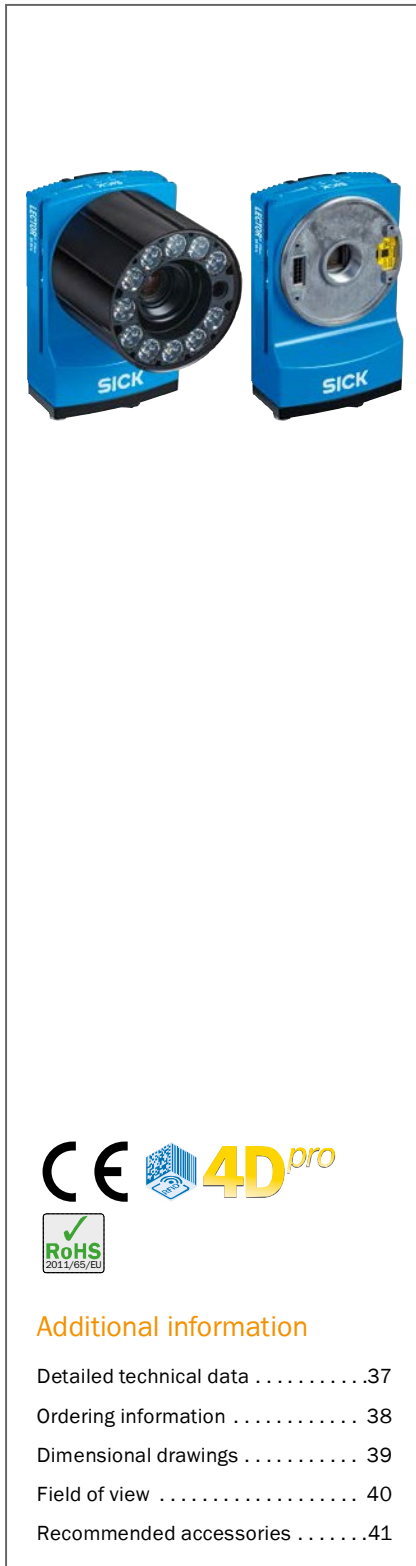


# HIGH EFFICIENCY FOR CODE READING APPLICATIONS



## Product description

The Lector642 image-based code reader from SICK provides maximum performance and optimum throughput in logistics and factory automation. With a frame repetition rate of 40 Hz and real-time decoding, the Lector642 can reliably identify 1D, 2D and directly marked codes at the highest possible speed. The 1,7 megapixel image resolution offers a large field of view. The intuitive device equipment – featuring function

buttons, auto setup, an aiming laser, an acoustic feedback signal, and a green feedback LED – reduce the amount of work required for training and installation. The microSD memory card can be used to store images or back-up copies of parameters. Due to SICK’s 4D*pro* feature, the Lector642 can be integrated into numerous industrial network.

## At a glance

- 1,7 megapixel resolution; high frame repetition rate of 40 Hz
- Integrated high-power LED illumination
- Function buttons, aiming laser, optical and audible feedback signal
- Intelligent, rapid decoding algorithms

## Your benefits

- Highly flexible code position, object height, and transport speed due to a large field of view and large depth of field
- Cost-effective, straightforward, modular integration of multiple devices adapted to the width of the conveyor belt
- Minimum training and installation work due to intuitive device equipment that includes function buttons, auto setup, integrated illumination, an aiming laser, an acoustic feedback signal, and a green feedback LED
- Intelligent decoding algorithms ensure maximum reading performance and high package throughput, even with codes that are difficult to read
- SICK 4D*pro* platform facilitates quick and easy integration into numerous industrial networks



## Additional information

Detailed technical data . . . . .	37
Ordering information . . . . .	38
Dimensional drawings . . . . .	39
Field of view . . . . .	40
Recommended accessories . . . . .	41

→ [www.mysick.com/en/Lector64x](http://www.mysick.com/en/Lector64x)

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



## Detailed technical data

### Features

<b>Focus</b>	Adjustable focus (manually)
<b>Sensor</b>	CMOS matrix sensor, gray scale values
<b>Light source</b>	Illumination LEDs: (to be ordered separately as accessories) Aiming laser: visible red light ( $\lambda = 630 \dots 680 \text{ nm}$ )
<b>Laser class</b>	1M, complies with 21 CFR 1040.10 except for the tolerance according to "Laser Notice No. 50" from June 24, 2007 (IEC 60825-1 (2007-3))
<b>Scanning frequency</b>	40 Hz, at 1.7 megapixels resolution
<b>Code resolution</b>	$\geq 0.1 \text{ mm}^{1)}$
<b>Reading distance</b>	300 mm ... 2,200 mm, depends on lens used <sup>2)</sup>

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

<sup>2)</sup> Depends on lens used, for details see field of view diagram.

### Performance

<b>Bar code types</b>	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, Swedish Post, Royal Mail, Dutch KIX Post
<b>2D code types</b>	Data Matrix ECC200, GS1 Data-Matrix, MaxiCode, QR code
<b>Stacked code types</b>	PDF417
<b>Code qualification</b>	On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 18004
<b>Internal image storage</b>	512 MB

### Interfaces

<b>Serial (RS-232, RS-422)</b>	✓
Function	Host, AUX
Data transmission rate	300 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
<b>USB</b>	✓, USB 2.0
<b>Ethernet</b>	✓
Function	Host, AUX, image transmission
Data transmission rate	10/100/1,000 Mbit/s
Protocol	TCP/IP, FTP (image transmission), EtherNet/IP, PROFINET (optional over external fieldbus module CDF600-2) TCP/IP, FTP (image transmission), EtherNet/IP, Dual Port PROFINET (depending on type)
<b>CAN bus</b>	✓
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CSN (SICK CAN Sensor Network)
<b>PROFIBUS DP</b>	✓, Optional over external fieldbus module (CDF600-2)
<b>Switching inputs</b>	4 ("Sensor 1", "Sensor 2", 2 inputs via optional CMC600 parameter memory in CDB650/CDM420)
<b>Configurable inputs</b>	Encoder input, external trigger
<b>Switching outputs</b>	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")
<b>Configurable outputs</b>	Good read, External illumination control, free configurable output condition, "device ready"
<b>Reading pulse</b>	Switching inputs, non-powered, serial interface, Ethernet, CAN, auto pulse, presentation mode
<b>Optical indicators</b>	21 LEDs (10 x status display, 10 x LED bar graph, 1 green feedback spot)
<b>Acoustic indicators</b>	Beeper/buzzer (can be switched off, can be assigned a function to signal a result)

Control elements	2 buttons (choose and start/stop functions)
Configuration software	SOPAS ET
Memory card	Micro SD memory card (flash card) max. 16 GB, optional
Data storage and retrieval	Images and file logging via MicroSD memory card, internal memory and external FTP
Maximum encoder frequency	1 kHz
External illumination control	Via digital output (max. 24 V trigger) or via external illumination connector

### Mechanics/electronics

Electrical connection	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) 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) 2 x M12, 4-pin female connector (Ethernet, 100 mBit/s) (depending on type)
Operating voltage	24 V DC, ± 20 %
Power consumption	Typ. 20 W, ± 20 %
Output current	≤ 100 mA
Housing	Aluminum die cast
Housing color	Light blue (RAL 5012)
Protection class	III
Weight	635 g
Dimensions	142 mm x 89 mm x 46 mm <sup>1)</sup>

<sup>1)</sup> Only housing without lens and protective hood.

### Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-2 (2005-08) / EN 61000-6-3 (2007-01)
Shock resistance	EN 60068-2-6
Electrical safety	EN 60950-1 (2011-01)
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

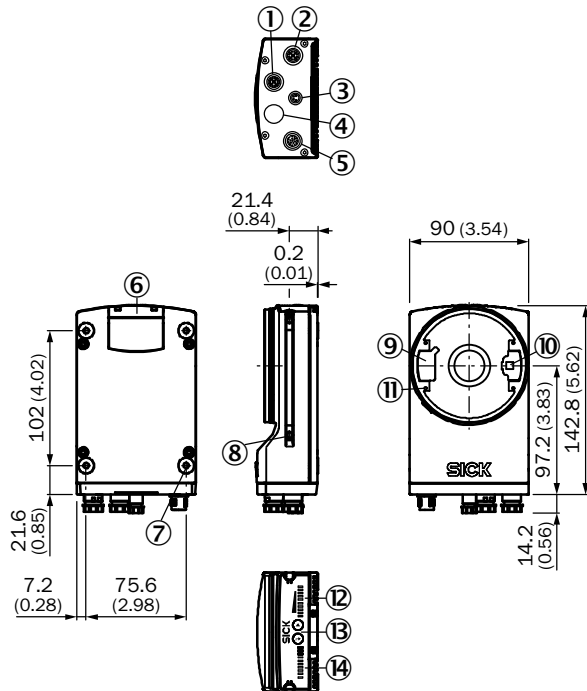
### Ordering information

- **Version:** Lector642 Flex
- **Reading field:** side
- **Sensor resolution:** 1,600 px x 1,088 px
- **Lens:** exchangeable (C-mount), to be ordered separately as accessory
- **Enclosure rating:** IP 65

Type	Part no.
V2D642R-MCXXA6 Flex	1070119
V2D642R-MCXXH6 Flex with Dual Port PROFINET	1071472

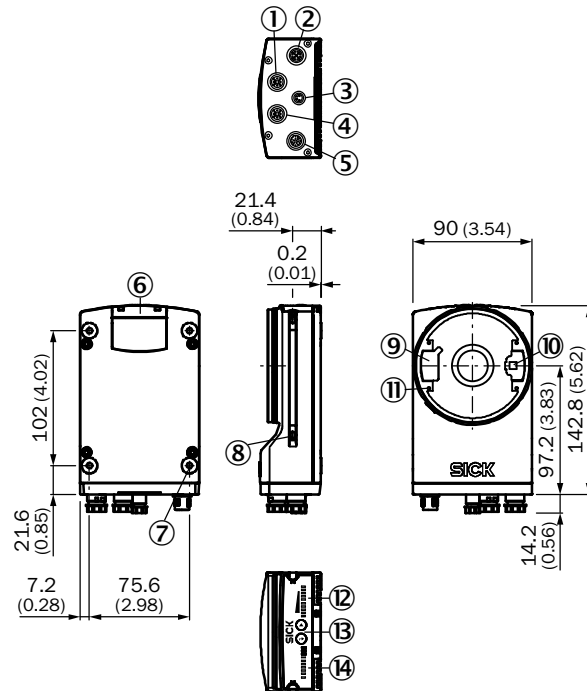
**Dimensional drawings** (Dimensions in mm (inch))

Lector642 Flex,; side



- ① P1 connection, no function, planned "Ethernet", depending on type
- 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 (flap) for the slot of the microSD memory card
- ⑦ Blind hole thread M5, 5 mm deep (4 x), for mounting
- ⑧ Sliding nut M5, 5.5 mm deep (2 x), for mounting (as alternative)
- ⑨ Plug connector for connecting the integrated lighting
- ⑩ Outlet, aiming laser
- ⑪ Blind hole thread M2.5, 5.5 mm deep (4 x), for mounting the lighting fixture
- ⑫ Bar graph display
- ⑬ Function button (2 x)
- ⑭ LED for status display (2 levels), 10 x

Lector642 Flex,; side

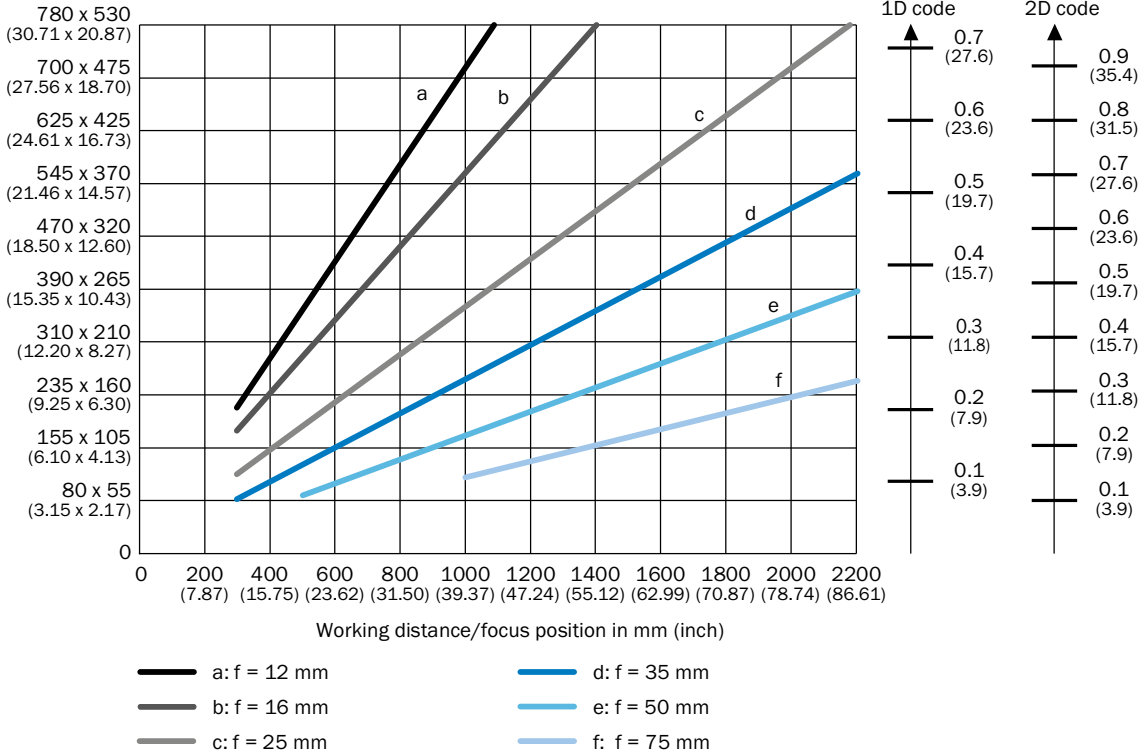


- ① P1/P2 connection "Ethernet", 100 mBit/s
- ② P3 connection "Ethernet", 1 GBit/s
- ③ X2 "USB" connection or "trigger external lighting", depending on type
- ④ P1/P2 connection "Ethernet", 100 mBit/s
- ⑤ X1 "Power/Serial Data/CAN/I/O" connection or "CAN IN", depending on type
- ⑥ Cover (flap) for the slot of the microSD memory card
- ⑦ Blind hole thread M5, 5 mm deep (4 x), for mounting
- ⑧ Sliding nut M5, 5.5 mm deep (2 x), for mounting (as alternative)
- ⑨ Plug connector for connecting the integrated lighting
- ⑩ Outlet, aiming laser
- ⑪ Blind hole thread M2.5, 5.5 mm deep (4 x), for mounting the lighting fixture
- ⑫ Bar graph display
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Field of view

Lector642 Flex

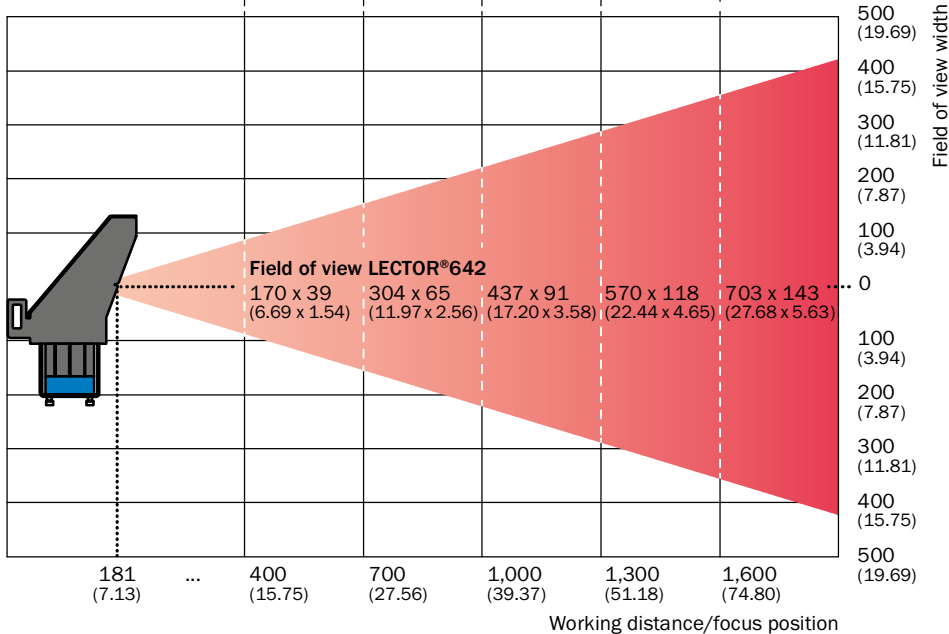
Field of view in mm<sup>2</sup> (sq inch)



Field of view, Lector642 Flex with Panorama 35 mm

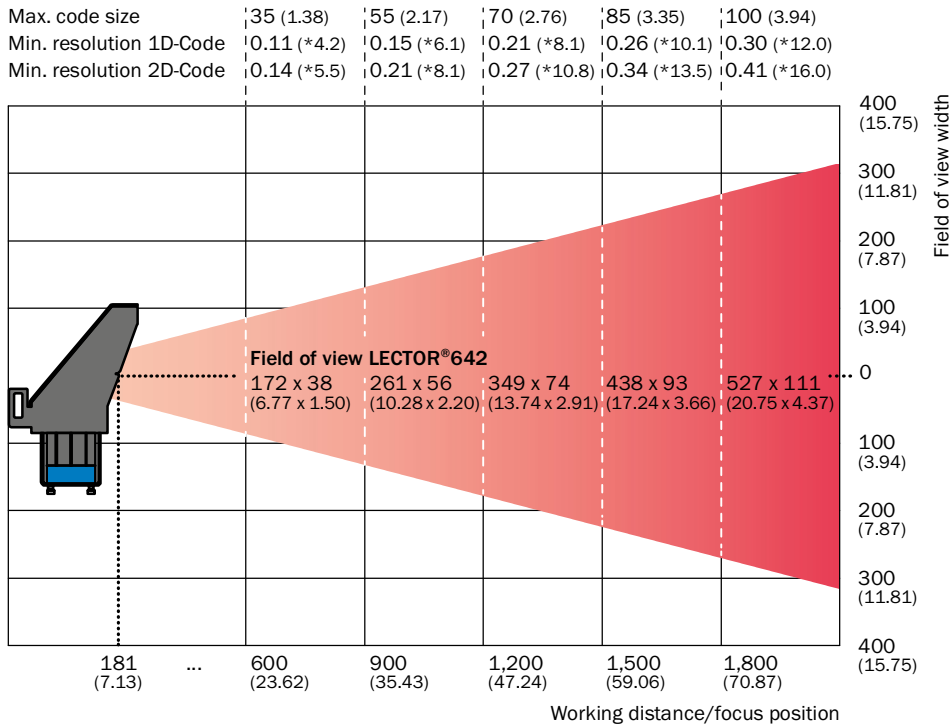
Dimensions in mm (inch/\*mil)

Max. code size	35 (1.38)	59 (2.32)	77 (3.03)	91 (3.58)	105 (4.13)
Min. resolution 1D-Code	0.11 (*4.2)	0.18 (*7.1)	0.25 (*9.9)	0.33 (*12.8)	0.40 (*15.6)
Min. resolution 2D-Code	0.14 (*5.7)	0.24 (*9.4)	0.34 (*13.2)	0.43 (*17.1)	0.53 (*20.8)



Field of view, Lector642 Flex with Panorama 50 mm

Dimensions in mm (inch/\*mil)



Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.
	Mounting bracket with screws including skew angle display	2069169


Connection systems

Modules

	Brief description	Type	Part no.
	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, including trigger unit functionality for external illumination	CDB650-204	1064114

Plug connectors and cables

	Signal type/application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	USB 2.0	Male connector, M8, 4-pin, straight	Male connector, USB-A, 4-pin, straight	-	2 m	6051164
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	To connection module CDB650, suitable for 2 A, drag chain use	3 m	6051194

	Signal type/applica- tion	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	Gigabit Ethernet/PoE	Male connector, M12, 8-pin, straight, X-coded	Male connector, RJ45, 8-pin, straight	AWG26	2 m	6049728

Reflectors and optics

Lens and accessories

	Brief description	Part no.
	Optic kit 04 including lens with a focal length of 35 mm, white lighting, distance bracket and protective hood	1064794
	Optic kit 05 including lens with a focal length of 50 mm, white lighting, distance bracket and protective hood	1064776

→ For additional accessories, please see page 56

