Data sheet

V2D652R-MCXXA6

Lector64x/Lector65x

IMAGE-BASED CODE READERS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
V2D652R-MCXXA6	1063404

Other models and accessories ➜ www.sick.com/Lector64x_Lector65x

Detailed technical data

Features

Variant	Main unit
Optical focus	Adjustable focus (manual)
Sensor	CMOS monochrome
Sensor resolution	2,048 px x 1,088 px (2.1 Mpixel)
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	C-mount
Optical format	1″
Note	To be ordered separately as accessories
Scanning frequency	70 Hz, With resolution of 2 megapixels
Code resolution	≥ 0.1 mm [1]
Working range	300 mm ... 2,200 mm [1] [2]

[1] Depends on lens used.
[2] For details see field of view diagram.

Mechanics/electronics

Connection type	1 x M12, 17-pin plug (serial, CAN, I/Os, power supply) 2 x M12, 8-pin socket (Ethernet, P1 not yet with function) 1 x M8, 4-pin socket (USB)
Supply voltage	24 V DC, ± 20 %

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

Power consumption	Typ. 20 W, ± 20 %
Output current	≤ 100 mA
Housing material	Aluminum die cast
Housing color	Light blue (RAL 5012)
Window material	Plastic (To be ordered separately as accessories) Glass (To be ordered separately as accessories)
Enclosure rating	IP65 (EN 60529 (1991-10), EN 60529/A2 (2002-02))
Protection class	III
Electrical safety	EN 60950-1 (2011-01)
Weight	635 g
Dimensions (L x W x H)	142 mm x 89 mm x 46 mm [1)]
MTBF	100,000 h

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

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
Internal image storage	512 MB

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)
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	20 kbit/s ... 1 Mbit/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	21 LEDs (10 x status display, 10 x LED bar graph, 1 green feedback spot)
Acoustic indicators	Beeper/buzzer (can be switched off, can be assigned a function to signal a result)
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. 16 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 61000-6-3 (2007-01)
Vibration resistance	EN 60068-2-6:2008-02
Shock resistance	EN 60068-2-6
Ambient operating temperature	0 °C ... +50 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on code

Certificates

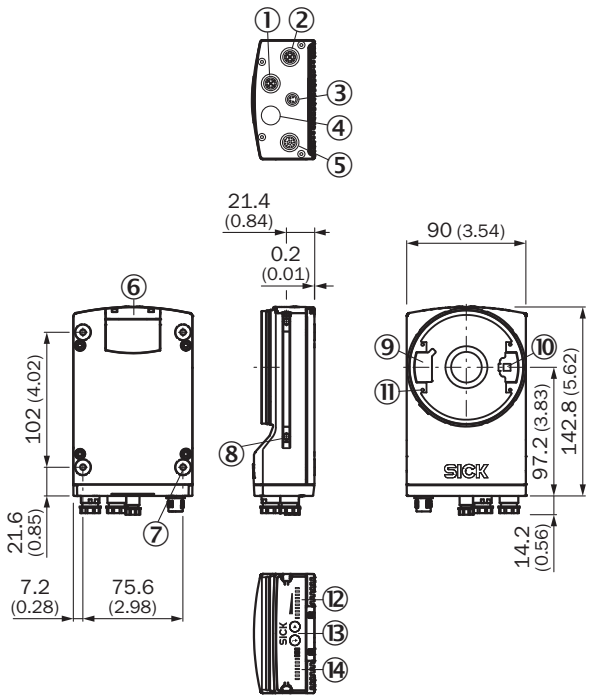
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
KC Mark certificate	✓
BIS registration	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓
4Dpro	✓

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

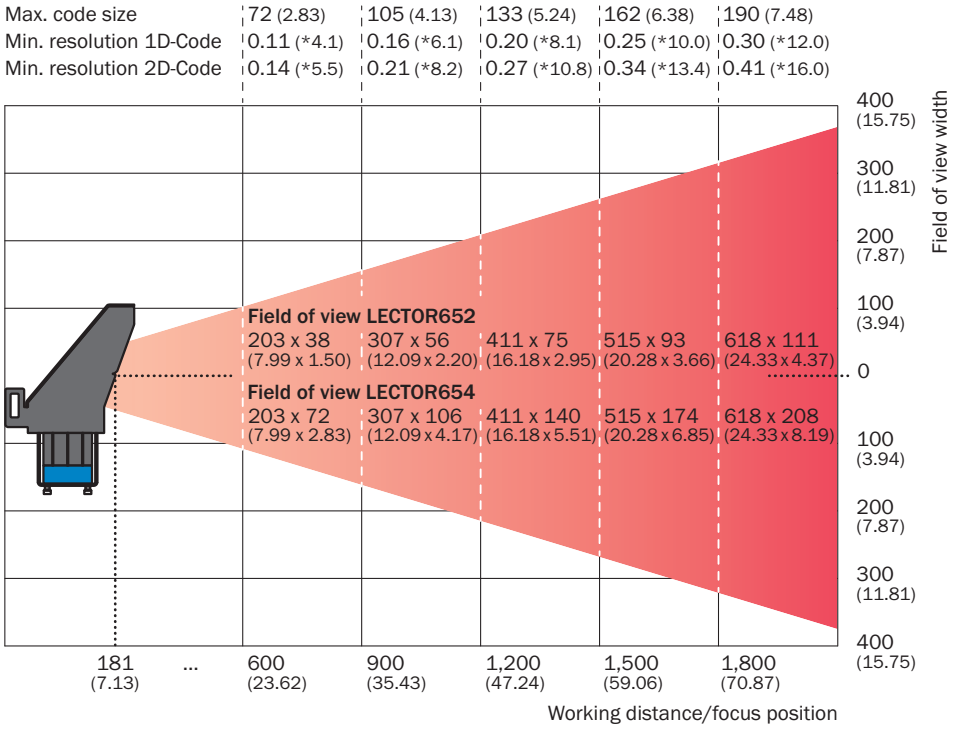
Dimensional drawing



Dimensions in mm (inch)
① “Ethernet” P1 connection
② P3 connection “Ethernet”
③ X2 “USB” connection or “trigger external lighting”, depending on type
④ P2 connection “CAN OUT”, depending on type
⑤ X1 “Power/Serial Data/CAN/I/O” connection or “CAN IN”, depending on type
⑥ cover for the microSD memory card
⑦ M5 blind tapped holes, 5 mm deep (4 x), for mounting the sensor
⑧ sliding nut M5, 5.5 mm deep (2 x), for mounting (as alternative)
⑨ plug connector for connecting the integrated lighting
⑩ laser alignment aid exit
⑪ 2.5 mm blind tapped holes (4 x) for mounting the spacers for the integrable illumination
⑫ Bar graph display
⑬ Function button (2 x)
⑭ LED for status display (2 levels), 10 x

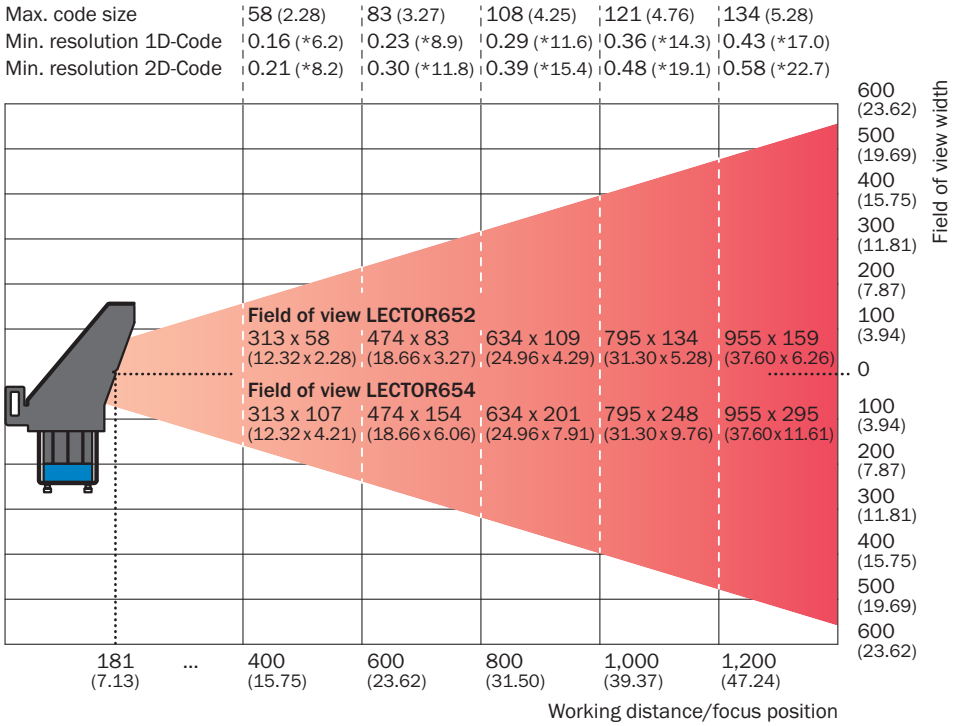
Field of view, Lector65x Flex with Panorama 50 mm

Dimensions in mm (inch/*mil)



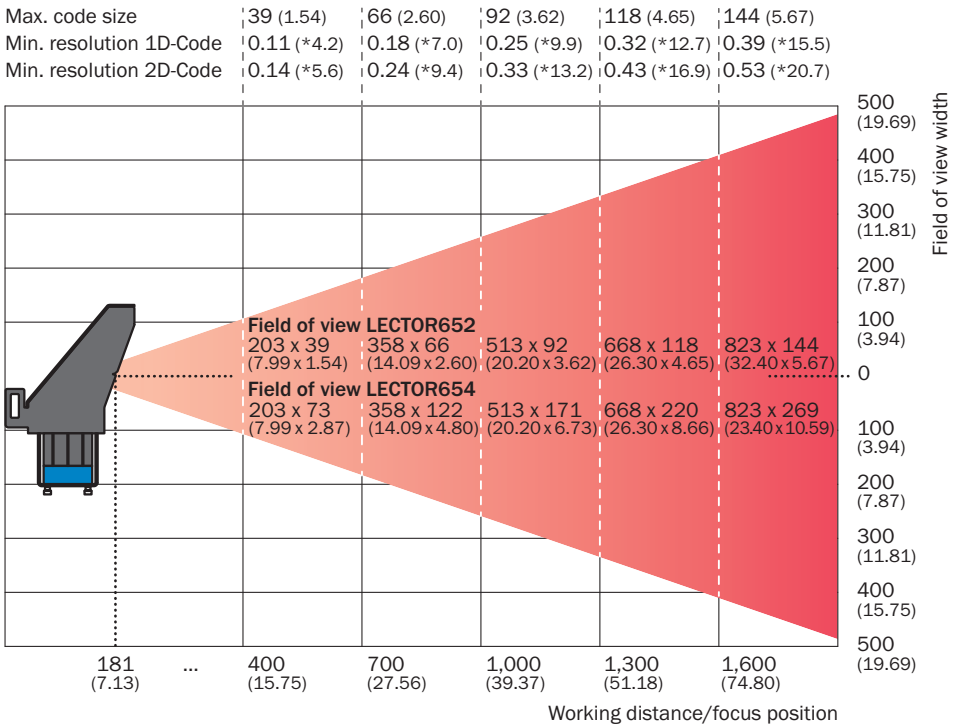
Field of view Lector65x with Panorama 25 mm

Dimensions in mm (inch/*mil)

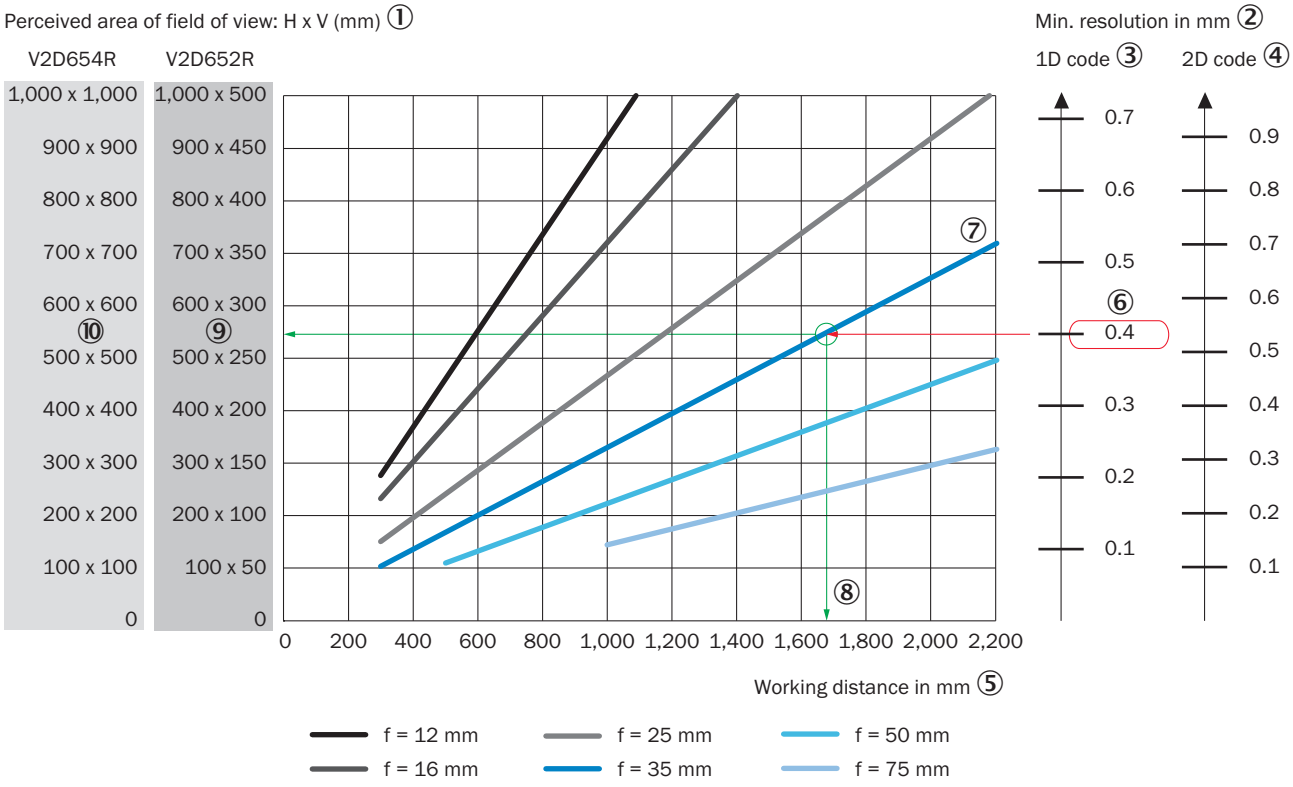


Field of view, Lector65x Flex with Panorama 35 mm/40 mm

Dimensions in mm (inch/*mil)



Field of view



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
⑥ Selected code resolution
⑦ Focal length of lens, here example for f = 35.0 mm
⑧ Reading off: resultant maximum working distance
⑨ Reading off: Resulting perceived area of the field of view V2D652R (mm x mm)
⑩ Reading off: Resulting perceived area of the field of view V2D654R (mm x mm)

Selection Guide

Body, incl. C-mount module	C-mount lens	Spacer	Integratable illumination	Lens protective hood	Assembled device, incl. all mentioned parts
Lector652 V2D652R-MCXXA6 1063404 **Lector652** V2D652R-MCXXH6 1075975 **Lector652** V2D652R-MCXXF6 1071728 **Lector654** V2D654R-MCXXA6 1060892 **Lector654** V2D654D-MCXXA6 1082400 **Lector654** V2D654R-MCXXH6 1083896 **Lector654** V2D654R-MCXXF6 1068496	Focal length **12.5 mm** Aperture **F1.4–16** 5327522	Spacer for mounting the integrable illumination 2069007	**Wide, white** 2069006 **Wide, blue** 2074009 **Wide, red** 2074003	**Medium 74.5 mm** Glass window 2066565	
	Focal length **16 mm** Aperture **F1.4–16** 5327523	Spacer for mounting the integrable illumination 2069007	**Wide, white** 2069006 **Wide, blue** 2074009 **Wide, red** 2074003		
	Focal length **25 mm** Aperture **F1.4–16** 5327524	Spacer for mounting the integrable illumination 2069007	**Medium, white** 2074001 **Medium, blue** 2074012 **Medium, red** 2074005		
	Focal length **35 mm** Aperture **F1.4–16** 5327525	Spacer for mounting the integrable illumination 2069007	**Narrow, white** 2069099 **Narrow, blue** 2074007 **Narrow, red** 2066563		
	Focal length **50 mm** Aperture **F1.4–16** 5327526	Spacer for mounting the integrable illumination 2069007	**Narrow, white** 2069099 **Narrow, blue** 2074007 **Narrow, red** 2066563		
	Focal length **75 mm** Aperture **F1.8–16** 5327527	Spacer for mounting the integrable illumination 2069007	**Narrow, white** 2069099 **Narrow, blue** 2074007 **Narrow, red** 2066563		

Recommended accessories

Other models and accessories ➜ www.sick.com/Lector64x_Lector65x

	Brief description	Type	part no.
connectors and cables			
	• **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

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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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