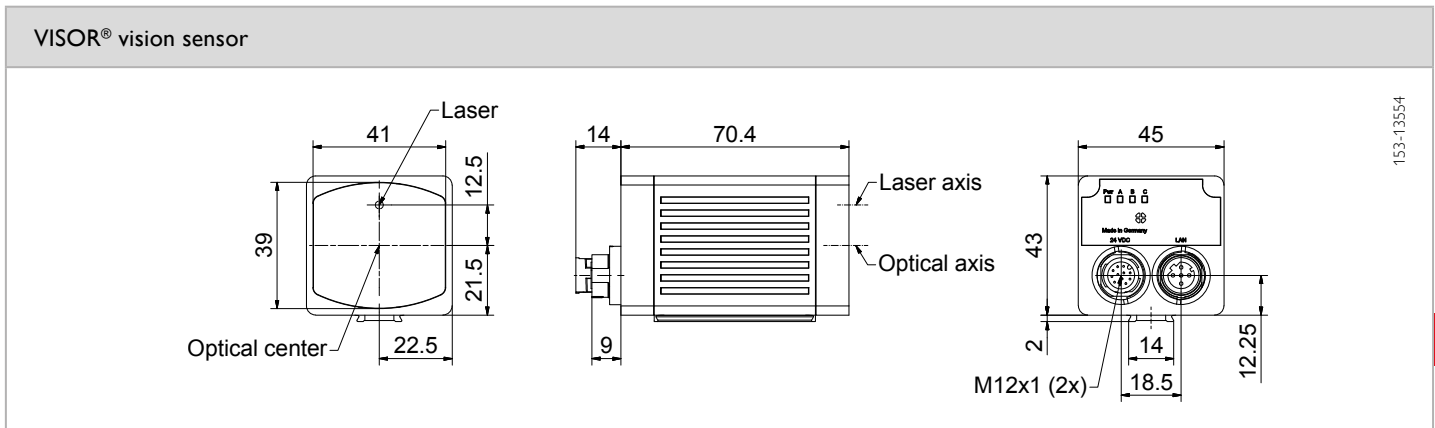


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Combination of two functions in one device: code reading and object detection
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass
- Reading OCR fonts

Optical data		Functions	
Resolution	1440 × 1080 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome	Detectors	Position tracking: X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <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:</b> checking and calculating with results from detectors
Integrated lens, focal length [mm]	20 (narrow)		
Pixel size	3.45 µm × 3.45 µm		
Focus	Motorized		
Adjustment range	100 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm), infrared (850 nm) LEDs		
Minimum field of view, X × Y	18 × 14 mm		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	Dimensions	70,4 × 45 × 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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
VISOR® V20-CR-Advanced		Shock resistance	EN 60068-2-27
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs		
Encoder	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



— Normal depth of field

illumination	Part number	Article number	Accessories	
White	V20-CR-P3-W-N-M2-L	632-91081	Connection cables	From Page A-38
Red	V20-CR-P3-R-N-M2-L	632-91086	Illumination	From Page A-27
Infrared	V20-CR-P3-I-N-M2-L	632-91091	Brackets	From Page A-4
			Interface accessories	From Page A-38

# VISOR® V20 Code Reader Professional, C-Mount

Multi Code Reader for 1 D und 2 D Codes and OCR

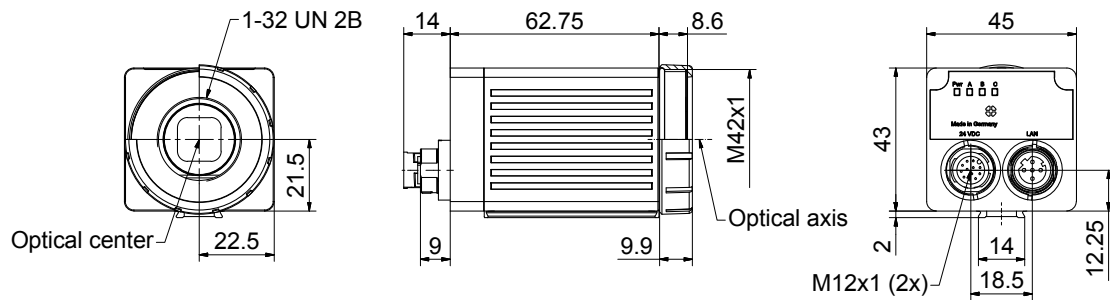


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Combination of two functions in one device: code reading and object detection
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass
- Reading OCR fonts

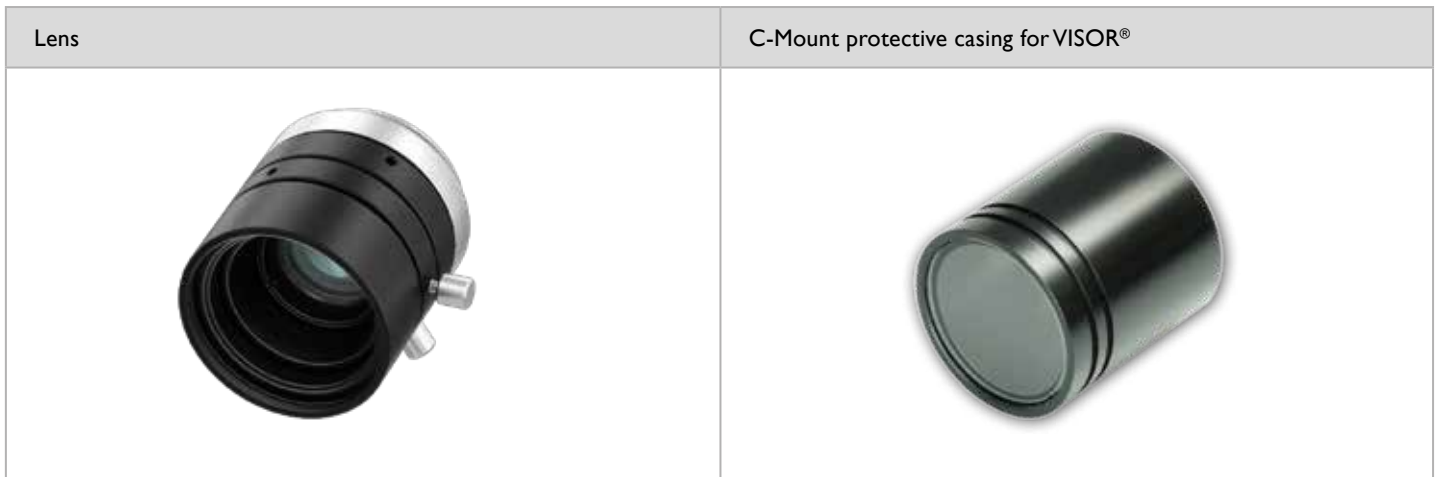
Optical data		Functions	
Resolution	1440 x 1080 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/2.9", monochrome	Detectors	Position tracking: X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <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:</b> 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 <sub>B</sub>	18 ... 30V DC <sup>1</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>2</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>3</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>3</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 VISOR® V20-CR-Advanced	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	✓		

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

**VISOR® vision sensor C-Mount**


153-13555

4



Part number	Article number
LPTVxx-G37.5	651-01006
LPTVxx-25.0	651-01007

	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
<b>Focal length</b>	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm	75 mm
<b>Article number</b>	526-51535	526-51536	526-51537	526-51538	526-51539	526-51540	526-51541

Part number	Article number	Accessories										
V20-CR-P3-C-2	632-91134	<table border="1"> <tr> <td>Connection cables</td> <td>From Page A-38</td> </tr> <tr> <td>Illumination</td> <td>From Page A-27</td> </tr> <tr> <td>Lenses</td> <td>From Page A-25</td> </tr> <tr> <td>Brackets</td> <td>From Page A-4</td> </tr> <tr> <td>Interface accessories</td> <td>From Page A-38</td> </tr> </table>	Connection cables	From Page A-38	Illumination	From Page A-27	Lenses	From Page A-25	Brackets	From Page A-4	Interface accessories	From Page A-38
Connection cables	From Page A-38											
Illumination	From Page A-27											
Lenses	From Page A-25											
Brackets	From Page A-4											
Interface accessories	From Page A-38											

# VISOR® V10 Code Reader Standard, wide field of view

Reading of 1D and 2D codes

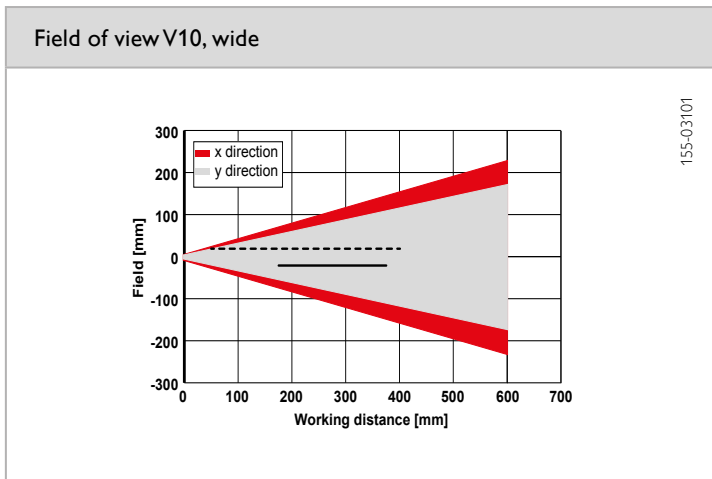
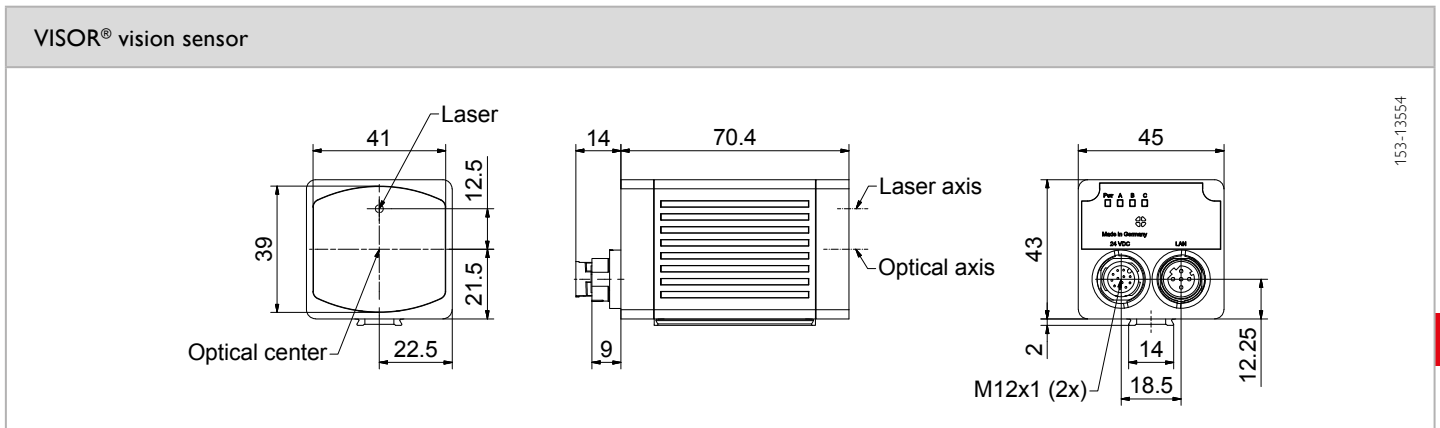


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Comprehensive tools for flexible and easy connection to PC and PLC environments

Optical data		Functions	
Resolution	800 × 600 pixels	Number of jobs / detectors	8 / 2
Imaging chip CMOS	1/3.6", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Datacode:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1
Integrated lens, focal length [mm]	5.2 (wide)		
Pixel size	4.8 μm × 4.8 μm		
Focus	Motorized		
Adjustment range	0 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm), infrared (850 nm) LEDs		
Minimum field of view, X × Y	2 × 1 mm		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	Dimensions	70.4 × 45 × 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</sup>
Switching threshold inputs incl. encoder	PNP/NPN High > U <sub>B</sub> -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	Vibration resistance	EN 60068-2-6
Inputs/outputs	2 inputs, 2 outputs, 4 selectable inputs/outputs	Shock resistance	EN 60068-2-27
Encoder	No		

<sup>1</sup> Max. ripple < 5 V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



- Increased depth of field
- Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V10-CR-S3-W-W-M2	631-91061	Connection cables	From Page A-38
White	V10-CR-S3-W-WD-M2	631-91000	Illumination	From Page A-27
Red	V10-CR-S3-R-W-M2	631-91064	Brackets	From Page A-4
Red	V10-CR-S3-R-WD-M2	631-91066	Interface accessories	From Page A-38
Infrared	V10-CR-S3-I-W-M2	631-91069		
Infrared	V10-CR-S3-I-WD-M2	631-91040		

# VISOR® V10 Code Reader Standard, medium field of view

Reading of 1D and 2D codes

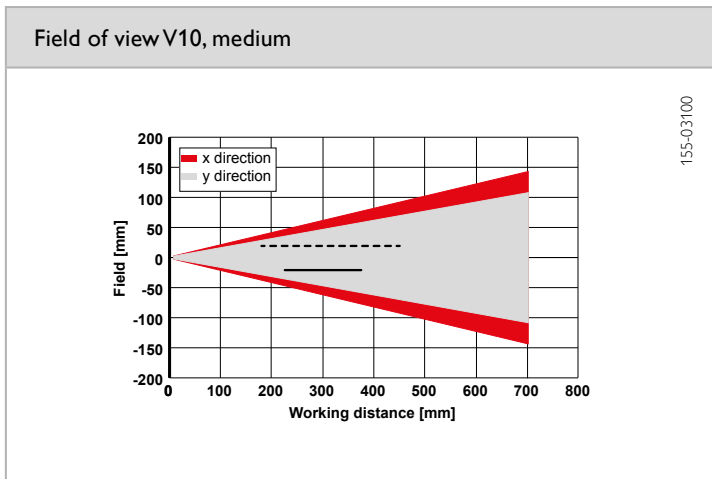
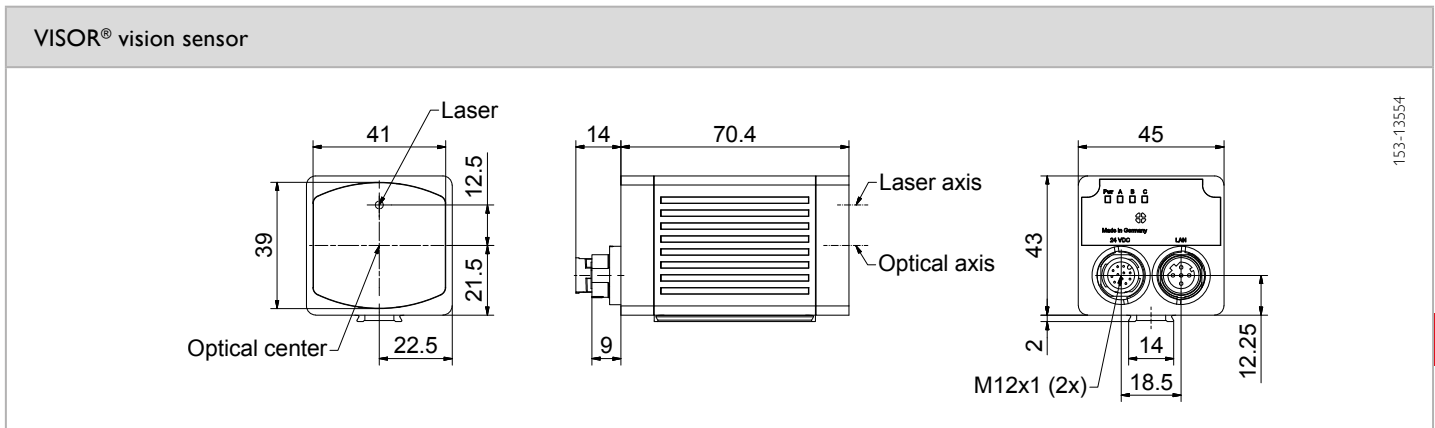


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Comprehensive tools for flexible and easy connection to PC and PLC environments

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	8 / 2
Imaging chip CMOS	1/3.6", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Datacode:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1
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), infrared (850 nm) LEDs		
Minimum field of view, X x Y	7 x 3 mm		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</sup>
Switching threshold inputs incl. encoder	PNP/NPN High > U <sub>B</sub> -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	Vibration resistance	EN 60068-2-6
Inputs/outputs	2 inputs, 2 outputs, 4 selectable inputs/outputs	Shock resistance	EN 60068-2-27
Encoder	No		

<sup>1</sup> Max. ripple < 5 V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



- Increased depth of field
- Normal depth of field

illumination	Part number	Article number	Accessories	
White	V10-CR-S3-W-M-M2	631-91062	Connection cables	From Page A-38
White	V10-CR-S3-W-MD-M2	631-91037	Illumination	From Page A-27
Red	V10-CR-S3-R-M-M2	631-91065	Brackets	From Page A-4
Red	V10-CR-S3-R-MD-M2	631-91067	Interface accessories	From Page A-38
Infrared	V10-CR-S3-I-M-M2	631-91070		
Infrared	V10-CR-S3-I-MD-M2	631-91071		



# VISOR® V10 Code Reader Standard, narrow field of view

Reading of 1D and 2D codes

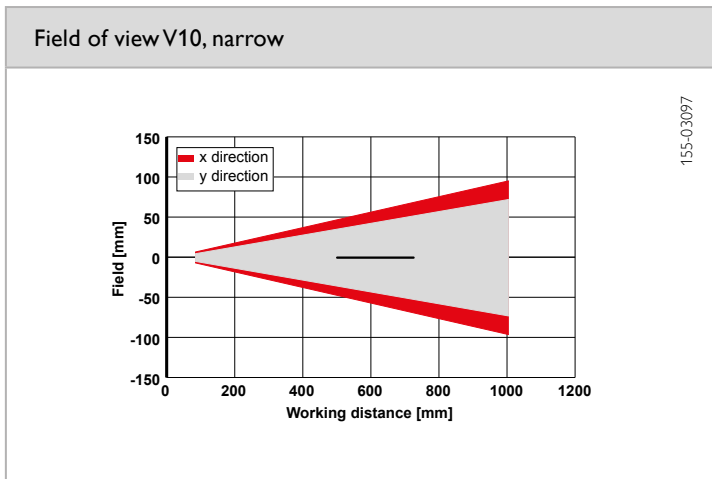
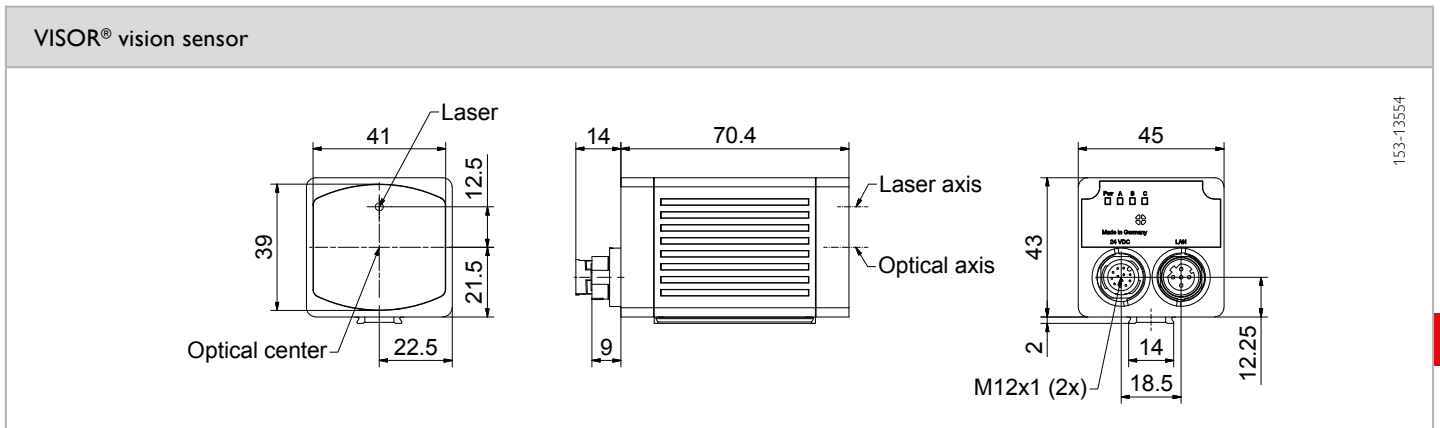


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Comprehensive tools for flexible and easy connection to PC and PLC environments

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	8 / 2
Imaging chip CMOS	1/3.6", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Data code:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1
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), infrared (850 nm) LEDs		
Minimum field of view, X x Y	14 x 10 mm		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</sup>
Switching threshold inputs incl. encoder	PNP/NPN High > U <sub>B</sub> -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	Vibration resistance	EN 60068-2-6
VISOR® V20-CR-Advanced		Shock resistance	EN 60068-2-27
Inputs/outputs	2 inputs, 2 outputs, 4 selectable inputs/outputs		
Encoder	No		

<sup>1</sup> Max. ripple < 5 V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



— Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V10-CR-S3-W-N-M2	631-91063	Connection cables	From Page A-38
Red	V10-CR-S3-R-N-M2	631-91068	Illumination	From Page A-27
Infrared	V10-CR-S3-I-N-M2	631-91072	Brackets	From Page A-4
			Interface accessories	From Page A-38


# VISOR® V10 Code Reader Advanced, wide field of view

Multi-Code Reader for 1D and 2D codes

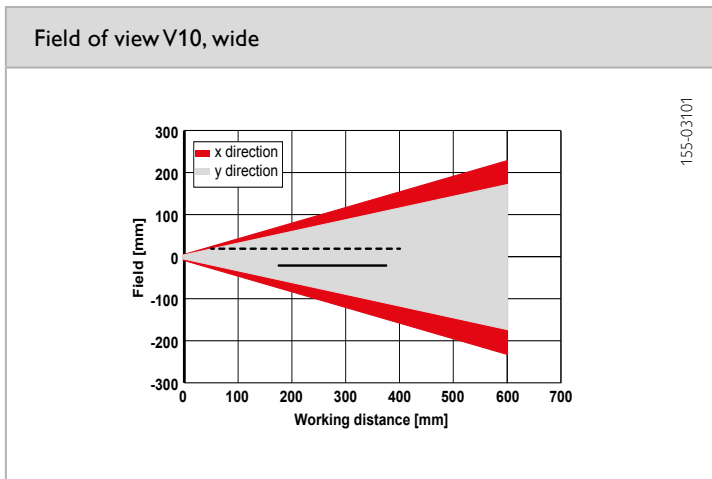
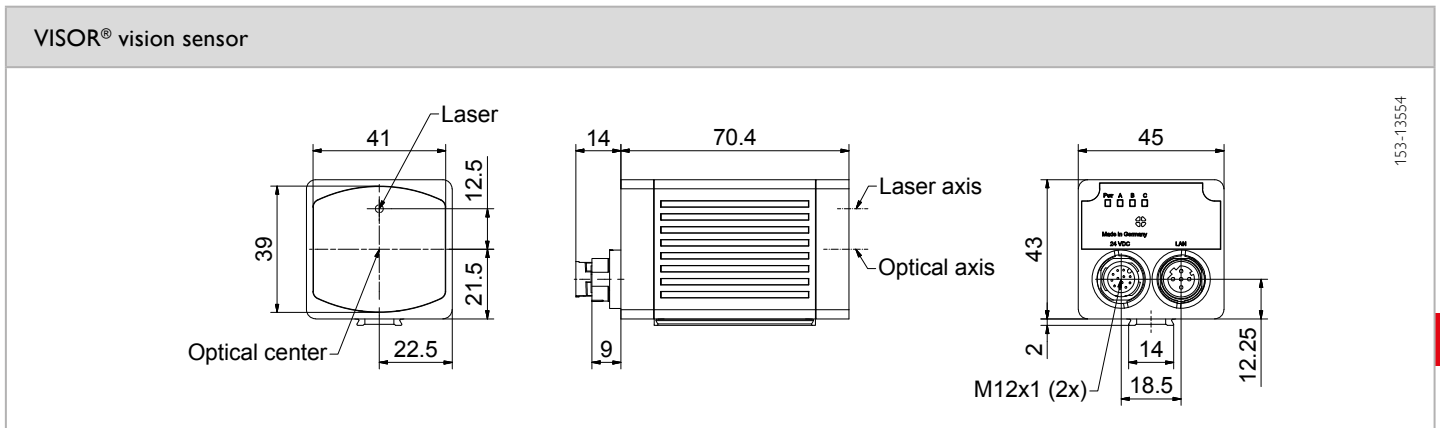


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass

Optical data		Functions	
Resolution	800 × 600 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Datacode:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1; <b>Result processing-Text:</b> checking and calculating with results from detectors
Integrated lens, focal length [mm]	5.2 (wide)		
Pixel size	4.8 μm × 4.8 μm		
Focus	Motorized		
Adjustment range	0 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm), infrared (850 nm) LEDs		
Minimum field of view, X × Y	2 × 1 mm		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	Dimensions	70.4 × 45 × 45 mm (without plug)
Current consumption (without I/O)	≤ 300 mA	Enclosure rating	IP 67 & IP 65
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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</sup>
Switching threshold inputs incl. encoder	PNP/NPN High > U <sub>B</sub> -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
VISOR® V20-CR-Advanced		Shock resistance	EN 60068-2-27
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs		
Encoder	✓		

<sup>1</sup> Max. ripple < 5 V<sub>ss</sub>    <sup>2</sup> 80 % air humidity, noncondensing



- Increased depth of field
- Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V10-CR-A3-W-W-M2-L	631-91051	Connection cables	From Page A-38
White	V10-CR-A3-W-WD-M2-L	631-91035	Illumination	From Page A-27
Red	V10-CR-A3-R-W-M2-L	631-91054	Brackets	From Page A-4
Red	V10-CR-A3-R-WD-M2-L	631-91033	Interface accessories	From Page A-38
Infrared	V10-CR-A3-I-W-M2-L	631-91057		
Infrared	V10-CR-A3-I-WD-M2-L	631-91031		


# VISOR® V10 Code Reader Advanced, medium field of view

Multi-Code Reader for 1 D und 2 D Codes

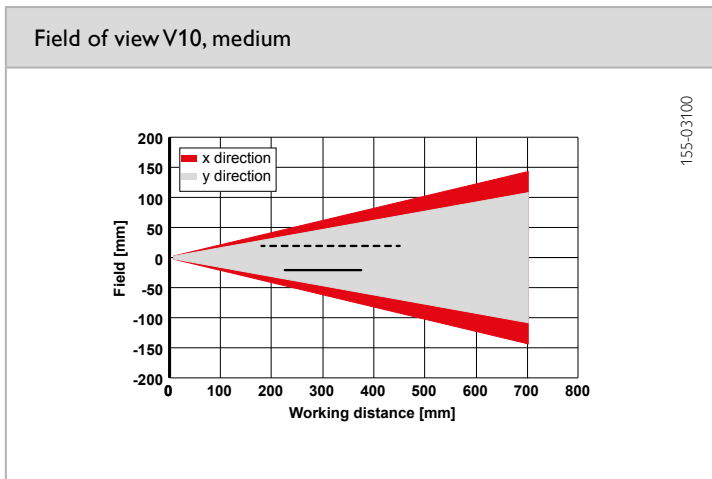
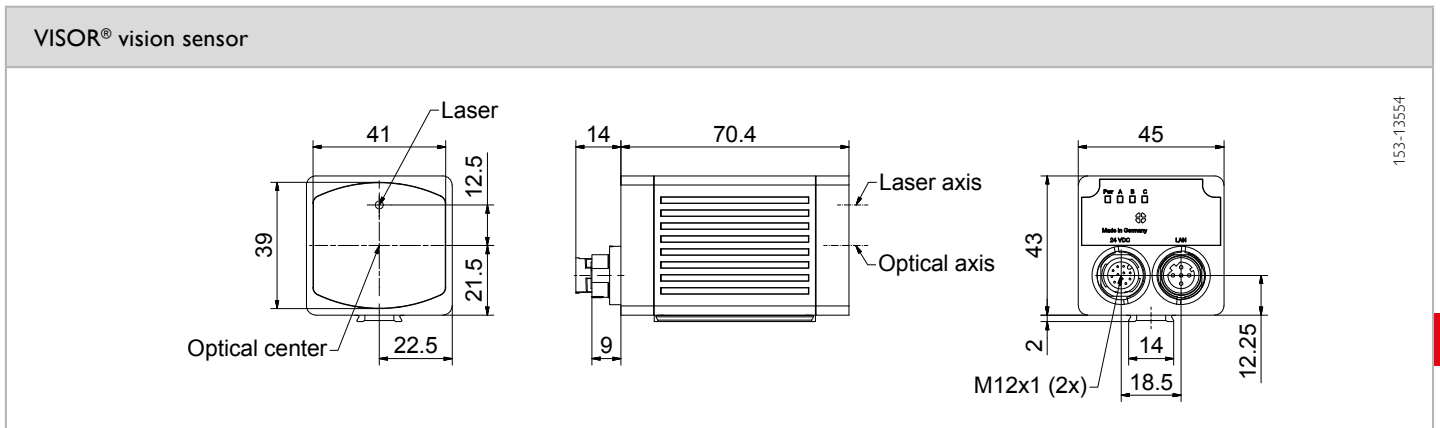


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Datacode:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1; <b>Result processing:Text:</b> 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), infrared (850 nm) 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 <sub>B</sub>	18 ... 30 DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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 VISOR® V20-CR-Advanced	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	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



- Increased depth of field
- Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V10-CR-A3-W-M-M2-L	631-91052	Connection cables	From Page A-38
White	V10-CR-A3-W-MD-M2-L	631-91034	Illumination	From Page A-27
Red	V10-CR-A3-R-M-M2-L	631-91055	Brackets	From Page A-4
Red	V10-CR-A3-R-MD-M2-L	631-91032	Interface accessories	From Page A-38
Infrared	V10-CR-A3-I-M-M2-L	631-91058		
Infrared	V10-CR-A3-I-MD-M2-L	631-91028		


# VISOR® V10 Code Reader Advanced, narrow field of view

Multi-Code Reader for 1 D und 2 D Codes

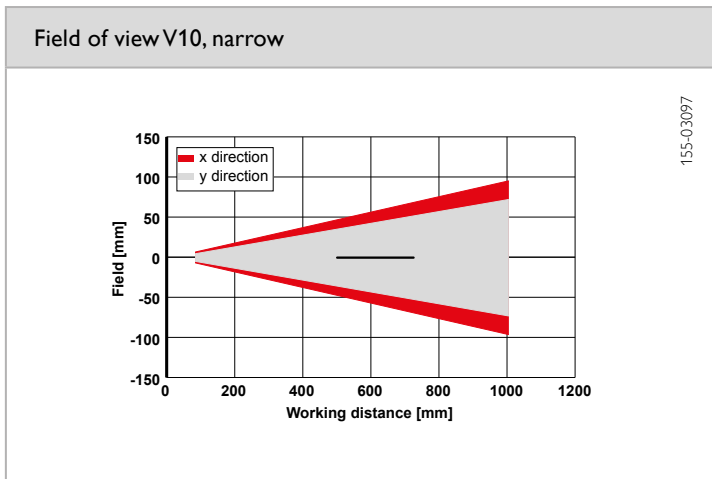
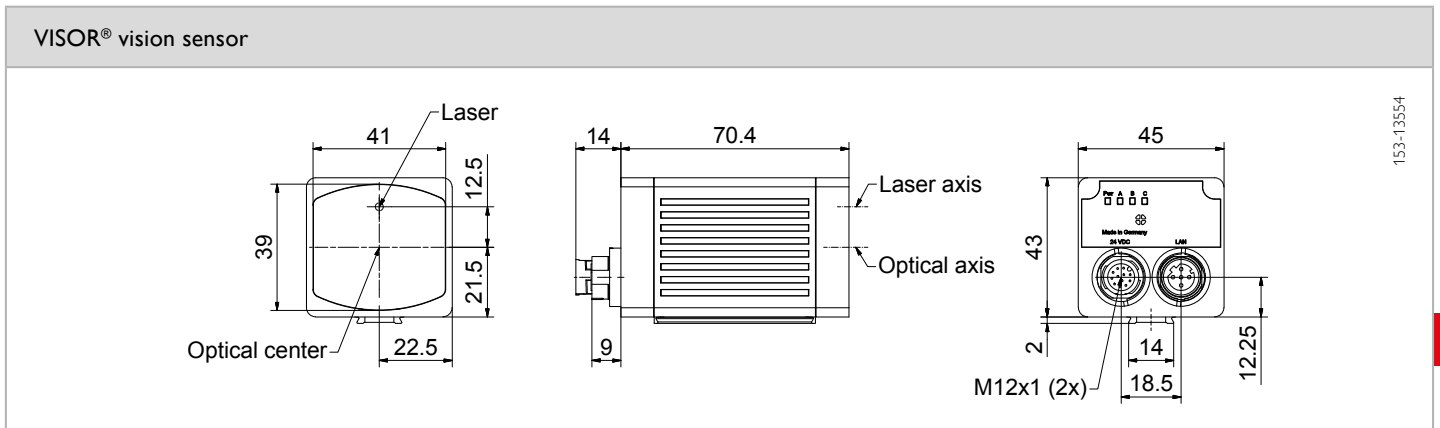


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Datacode:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1; <b>Result processing:Text:</b> 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), infrared (850 nm) 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 <sub>B</sub>	18 ... 30 DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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 VISOR® V20-CR-Advanced	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	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



— Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V10-CR-A3-W-N-M2-L	631-91053	Connection cables	From Page A-38
Red	V10-CR-A3-R-N-M2-L	631-91056	Illumination	From Page A-27
Infrared	V10-CR-A3-I-N-M2-L	631-91059	Brackets	From Page A-4
			Interface accessories	From Page A-38



# VISOR® V10 Code Reader Advanced, C-Mount

Multi-Code Reader for 1D und 2D Codes

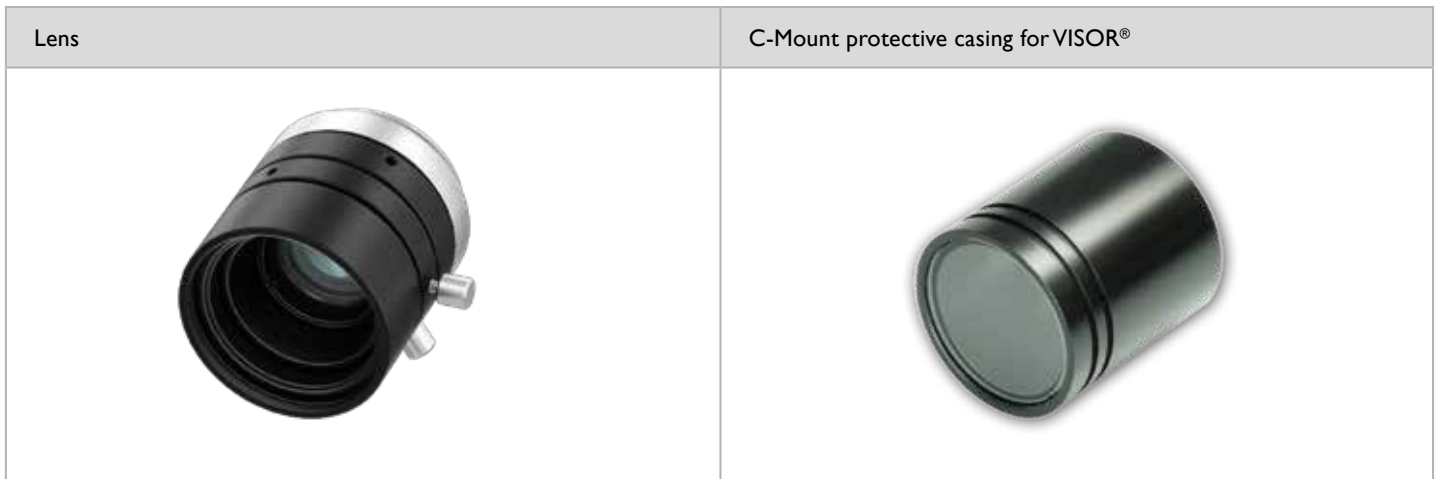
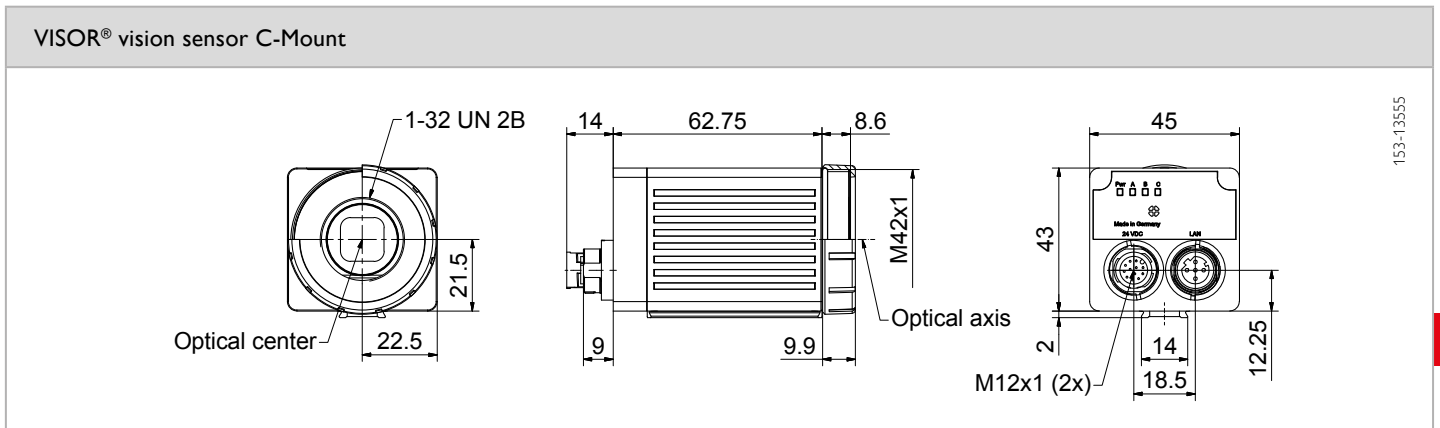


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome	Detectors	<b>Barcode:</b> reading of 1D barcodes: EAN, UPC, RSS, 2/5 Interleaved, 2/5 Industrial, Code 32, Code 39, Code 93, Code 128, GS1, Pharmacode, Codabar; <b>Datacode:</b> reading of 2D barcodes: ECC200, QR-Code, PDF 417, ECC200 GS1; <b>Result processing:Text:</b> 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	None		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</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>2</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>3</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>3</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 VISOR® V20-CR-Advanced	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	✓		

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



Part number	Article number
LPTVxx-G37.5	651-01006
LPTVxx-25.0	651-01007

	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
<b>Focal length</b>	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm	75 mm
<b>Article number</b>	526-51535	526-51536	526-51537	526-51538	526-51539	526-51540	526-51541

Part number	Article number	Accessories
V10-CR-A3-C-2	631-91060	<ul style="list-style-type: none"> <li>Connection cables</li> <li>Illumination</li> <li>Lenses</li> <li>Brackets</li> <li>Interface accessories</li> </ul>
		<ul style="list-style-type: none"> <li>From Page A-38</li> <li>From Page A-27</li> <li>From Page A-25</li> <li>From Page A-4</li> <li>From Page A-38</li> </ul>


# VISOR® V10 Code Reader Professional, wide field of view

Multi-Code Reader for 1D und 2D Codes und OCR

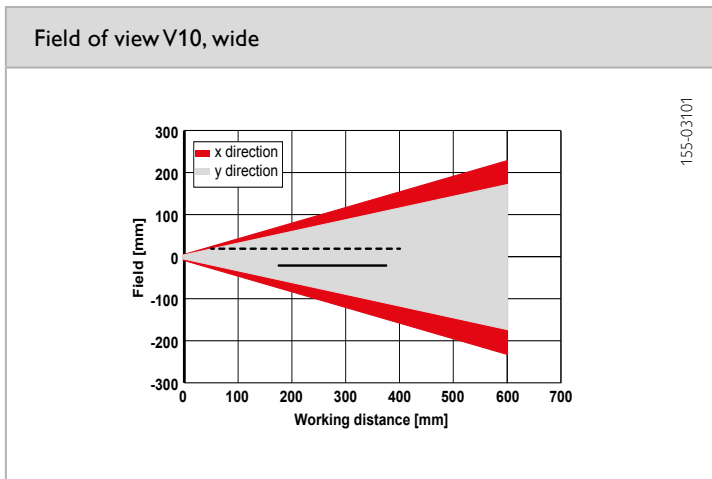
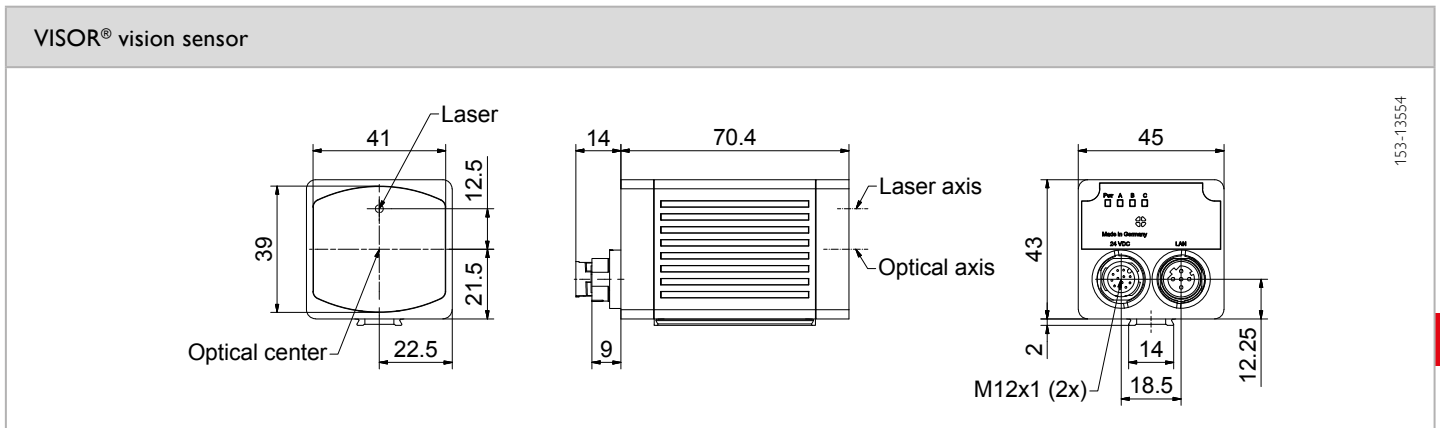


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Combination of two functions in one device: code reading and object detection
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass
- Reading OCR fonts

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome	Detectors	Position tracking: X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <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:</b> checking and calculating with results from detectors
Integrated lens, focal length [mm]	5.2 (wide)		
Pixel size	4.8 µm x 4.8 µm		
Focus	Motorized		
Adjustment range	0 mm to infinity		
Integrated illumination	White (5000 K), red (635 nm), infrared (850 nm) LEDs		
Minimum field of view, X x Y	2 x 1 mm		
Target laser	Laser: red (635 nm) class 1  (IEC 60825-1)		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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
VISOR® V20-CR-Advanced		Shock resistance	EN 60068-2-27
Inputs/outputs	2 inputs, 2 outputs, 6 selectable inputs/outputs		
Encoder	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



- Increased depth of field
- Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V10-CR-P3-W-W-M2-L	631-91083	Connection cables	From Page A-38
White	V10-CR-P3-W-WD-M2-L	631-91086	Illumination	From Page A-27
Red	V10-CR-P3-R-W-M2-L	631-91088	Brackets	From Page A-4
Red	V10-CR-P3-R-WD-M2-L	631-91091	Interface accessories	From Page A-38
Infrared	V10-CR-P3-I-W-M2-L	631-91093		
Infrared	V10-CR-P3-I-WD-M2-L	631-91096		


# VISOR® V10 Code Reader Professional, medium field of view

Multi-Code Reader for 1D and 2D codes and OCR

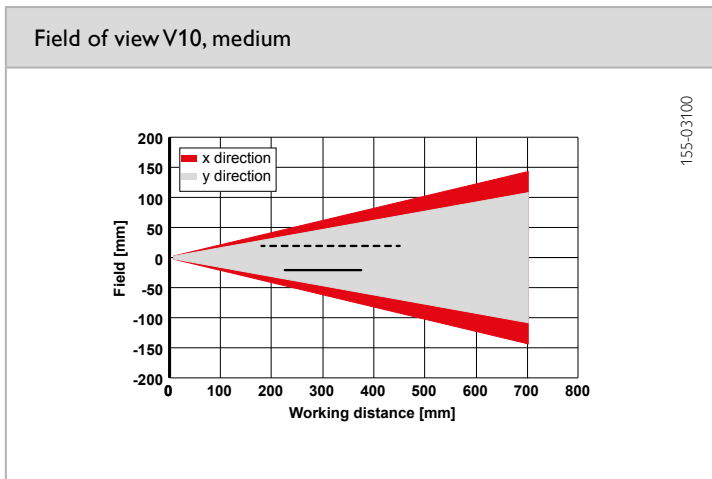
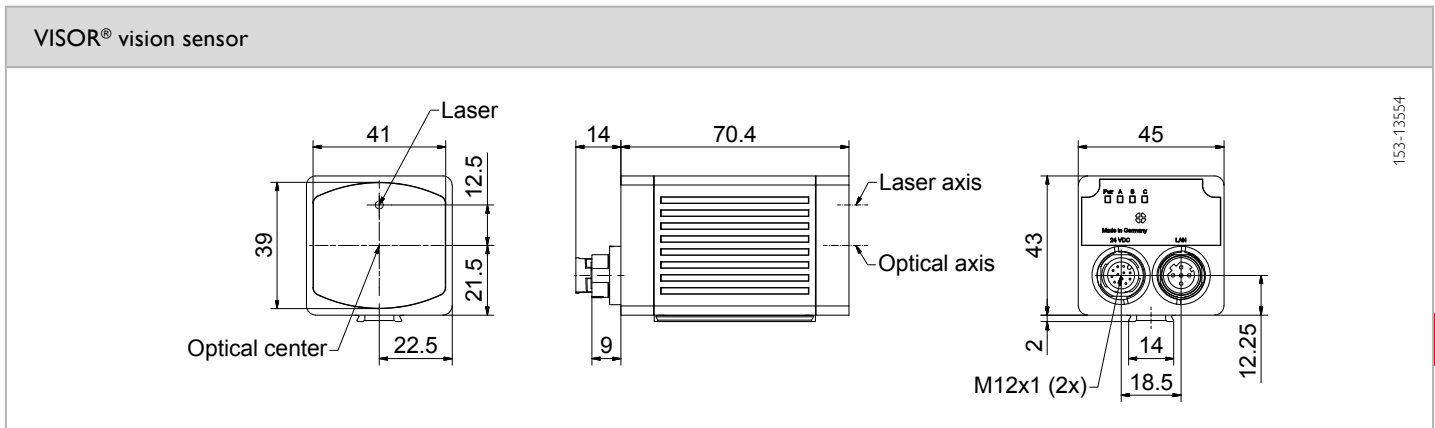


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Combination of two functions in one device: code reading and object detection
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass
- Reading OCR fonts

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome	Detectors	Position tracking: X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <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:</b> 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), infrared (850 nm) 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 <sub>B</sub>	18 ... 30 DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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 VISOR® V20-CR-Advanced	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	✓		

<sup>1</sup> Max. ripple < 5 V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



- Increased depth of field
- Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V10-CR-P3-W-M-M2-L	631-91084	Connection cables	From Page A-38
White	V10-CR-P3-W-MD-M2-L	631-91087	Illumination	From Page A-27
Red	V10-CR-P3-R-M-M2-L	631-91089	Brackets	From Page A-4
Red	V10-CR-P3-R-MD-M2-L	631-91092	Interface accessories	From Page A-38
Infrared	V10-CR-P3-I-M-M2-L	631-91094		
Infrared	V10-CR-P3-I-MD-M2-L	631-91097		


# VISOR® V10 Code Reader Professional, narrow field of view

Multi-Code Reader for 1D and 2D codes and OCR

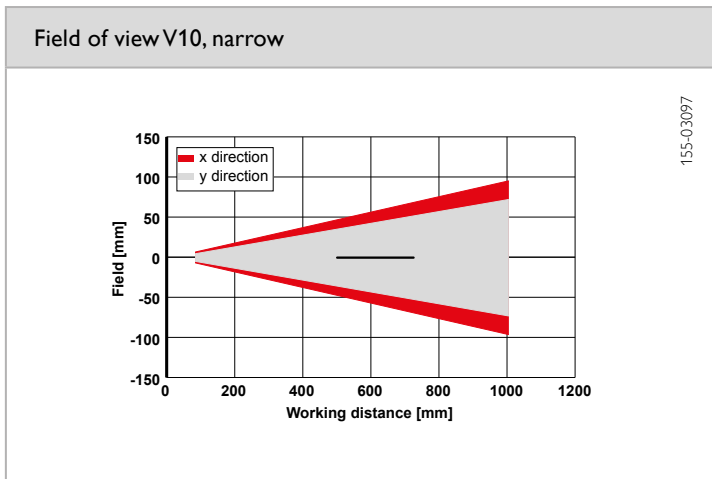
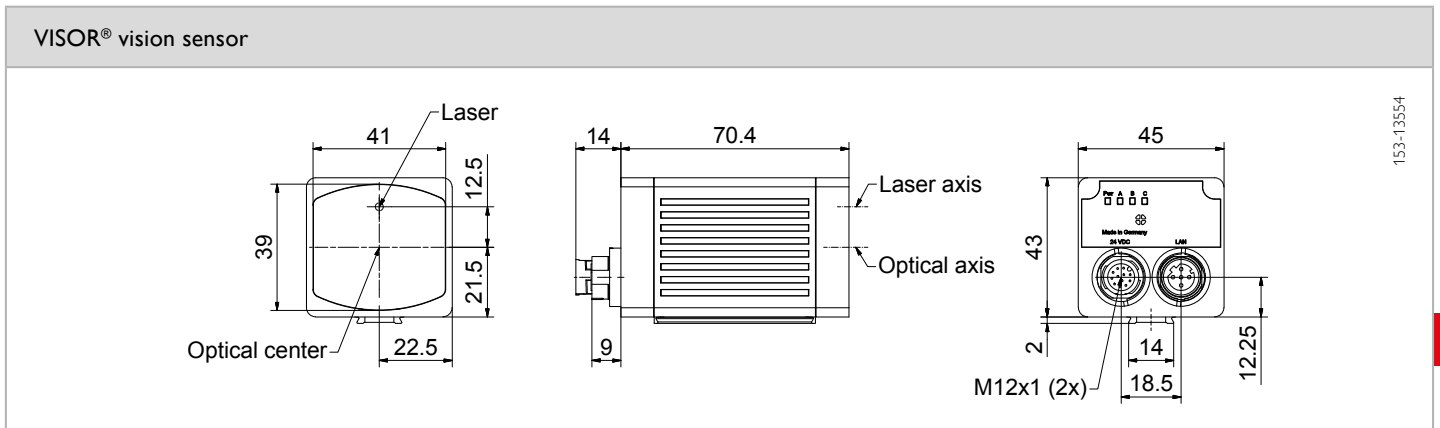


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Combination of two functions in one device: code reading and object detection
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass
- Reading OCR fonts

Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome	Detectors	Position tracking; X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <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:</b> 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), infrared (850 nm) 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 <sub>B</sub>	18 ... 30 DC <sup>1</sup>	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 <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>2</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>2</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 VISOR® V20-CR-Advanced	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	✓		

<sup>1</sup> Max. ripple < 5V<sub>SS</sub>    <sup>2</sup> 80 % air humidity, noncondensing



— Normal depth of field

Illumination	Part number	Article number	Accessories	
White	V10-CR-P3-W-N-M2-L	631-91085	Connection cables	From Page A-38
Red	V10-CR-P3-R-N-M2-L	631-91090	Illumination	From Page A-27
Infrared	V10-CR-P3-I-N-M2-L	631-91095	Brackets	From Page A-4
			Interface accessories	From Page A-38



# VISOR® V10 Code Reader Professional, C-Mount

Multi-Code Reader for 1D and 2D codes and OCR

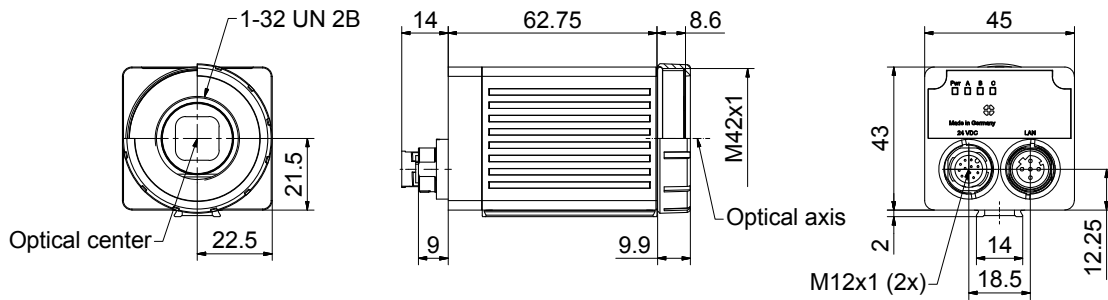


## PRODUCT HIGHLIGHTS

- Can be used for all common 2D codes (ECC 200 data matrix) and common 1D bar codes
- Combination of two functions in one device: code reading and object detection
- Reliable detection of even poorly readable codes under difficult ambient conditions
- Comprehensive tools for flexible and easy connection to PC and PLC environments
- Reading of several similar or differing types of codes in one reading pass
- Reading OCR fonts

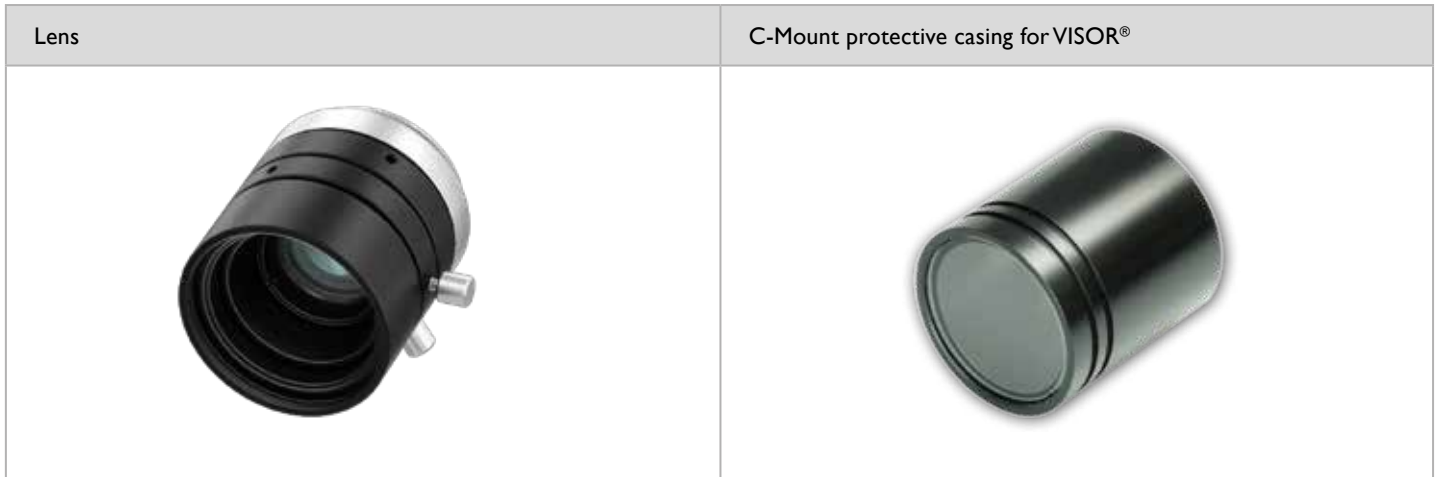
Optical data		Functions	
Resolution	800 x 600 pixels	Number of jobs / detectors	max. 255 / max. 255
Imaging chip CMOS	1/3.6", monochrome	Detectors	Position tracking: X/Y and orientation; <b>Pattern matching, contour:</b> teach-in and detection of patterns and contours; <b>Grey threshold, brightness:</b> evaluation of brightness; <b>Contrast:</b> evaluation of contrast; <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:</b> 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	No		
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30 DC <sup>1</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>2</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>3</sup>
Max. output current (per output)	50 mA, 100 mA (pin 12)	Ambient temperature: storage	-20 ... +60 °C <sup>3</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	Shock resistance	EN 60068-2-27
Encoder	✓		

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

**VISOR® vision sensor C-Mount**


153-13555

4



Part number	Article number
LPTVxx-G37.5	651-01006
LPTVxx-25.0	651-01007

	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
<b>Focal length</b>	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm	75 mm
<b>Article number</b>	526-51535	526-51536	526-51537	526-51538	526-51539	526-51540	526-51541

Part number	Article number	Accessories
V10-CR-P3-C-2	631-91098	<ul style="list-style-type: none"> <li>Connection cables</li> <li>Illumination</li> <li>Lenses</li> <li>Brackets</li> <li>Interface accessories</li> </ul>
		<ul style="list-style-type: none"> <li>From Page A-38</li> <li>From Page A-27</li> <li>From Page A-25</li> <li>From Page A-4</li> <li>From Page A-38</li> </ul>