



# V2D8305R-1MCICXAF1SXXX

Lector83x

IMAGE-BASED CODE READERS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
V2D8305R-1MCICXAF1SXXXX	1149572

**Included in delivery:** C-mount lens (1), Optics protection hood (PMMA) - for white, red illumination (1), Spacer kit (1), VI55I-WH2047H0 (1), V2D8305R-1MCXXXAF1SXXXX (1)

Other models and accessories → [www.sick.com/Lector83x](http://www.sick.com/Lector83x)



### Detailed technical data

#### Features

<b>Variant</b>	Complete device
<b>Optical focus</b>	Adjustable focus (manual)
<b>Sensor</b>	CMOS monochrome
<b>Sensor resolution</b>	2,464 px x 2,048 px (5 MP)
<b>Illumination</b>	Integrated
<b>Illumination color</b>	White, LED, Visible,
<b>Aperture angle</b>	47°, illumination
<b>Lens</b>	C-mount
Optical format	1/1.8"
Focal length	12 mm
Aperture	1.8 ... 11
<b>Scanning frequency</b>	30 Hz
<b>Code resolution</b>	≥ 0.1 mm <sup>1)</sup>
<b>Working range</b>	200 mm ... 2,500 mm <sup>1)</sup>

<sup>1)</sup> Depends on lens used.

#### Mechanics/electronics

<b>Connection type</b>	1 x M12, 17-pin male connector, A-coded (power, CAN, serial interface, I/O) 1 x M8, 4-pin socket (external illumination, I/O) 2 x M12, 4-pin socket, D-coded (100-Megabit Ethernet, dual port fieldbus) 1 x M12, 8-pin female connector, X-coded (Gigabit Ethernet)
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<sup>1)</sup> Voltage source in accordance with ES1 (EN 62368-1) or SELV (EN 60950-1).

<sup>2)</sup> The typical power consumption depends on the product configuration. The specified value applies to digital outputs without load.

<sup>3)</sup> At 25 °C ambient operating temperature.

<b>Supply voltage</b>	24 V DC, $\pm 20\%$ <sup>1)</sup>
<b>Power consumption</b>	Typ. 21 W <sup>2)</sup>
<b>Current consumption</b>	$\leq$ max. 2 A
<b>Housing material</b>	Aluminum die cast
<b>Housing color</b>	Anthracite gray (RAL 7016)
<b>Window material</b>	Plastic (PMMA), 2 mm thick, with scratch-proof, anti-reflection (AR) coating on both sides
<b>Enclosure rating</b>	IP65 (IEC 60529:2013 +C1:2013 +C2:2015 +AMD2 C1:2019, EN 60529:1991 +A1:2010 +A2:2013 +AC:2019-02)
<b>Electrical safety</b>	EN 61010:2010 / EN 61010-1:2010/A1:2019/AC:2019-04
<b>Weight</b>	545 g, without lens and connection cables
<b>Dimensions (L x W x H)</b>	108 mm x 63.1 mm x 84.5 mm
<b>MTBF</b>	100,000 h <sup>3)</sup>

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### Safety-related parameters

<b>Conformities</b>	Conformance Class B
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### Performance

<b>Readable code structures</b>	1D codes, 2D codes, Stacked
<b>Bar code types</b>	Code 128, GS1-128, EAN 128, EAN 8, EAN 13, UPC-A, UPC-E, Interleaved 2 of 5, Codabar, Code 93, Postal code
<b>2D code types</b>	Data Matrix ECC200, GS1 Data-Matrix, MaxiCode, QR code, Aztec
<b>Stacked code types</b>	PDF417
<b>Code printing process</b>	Printed codes

### Interfaces

<b>Ethernet</b>	Function	✓, TCP/IP
	Data transmission rate	Data interface (read result output), service interface, FTP (image transmission) 10/100/1,000 Mbit/s, MAC address (device-specific), see type label
<b>CAN</b>	Function	✓
	Data transmission rate	Data interface (read result output), Trigger interface 500 kbit/s
<b>Serial</b>	Function	✓, RS-232, RS-422
	Data transmission rate	1.2 kBaud ... 115.2 kBaud
<b>USB</b>	Function	✓, USB 2.0
	Data transmission rate	Service interface (accessing the web server), Ethernet via USB (RNDIS) 480 Mbit/s
<b>EtherNet/IP™</b>	Function	✓ (2)
	Data transmission rate	Data interface (read result output), Trigger interface 10/100 MBit/s
<b>PROFINET</b>	Function	✓ (2)

<sup>1)</sup> Memory card is available as an optional accessory. To ensure that the memory card functions reliably, only use card types (industrial standard) approved by SICK. Other functions are available upon request.

Function	Data interface (read result output), Trigger interface
Data transmission rate	10/100 MBit/s
<b>Fieldbus, industrial network</b>	
Supported protocol versions	PROFINET specification V2.43
GSDML	According to GSDML specification V2.43
Conformance	Conformance Class B
Network management	SNMP, MIB-2, LLDP, MRP client support
Switch properties	2 port real-time switch compliant with IEEE 802
Port properties	100Base-TX, auto-negotiation, auto-crossover (MDIX), auto-polarity
Net load	Net load class III in accordance with security level 1 test
<b>Digital inputs</b>	2 ("Sensor 1", "Sensor 2", insulated, encoder input, external trigger)
<b>Configurable digital inputs/outputs</b>	
X1	3 pieces („DIO 4“, „DIO 5“, „DIO 6“)
<b>Reading pulse</b>	Digital inputs, CAN, auto pulse
<b>Optical indicators</b>	8 status LEDs
<b>Operator interfaces</b>	Web server
<b>Configuration software</b>	SOPASair
<b>Memory card slot</b>	Micro SD memory card (not included with delivery) <sup>1)</sup>
<b>Parameter cloning</b>	Micro SD memory card Control software
<b>Data storage and retrieval</b>	Image and data storage via external FTP
<b>EncoderFrequency</b>	Max. 50 kHz
<b>External illumination control</b>	Via digital output (max. 24 V trigger)

<sup>1)</sup> Memory card is available as an optional accessory. To ensure that the memory card functions reliably, only use card types (industrial standard) approved by SICK. Other functions are available upon request.

### Ambient data

<b>Electromagnetic compatibility (EMC)</b>	
Interference resistance	IEC 61000-6-2:2016 / EN IEC 61000-6-2:2019
Interference emission	IEC 61000-6-4:2018 / EN IEC 61000-6-4:2019
<b>Vibration resistance</b>	EN 60068-2-6:2007, EN 60068-2-64:2019
<b>Shock resistance</b>	EN 60068-2-27:2008
<b>Ambient operating temperature</b>	0 °C ... +50 °C <sup>1)</sup>
<b>Storage temperature</b>	-20 °C ... +70 °C
<b>Relative humidity</b>	≤ 90 %, Non-condensing
<b>Ambient light immunity</b>	2,000 lx, on code
<b>Contamination rating</b>	2 (EN 61010-1)
<b>Altitude (above sea level)</b>	< 5,000 m

<sup>1)</sup> If the ambient operating temperature will be ≥ 40 °C, ensure adequate heat dissipation when mounting the device.

### Certificates

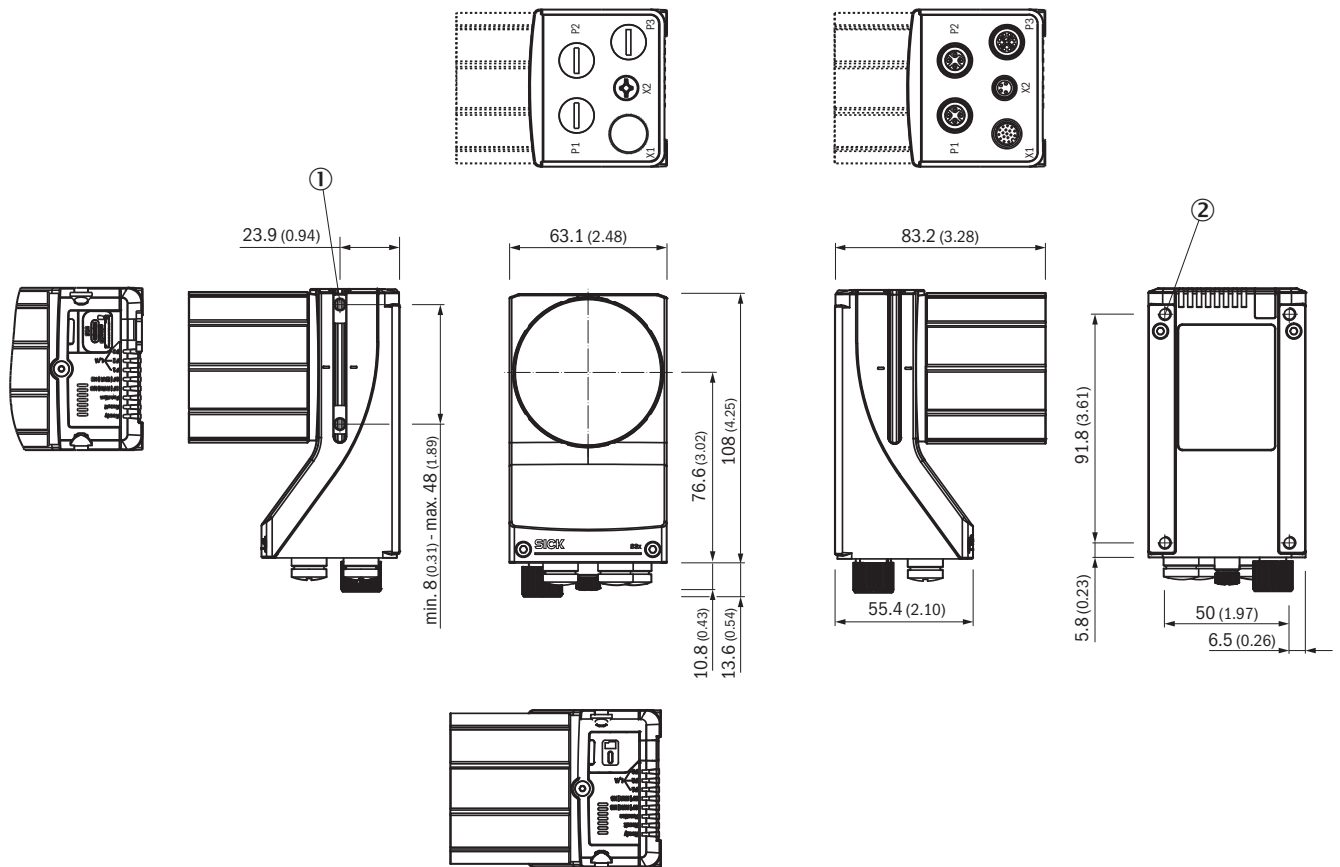
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓

<b>ACMA declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Profinet certificate</b>	✓
<b>Ethernet/IP certificate</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

### Classifications

<b>ECLASS 5.0</b>	27280103
<b>ECLASS 5.1.4</b>	27280103
<b>ECLASS 6.0</b>	27280103
<b>ECLASS 6.2</b>	27280103
<b>ECLASS 7.0</b>	27280103
<b>ECLASS 8.0</b>	27280103
<b>ECLASS 8.1</b>	27280103
<b>ECLASS 9.0</b>	27280103
<b>ECLASS 10.0</b>	27280103
<b>ECLASS 11.0</b>	27280103
<b>ECLASS 12.0</b>	27280103
<b>ETIM 5.0</b>	EC002550
<b>ETIM 6.0</b>	EC002550
<b>ETIM 7.0</b>	EC002999
<b>ETIM 8.0</b>	EC002999
<b>UNSPSC 16.0901</b>	43211701

### Dimensional drawing



Dimensions in mm (inch)

- ① 2 M5 sliding nuts; 5.5 mm deep; pivoting; as an alternative method of mounting the product
- ② 4 tapped blind holes, M5, 5.5 mm deep for mounting the product

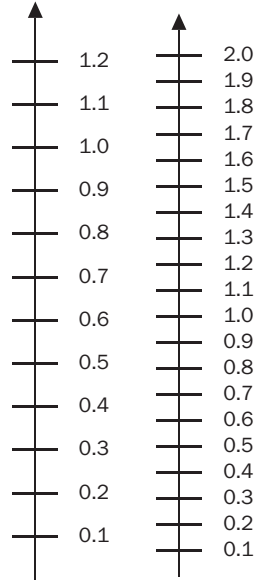
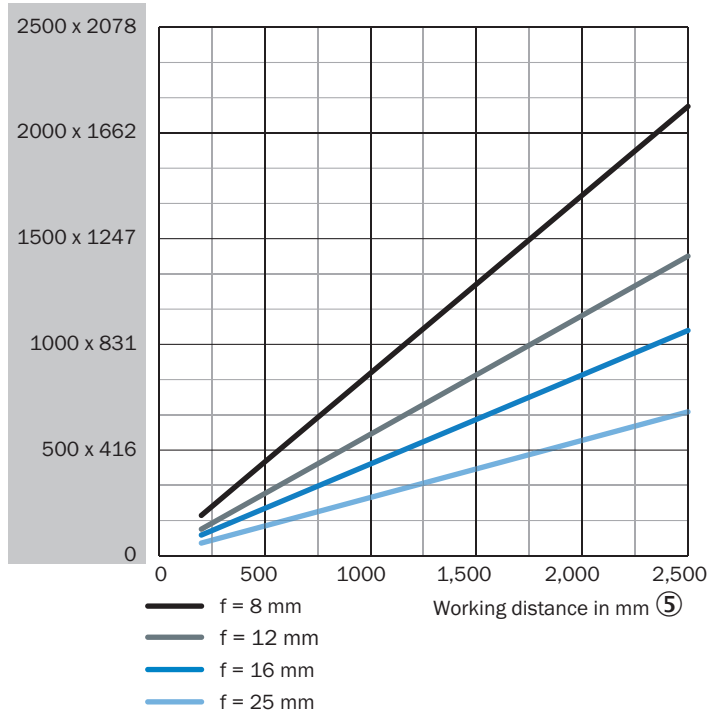
Field of view V2D8305x-xxxxxxxxx

Perceived area of field of view: H x V (mm) ①

Min. resolution in mm ②

1D code ③

2D code ④



- ① perceived field of view area: horizontal x vertical (mm)
- ② Minimum resolution in mm
- ③ 1D code
- ④ 2D code
- ⑤ Working distance in mm

Selection Guide V2D8305R, focal length: 12 mm

FIELD OF VIEW

V2D8305R-xxxxxxx, focal length: 12 mm

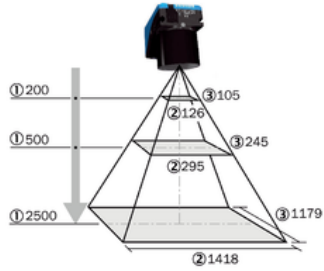


Fig. 4: Field of view of V2D8305R-xxxxxxx, focal length: 12 mm

- ① Working distance in mm
- ② Perceived field of view area: horizontal (mm)
- ③ Perceived field of view area: vertical (mm)

Table 7: Perceived field of view area

Working distance (mm)	Horizontal (mm)	Vertical (mm)
200	126	105
500	295	245
1000	575	478
1500	856	712
2000	1137	945
2500	1418	1179

Table 8: Minimum resolution

Working distance (mm)	1D code (mm)	2D code (mm)
200	0.06	0.10
500	0.14	0.24
1000	0.28	0.46
1500	0.42	0.70
2000	0.55	0.92
2500	0.70	1.16

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

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