V2D631D-MXSXB0

Lector63x

IMAGE-BASED CODE READERS

SICK
Sensor Intelligence.

V2D631D-MXSXB0 | Lector63x
IMAGE-BASED CODE READERS

Ordering information

Type	part no.
V2D631D-MXSXB0	1082395

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

Detailed technical data

Features

Variant	Main unit
Optical focus	Adjustable focus (manual)
Sensor	CMOS monochrome
Sensor resolution	1,280 px x 1,024 px (1.3 MP)
Illumination	To be ordered separately as accessories
Alignment aid	Laser, Red, 630 nm ... 680 nm
Laser class	1, Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed.3., as described in "Laser Notice No. 56" dated May 8, 2019 (IEC 60825-1:2014, EN 60825-1:2014+A11:2021)
Lens	S-mount
Optical format	1/1.8"
Note	To be ordered separately as accessories
Scanning frequency	≤ 50 Hz, With resolution of 1.3 megapixels
Code resolution	≥ 0.1 mm [1]
Working range	50 mm ... 2,200 mm [2] [3]

[1] Depends on lens used, for details see field of view diagram.
[2] Depends on lens used.
[3] 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] Housing only, without lens and optics protection hood.

	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 material	Aluminum die cast
Window material	Plastic (To be ordered separately as accessories) Glass (To be ordered separately as accessories)
Enclosure rating	IP67 (EN 60529 (1991-10), EN 60529/A2 (2002-02))
Electrical safety	EN 60950-1 (2011-01)
Weight	430 g, without lens and connection cables
Dimensions (L x W x H)	108 mm x 63.1 mm x 45.8 mm [1]

[1] Housing only, without lens and optics protection hood.

Performance

Readable code structures	1D codes, Stacked, 2D codes, direct-marked 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	Data interface (read result output), Service interface, 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	Data interface (read result output), Service interface
Data transmission rate	0.3 kBaud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
CAN	✓
Function	SICK CAN sensor network CSN (CAN controller/CAN device, multiplexer/server)
Data transmission rate	250 kbit/s ... 500 kbit/s
PROFIBUS DP	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600-2
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 status displays, 16 LEDs, 5 LED bar graphs, 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
EncoderFrequency	Max. 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
Shock resistance	EN 60068-2-27:2009-05
Ambient operating temperature	0 °C ... +50 °C
Storage temperature	−20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Profinet certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓
4Dpro	✓

Classifications

ECLASS 5.0	27280103
ECLASS 5.1.4	27280103
ECLASS 6.0	27280103
ECLASS 6.2	27280103
ECLASS 7.0	27280103
ECLASS 8.0	27280103
ECLASS 8.1	27280103
ECLASS 9.0	27280103
ECLASS 10.0	27280103
ECLASS 11.0	27280103

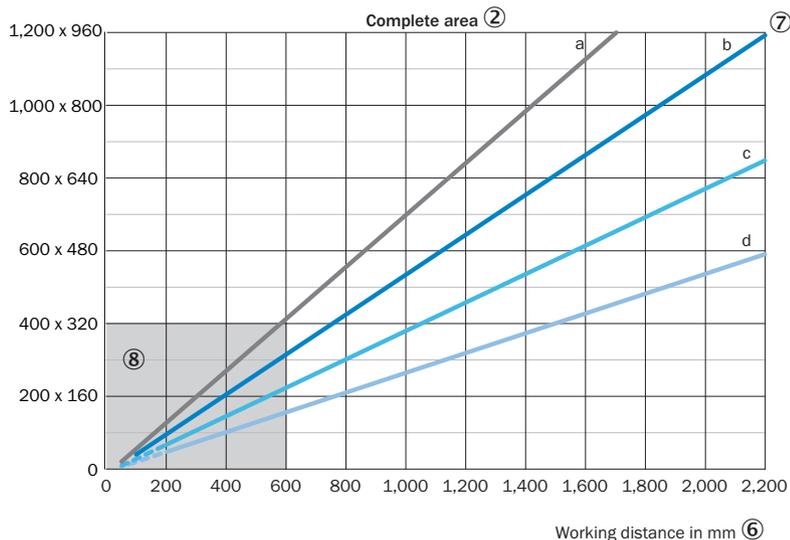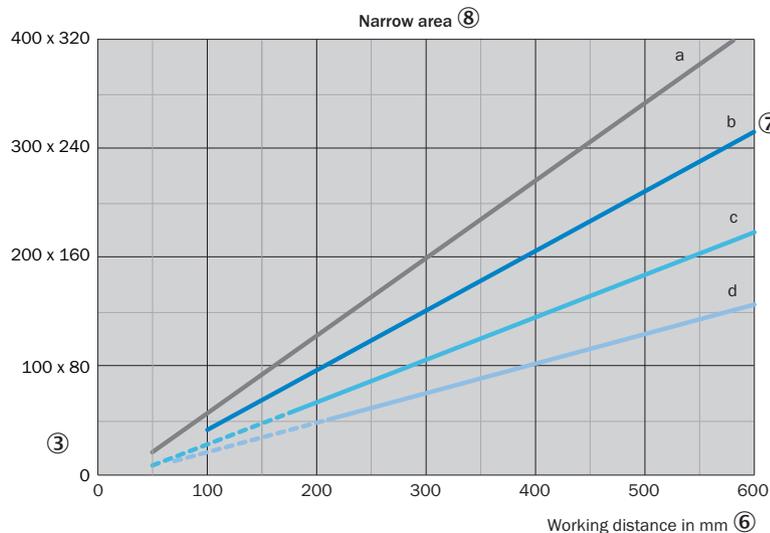|	
ECLASS 12.0	27280103
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002999
ETIM 8.0	EC002999
UNSPSC 16.0901	43211701

Dimensional drawing
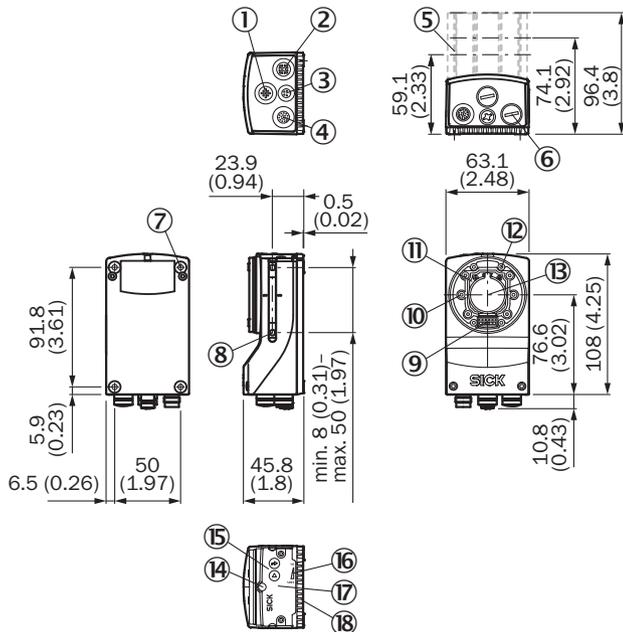
Dimensions in mm (inch)
① "External light" connection (external illumination unit, female connector, M12, 4-pin, A-coded)
② "Ethernet" connection (Gigabit Ethernet, female connector, M12, 8-pin, X-coded)
③ "USB" connection (female connector, type M8, 4-pin), for temporary use as a service interface only
④ "Power/Serial Data/CAN/I/O" connection (male connector, M12, 17-pin, A-coded)
⑤ Optics protection 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 product
⑧ 2 M5 sliding nuts; 5.5 mm deep; pivoting; as an alternative method of mounting the product
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

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

Min. resolution in mm ③
1D code ④   2D code ⑤

Complete area ②

Working distance in mm ⑥

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

Min. resolution in mm ③
1D code ④   2D code ⑤

Narrow area ⑧

Working distance in mm ⑥

a: f = 9.6 mm	c: f = 17.5 mm	
b: f = 12.5 mm	d: f = 25.0 mm	
Optional spacer rings required ⑨		

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.

① perceived field of view area: horizontal x vertical (mm)
② complete area
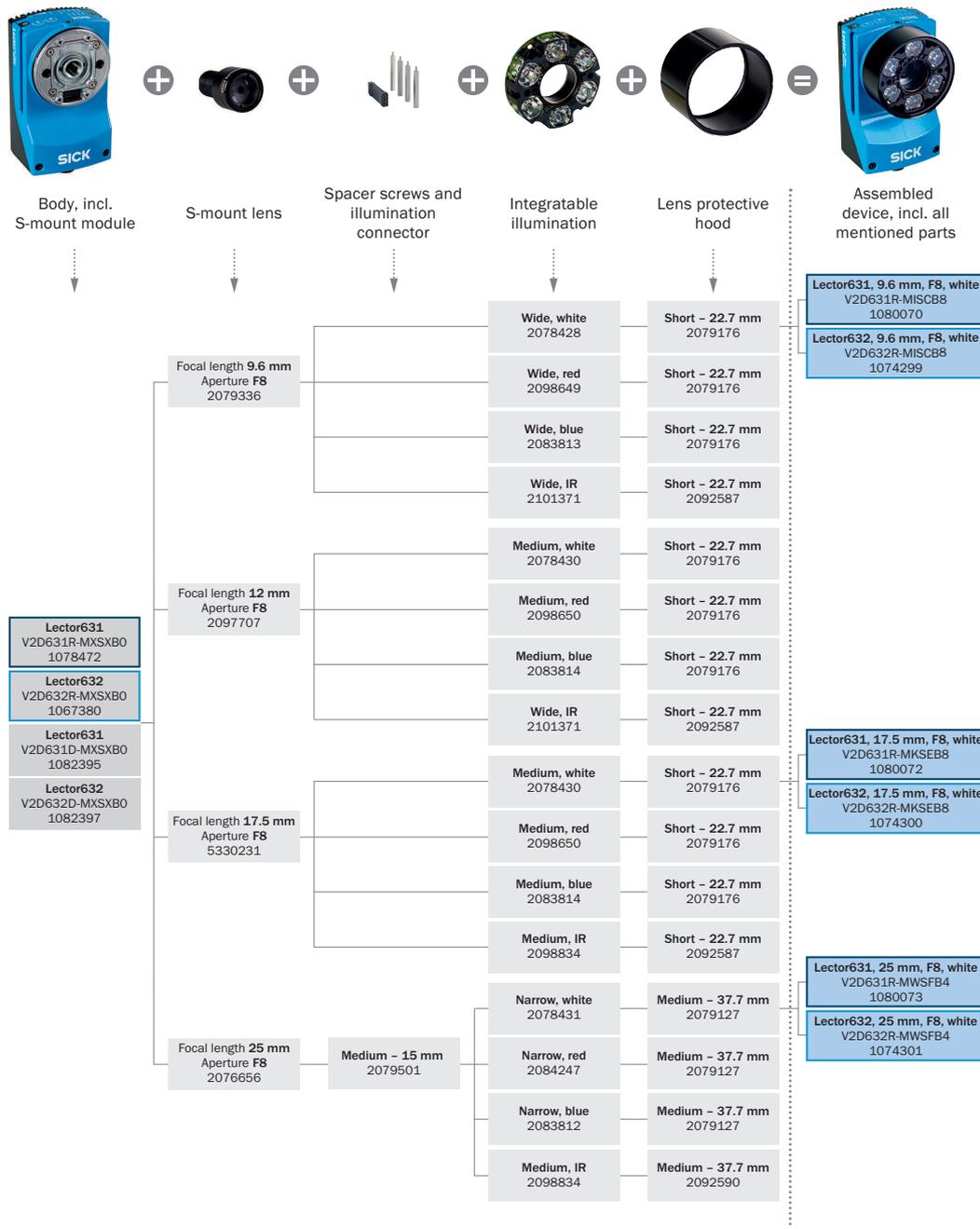③ Minimum resolution in mm
④ 1D code
⑤ 2D code
⑥ Working distance in mm
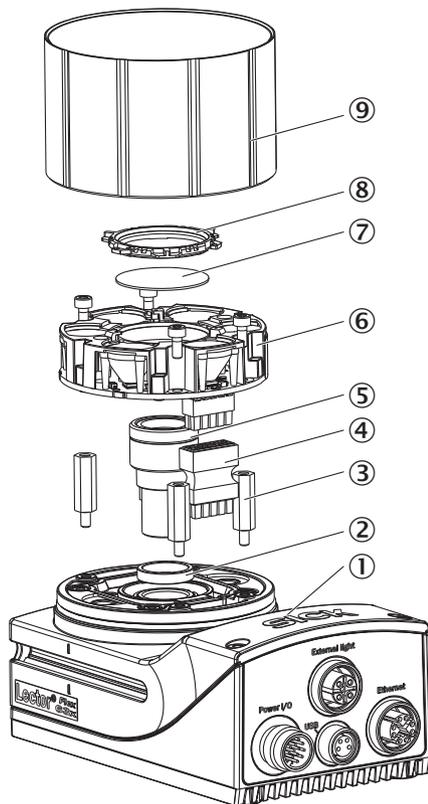⑦ Focal length of lens, here example for f = 12.5 mm
⑧ Close range
⑨ Optional spacer ring required

Selection Guide Lector63x S-mount

| Body, incl. S-mount module | S-mount lens | Spacer screws and illumination connector | Integratable illumination | Lens protective hood | Assembled device, incl. all mentioned parts |

Lector631, 9.6 mm, F8, white
V2D631R-MISCB8
1080070

Lector632, 9.6 mm, F8, white
V2D632R-MISCB8
1074299

Lector631
V2D631R-MXSXB0
1078472

Lector632
V2D632R-MXSXB0
1067380

Lector631
V2D631D-MXSXB0
1082395

Lector632
V2D632D-MXSXB0
1082397

Focal length 9.6 mm
Aperture **F8**
2079336

Focal length 12 mm
Aperture **F8**
2097707

Focal length 17.5 mm
Aperture **F8**
5330231

Focal length 25 mm
Aperture **F8**
2076656

Medium – 15 mm
2079501

Wide, white
2078428 — **Short – 22.7 mm** 2079176

Wide, red
2098649 — **Short – 22.7 mm** 2079176

Wide, blue
2083813 — **Short – 22.7 mm** 2079176

Wide, IR
2101371 — **Short – 22.7 mm** 2092587

Medium, white
2078430 — **Short – 22.7 mm** 2079176

Medium, red
2098650 — **Short – 22.7 mm** 2079176

Medium, blue
2083814 — **Short – 22.7 mm** 2079176

Wide, IR
2101371 — **Short – 22.7 mm** 2092587

Medium, white
2078430 — **Short – 22.7 mm** 2079176

Medium, red
2098650 — **Short – 22.7 mm** 2079176

Medium, blue
2083814 — **Short – 22.7 mm** 2079176

Medium, IR
2098834 — **Short – 22.7 mm** 2092587

Narrow, white
2078431 — **Medium – 37.7 mm** 2079127

Narrow, red
2084247 — **Medium – 37.7 mm** 2079127

Narrow, blue
2083812 — **Medium – 37.7 mm** 2079127

Medium, IR
2098834 — **Medium – 37.7 mm** 2092590

Lector631, 17.5 mm, F8, white
V2D631R-MKSEB8
1080072

Lector632, 17.5 mm, F8, white
V2D632R-MKSEB8
1074300

Lector631, 25 mm, F8, white
V2D631R-MWSFB4
1080073

Lector632, 25 mm, F8, white
V2D632R-MWSFB4
1074301

Exploded view

① Camera housing
② Spacer for built-in illumination
③ Spacer ring (optional)
④ Plug connector for illumination
⑤ S-mount lens
⑥ Built-in illumination
⑦ Optical filter (optional)
⑧ Filter holder
⑨ optics protection hood

Recommended accessories

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

	Brief description	Type	part no.
reflectors and optics			
	• **Description:** Distance bracket and light extension connector (medium) for mounting integratable lighting, length 15 mm, used with compact C-mount lenses with focal length of 12 mm or 25 mm and S-mount lens with focal length 25mm	Distance bracket	2079501
	• **Description:** Optics protection hood, medium, enclosure rating IP 67, length: 37.7 mm, PMMA, for use with compact C-mount lens with focal length 12 mm or 25 mm and S-mount lens with focal length 25 mm	Optics protection hood (PMMA)	2079127

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, M12, 17-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 17-pin, straight, A-coded • **Signal type:** Power, serial, CAN, digital I/Os • **Cable:** 2 m, suitable for refrigeration • **Description:** Power, suitable for 2 A, shielded, Serial, CAN, Digital I/Os	YM2A8D-020XXXF2A8D	6053230
	• **Connection type head A:** Male connector, M12, 8-pin, straight, X-coded • **Connection type head B:** Male connector, RJ45, 8-pin, straight • **Signal type:** Ethernet, Gigabit Ethernet • **Cable:** 2 m, 8-wire, PUR, halogen-free • **Description:** Ethernet, shielded, Gigabit Ethernet • **Application:** Zones with oils and lubricants	YM2X18-020EG1M-RJA8	2106258
	• **Connection type head A:** Male connector, M12, 8-pin, straight, X-coded • **Connection type head B:** Male connector, RJ45, 8-pin, straight • **Signal type:** Ethernet, Gigabit Ethernet • **Cable:** 3 m, 8-wire, PUR, halogen-free • **Description:** Ethernet, shielded, Gigabit Ethernet • **Application:** Zones with oils and lubricants	YM2X18-030EG1M-RJA8	2145693
Junction boxes			
		CDB650-204	1064114
Mounting systems			
	• **Description:** Mounting bracket with screws, L-shaped for mounting with sliding nuts, includes angle indicator for adjusting the tilt angle • **Suitable for:** Lector83x, Inspector83x, Lector63x, InspectorP63x, Lector83x, Inspector83x, Lector63x, InspectorP63x, Lector83x, Inspector83x, Lector63x, InspectorP63x, Lector83x, Inspector83x, Lector63x	Mounting bracket	2078970

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."

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