V2D632R-MWMFB4

Lector63x

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SICK
Sensor Intelligence.

IMAGE-BASED CODE READERS

V2D632R-MWMFB4 | Lector63x
IMAGE-BASED CODE READERS

Illustration may differ

Ordering information

Type	Part no.
V2D632R-MWMFB4	1074081

Included in delivery: V2D632R-MXCXB0 (1), C-mount lens (1), Distance bracket (1), Optics protective hood (PMMA) (1), VI55I-WH2023M0 (1)

Other models and accessories ➜ www.sick.com/Lector63x

Detailed technical data

Features

Variant	Complete device
Optical focus	Adjustable focus (manually)
Sensor	CMOS matrix sensor, grayscale values
Sensor resolution	1,600 px x 1,200 px
Light source	
Internal lighting	LED, Visible, White, 6,000 K, ± 500 K
Feedback spot	LED, Visible, green, 525 nm, ± 15 nm
Feedback spot	LED, Visible, Red, 630 nm, ± 20 nm, RG 1
Adjustment aid	Laser, Visible, Red, 630 nm … 680 nm
Laser class	1, complies with 21 CFR 1040.10 except for the tolerance according to "Laser Notice No. 50" from June 24, 2007 (IEC 60825-1:2014, EN 60825-1:2014)
Scanning frequency	≤ 50 Hz, at 1.9 megapixels resolution
Code resolution	≥ 0.1 mm [1]
Reading distance	50 mm … 2,200 mm [1]
Lens	C-mount (compact)
Optical format	2/3"
Focal length	25 mm
Aperture	f/8

[1] Depends on lens used, for details see field of view diagram.

Mechanics/electronics

Connection type	1 x M12, 17-pin plug (serial, CAN, I/Os, power supply) 1 x M12, 8-pin socket (Ethernet, 1 GBit/s) 1 x M8, 4-pin socket (USB)

	1 x M12, 4-pin socket (external illumination control)
Supply voltage	12 V DC … 24 V DC, ± 20 %
Power consumption	Typ. 10 W, ± 20 %
Output current	≤ 100 mA
Housing	Aluminum die cast
Front screen	Plastic
Enclosure rating	IP67 (EN 60529 (1991-10), EN 60529/A2 (2002-02))
Electrical safety	EN 60950-1 (2011-01)
Weight	590 g
Dimensions (L x W x H)	108 mm x 63.1 mm x 74.1 mm

Performance

Readable code structures	1D codes, Stacked, 2D codes
Bar code types	GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Code 39, Code 128, Codabar, Code 32, Code 93, USPS (Postnet, Planet, USPS4SCB), Australian Post, Dutch KIX Post, Royal Mail, Swedish Post
2D code types	Data Matrix ECC200, GS1 Data-Matrix, MaxiCode, QR code
Stacked code types	PDF417
Code qualification	On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 18004

Interfaces

Ethernet	✓, TCP/IP
Function	Host, AUX, FTP (image transmission)
Data transmission rate	10/100/1,000 Mbit/s
PROFINET	✓
Function	PROFINET Single Port (integrated), PROFINET Dual Port (optional via external connection module CDF600-2)
Data transmission rate	10/100 MBit/s
EtherNet/IP™	✓
Data transmission rate	10/100/1,000 Mbit/s
Serial	✓, RS-232, RS-422
Function	Host, AUX
Data transmission rate	0.3 kBaud … 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
CAN	✓
Function	SICK CAN sensor network CSN (master/slave, multiplexer/server)
Data transmission rate	250 kbit/s … 500 kbit/s
PROFIBUS DP	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600-2
USB	✓
Remark	USB 2.0 (for parameterization only)
Function	AUX
Digital inputs	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional CMC600 parameter memory in CDB650/CDM420)
Configurable inputs	Encoder input, external trigger

Digital outputs	6 (CDB650: "Result 1", "Result 2", "Result 3", "Result 4", 2 external outputs via CMC600 or CDM420: "Result 1", "Result 2", 2 external outputs via CMC600 or cable with open end: "Result 1", "Result 2", "Result 3", "Result 4")
Configurable outputs	Good read, External illumination control, free configurable output condition, "device ready"
Reading pulse	Digital inputs, non-powered, serial interface, Ethernet, CAN, auto pulse, presentation mode
Optical indicators	11 LEDs (5 x status display, 5 x LED bar graph, 1 green/red feedback spot)
Acoustic indicators	Beeper (configurable)
Control elements	2 buttons (choose and start/stop functions)
Operator interfaces	Web server
Configuration software	SOPAS ET
Memory card	Micro SD memory card (flash card) max. 32 GB, optional
Data storage and retrieval	Image and data storage via microSD memory card and external FTP
Maximum encoder frequency	1 kHz
External illumination control	Via digital output (max. 24 V trigger) or external illumination connection

## Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-2:2005-08 / EN 61000-6-4 (2007-01) + A1 (2011)
Vibration resistance	EN 60068-2-6:2008-02
Ambient operating temperature	0 °C … +50 °C
Storage temperature	−20 °C … +70 °C
Permissible relative humidity	90 %, Non-condensing

Classifications

ECl@ss 5.0	27280103
ECl@ss 5.1.4	27280103
ECl@ss 6.0	27280103
ECl@ss 6.2	27280103
ECl@ss 7.0	27280103
ECl@ss 8.0	27280103
ECl@ss 8.1	27280103
ECl@ss 9.0	27280103
ECl@ss 10.0	27280103
ECl@ss 11.0	27280103
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002999
UNSPSC 16.0901	43211701

Dimensional drawing (Dimensions in mm (inch))
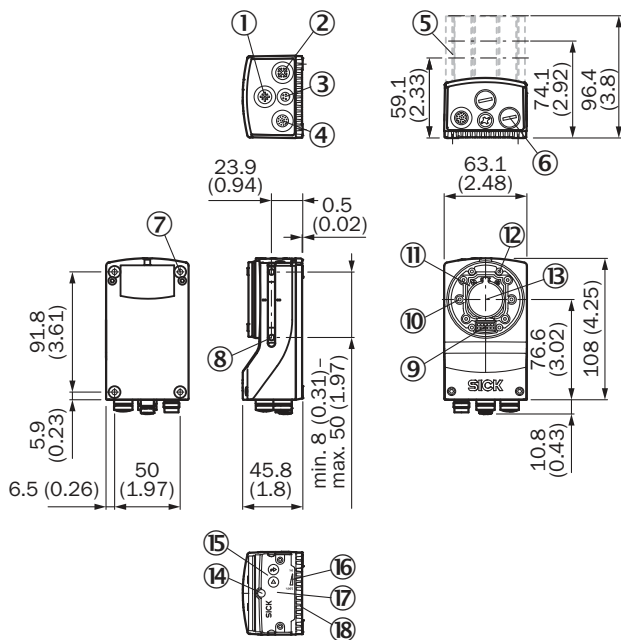
① "External light" connection (external illumination unit, female connector, M12, 4-pin, A-coded)
② "Ethernet" connection (Gigabit Ethernet, female connector, M12, 8-pin, X-coded)
③ "USB" connection (female connector, type M8, 4-pin), for temporary use as a service interface only
④ "Power/Serial Data/CAN/I/O" connection (male connector, M12, 17-pin, A-coded)
⑤ Optics protective hood (length: 22.7 mm, 37.7 mm or 60 mm)
⑥ 4 protective caps for sealing off the electrical connections as required for enclosure rating IP67 (delivery condition)
⑦ 4 tapped blind holes, M5, 5.5 mm deep for mounting the device
⑧ 2 sliding nuts, M5, 5.5 mm deep, as an alternative method of mounting the device
⑨ Connection for an integrable illumination unit (VI55I ring illumination unit)
⑩ 2 laser alignment aids
⑪ S-mount or C-mount optics module
⑫ 4 blind tapped holes, 2.5 mm for mounting the spacers for the integrable illumination (VI55I ring illumination unit)
⑬ Optical axis and center of the image sensor
⑭ Basic device: Manual focus screw for an S-mount lens, accessible via the round opening in the housing cover. To secure the focus setting, cover the round opening with a self-adhesive label. Complete device: The opening is already covered by a label.
⑮ 2 function keys
⑯ 5 bar graph LEDs
⑰ Hinged cover on the top side of the device, access to the microSD memory card and the manual focus screw (S-mount)
⑱ 5 status LEDs (2 levels)

Field of view

Field of view in mm² (sq inch)

Min. resolution in mm (mil)

1D code   2D code

Working distance/focus position in mm (inch)

Field of view in mm² (sq inch)

Min. resolution in mm (mil)

1D code   2D code

Working distance/focus position in mm (inch)
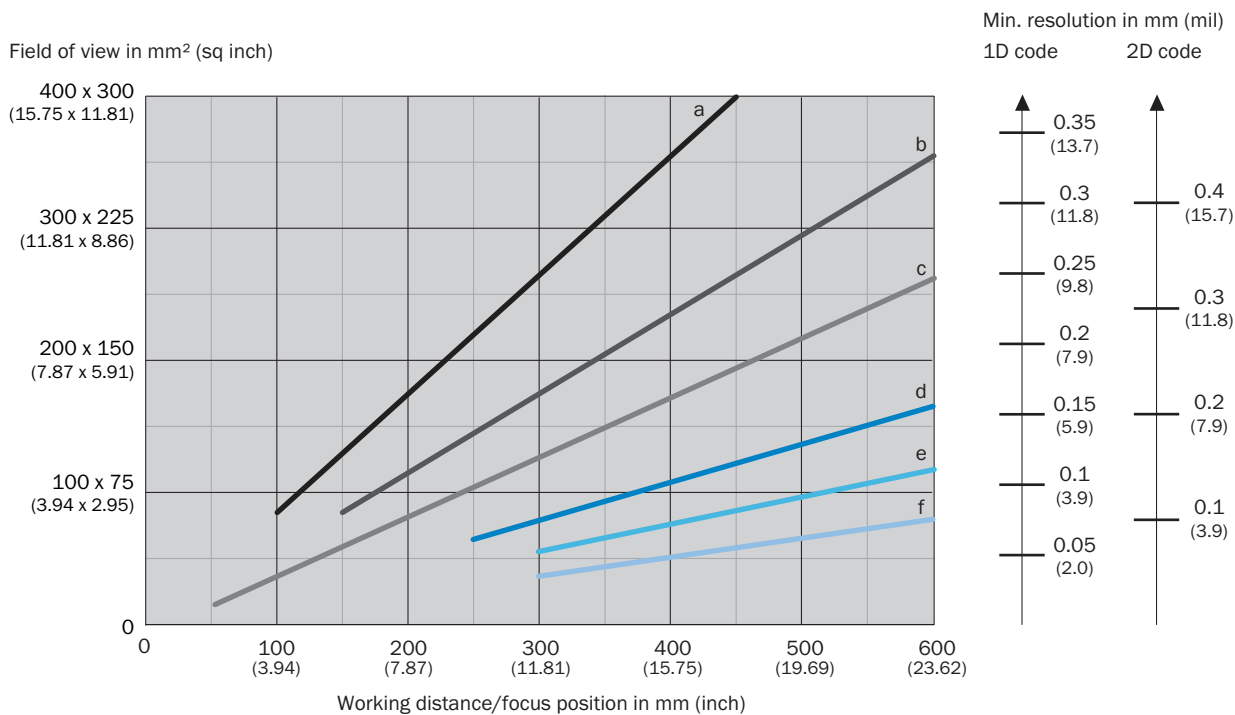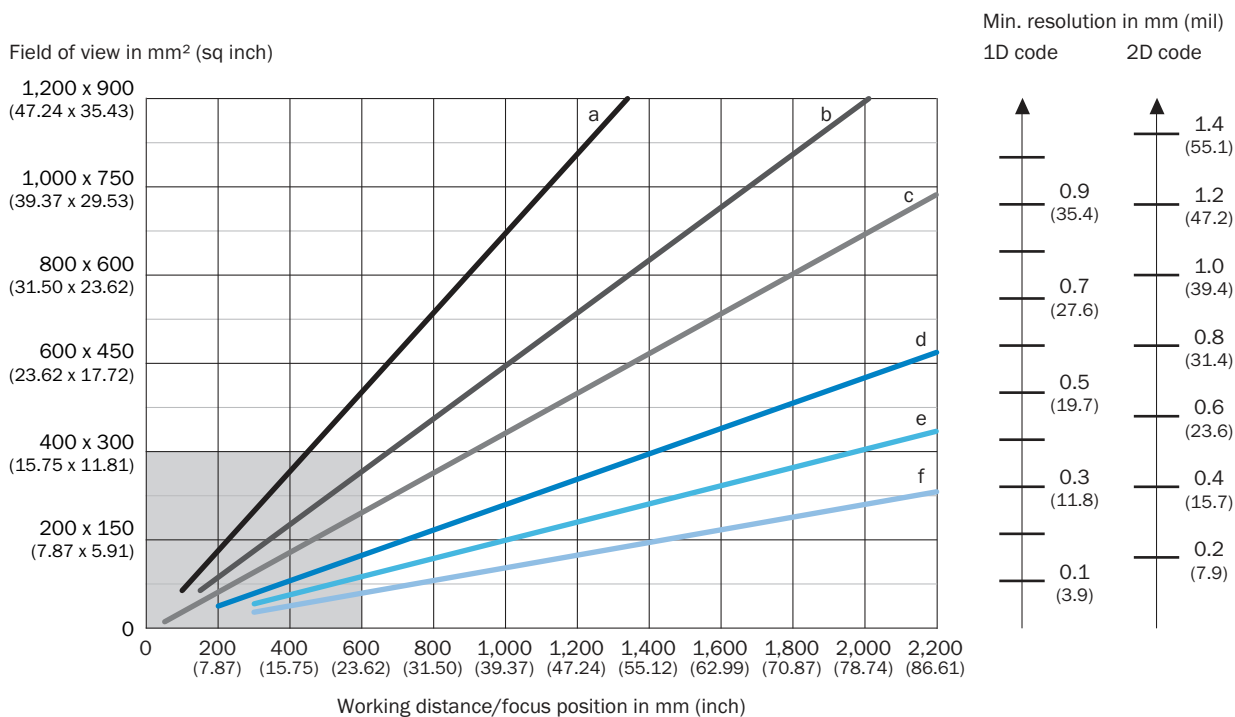
─── a: f = 8.0 mm (C-Mount standard only)   ─── d: f = 25.0 mm

─── b: f = 12.0 mm   ─── e: f = 35.0 mm

─── c: f = 16.0 mm   ─── f: f = 50.0 mm

For S-mount and standard C-mount lenses, spacer rings are needed for working distances shorter than approximately 10 times the focal length. For compact C-mount lenses, spacer rings are not needed, but the built-in illumination cannot be used for distances shorter than 300 mm.
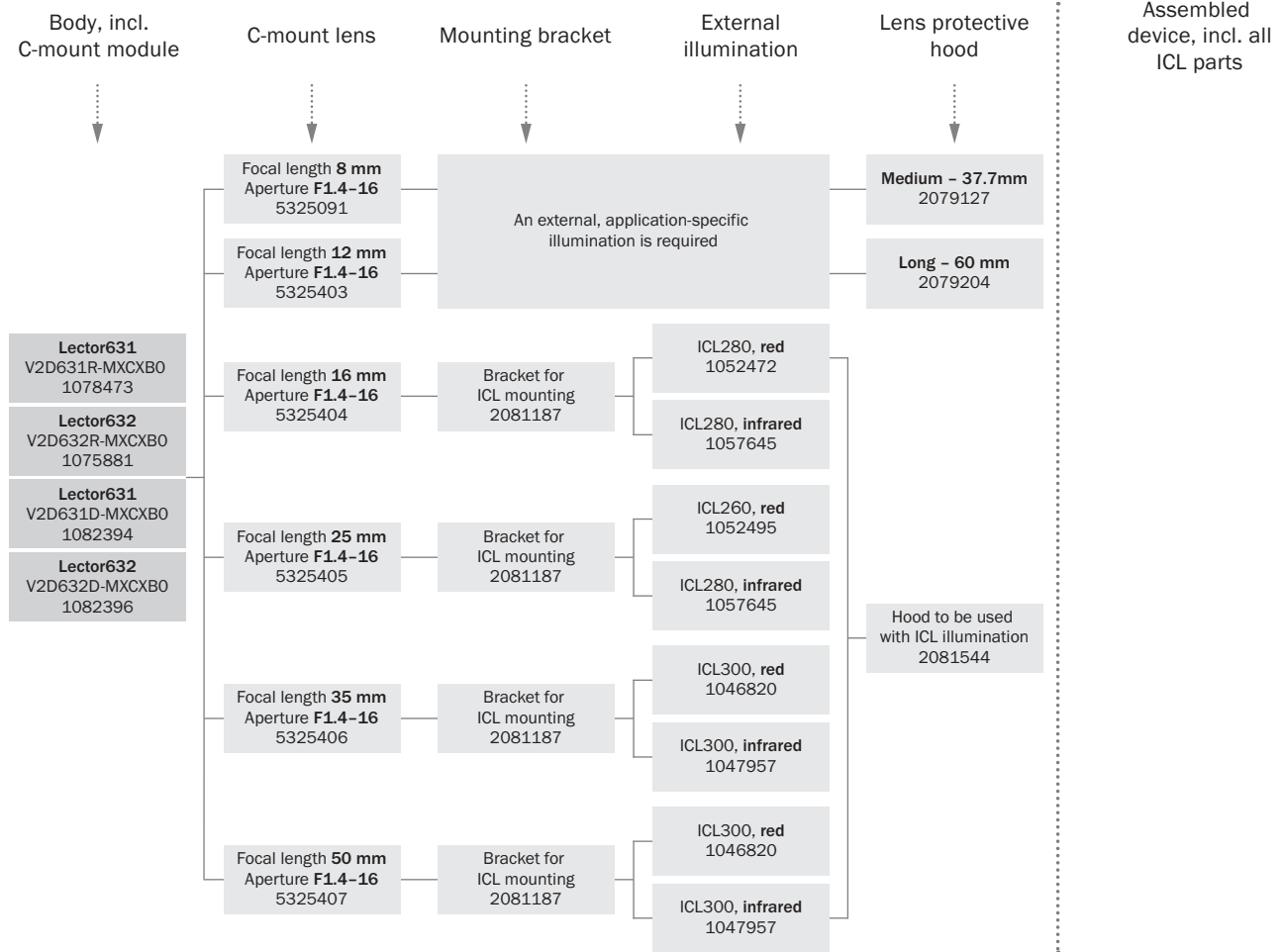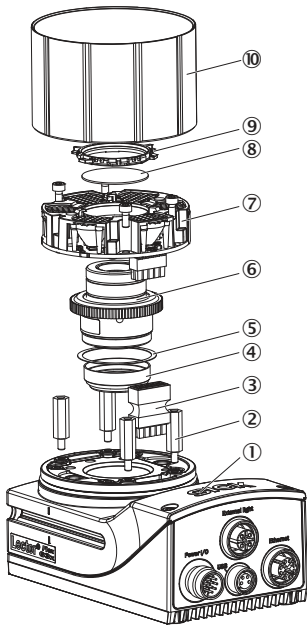
Selection Guide

Lector63x Compact C-mount

Body, incl. C-mount module	+	Compact C-mount lens	+	Spacer screws and illumination connector	+	Integratable illumination	+	Lens protective hood	=	Assembled device, incl. all mentioned parts

Body, incl. C-mount module

| Lector631 V2D631R-MXCXB0 1078473 |
| Lector632 V2D632R-MXCXB0 1075881 |
| Lector631 V2D631D-MXCXB0 1082394 |
| Lector632 V2D632D-MXCXB0 1082396 |

Compact C-mount lens / Spacer / Integratable illumination / Lens protective hood / Assembled device

Compact C-mount lens	Spacer screws and illumination connector	Integratable illumination	Lens protective hood	Assembled device
Focal length 12 mm Aperture F8 2079348	Medium – 15 mm 2079501	Medium, white 2078430	Medium – 37.7 mm 2079127	Lector631, 12 mm, F8, white V2D631R-MKMDB4 1080075
		Medium, red 2098650	Medium – 37.7 mm 2079127	Lector632, 12 mm, F8, white V2D632R-MKMDB4 1074079
		Medium, blue 2083814	Medium – 37.7 mm 2079127	
		Wide, IR 2101371	Medium – 37.7 mm 2092590	
Focal length 16 mm Aperture F8 2079346	Long – 37 mm 2079502	Medium, white 2078430	Long – 60 mm 2079204	Lector631, 16 mm, F8, white V2D631R-MKMEB1 1080076
		Medium, red 2098650	Long – 60 mm 2079204	Lector632, 16 mm, F8, white V2D632R-MKMEB1 1074080
		Medium, blue 2083814	Long – 60 mm 2079204	
		Medium, IR 2098834	Long – 60 mm 2092592	
Focal length 25 mm Aperture F8 2079343	Medium – 15 mm 2079501	Narrow, white 2078431	Medium – 37.7 mm 2079127	Lector631, 25 mm, F8, white V2D631R-MWMFB4 1080077
		Narrow, red 2084247	Medium – 37.7 mm 2079127	Lector632, 25 mm, F8, white V2D632R-MWMFB4 1074081
		Narrow, blue 2083812	Medium – 37.7 mm 2079127	
Focal length 35 mm Aperture F8 2079344	Long – 37 mm 2079502	Narrow, white 2078431	Long – 60 mm 2079204	Lector631, 35 mm, F8, white V2D631R-MWMGB1 1080078
		Narrow, red 2084247	Long – 60 mm 2079204	Lector632, 35 mm, F8, white V2D632R-MWMGB1 1074082
		Narrow, blue 2083812	Long – 60 mm 2079204	

| Body, incl. C-mount module | + | C-mount lens | + | Mounting bracket | + | External illumination | + | Lens protective hood | = | Assembled device, incl. all ICL parts |

Body, incl. C-mount module

Lector631
V2D631R-MXCXB0
1078473

Lector632
V2D632R-MXCXB0
1075881

Lector631
V2D631D-MXCXB0
1082394

Lector632
V2D632D-MXCXB0
1082396

C-mount lens

Focal length **8 mm**
Aperture **F1.4–16**
5325091

Focal length **12 mm**
Aperture **F1.4–16**
5325403

Focal length **16 mm**
Aperture **F1.4–16**
5325404

Focal length **25 mm**
Aperture **F1.4–16**
5325405

Focal length **35 mm**
Aperture **F1.4–16**
5325406

Focal length **50 mm**
Aperture **F1.4–16**
5325407

Mounting bracket

Bracket for ICL mounting 2081187

Bracket for ICL mounting 2081187

Bracket for ICL mounting 2081187

Bracket for ICL mounting 2081187

External illumination

An external, application-specific illumination is required

ICL280, **red**
1052472

ICL280, **infrared**
1057645

ICL260, **red**
1052495

ICL280, **infrared**
1057645

ICL300, **red**
1046820

ICL300, **infrared**
1047957

ICL300, **red**
1046820

ICL300, **infrared**
1047957

Lens protective hood

Medium – 37.7mm
2079127

Long – 60 mm
2079204

Hood to be used with ICL illumination 2081544

Exploded view

① Camera housing
② Spacer for built-in illumination
③ Plug connector for illumination
④ Optical filter (optional)
⑤ Spacer disk (included with delivery of filter)
⑥ Compact C-mount lens
⑦ Built-in illumination
⑧ C-mount filter (optional), cannot be used with 15 mm lenses (2080213)
⑨ Filter holder
⑩ Protective cover for optics
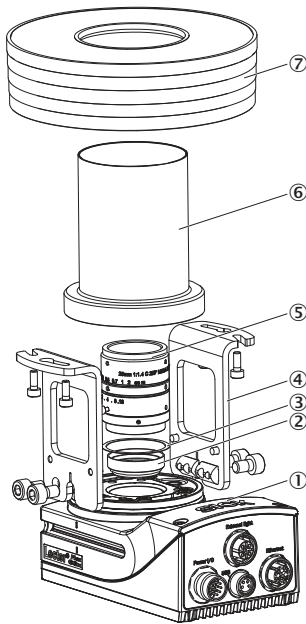
① Camera housing
② C-mount filter (optional)
③ Spacer disk (included with delivery of filter)
④ C-mount lens
⑤ Mounting bracket for ICL ring lighting
⑥ Protective cover for optics for ICL ring lighting
⑦ ICL ring lighting

Recommended accessories

Other models and accessories ➜ www.sick.com/Lector63x

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket with screws, L-shaped for mounting with sliding nuts, includes angle indicator for adjusting the tilt angle	Mounting bracket	2078970
Plug connectors and cables			
	Head A: female connector, M12, 17-pin, straight, A-coded Head B: male connector, M12, 17-pin, straight, A-coded Cable: Power, serial, CAN, digital I/Os, suitable for 2 A, shielded, 2 m	YM2A8D-020XXXF2A8D	6053230
	Head A: male connector, M12, 8-pin, straight, X-coded Head B: male connector, RJ45, 8-pin, straight Cable: Gigabit Ethernet, twisted pair, PUR, halogen-free, shielded, 2 m	YM2X18-020EG2MRJA8	6049728
Modules			
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals.	CDB650-204	1064114

Recommended services

Additional services ➜ www.sick.com/Lector63x

	Type	Part no.
Warranty extensions		
• **Product area:** Identification solutions, machine vision, Distance sensors, Detection and ranging solutions • **Range of services:** The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase) • **Duration:** Five-year warranty from delivery date.	Extended warranty for a total of five years from delivery date	1680671
Product, system, and software training		
• **Range of services:** The training contents relate to the Lector® series, Training format and location can be worked out in collaboration with SICK	Lector® series training	1612232
Commissioning		
• **Product area:** Image-based code readers • **Range of services:** Inspection of connection, fine adjustment, optimization of parameters of SICK product as well as tests, Set-up of previously defined functions of possible Lector6xx illumination, code configuration, trigger and digital inputs, interfaces and digital outputs as well as data processing • **Travel expenses:** The prices do not include travel costs such as hotel, flight, travel time and expenses. • **Duration:** Additional work will be invoiced separately	Commissioning Lector6xx	1608206
Maintenance		
• **Product area:** Image-based code readers • **Range of services:** Inspection, analysis and restoring of defined functions, Inspection and adaptation of previously defined functions of possible Lector6xx illumination, code configuration, trigger and digital inputs, interfaces and digital outputs as well as data processing • **Travel expenses:** The prices do not include travel costs such as hotel, flight, travel time and expenses. • **Duration:** Additional work will be invoiced separately	Maintenance Lector6xx	1611421
Performance check		
• **Product area:** Image-based code readers • **Range of services:** Inspection of defined functions, e.g., reading performance • **Travel expenses:** The prices do not include travel costs such as hotel, flight, travel time and expenses. • **Duration:** Additional work will be invoiced separately	Performance check Lector6xx	1608207

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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