



ICR620E-H12013 ECO

Lector62x

IMAGE-BASED CODE READERS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
ICR620E-H12013 ECO	1054507

Other models and accessories → www.sick.com/Lector62x



Detailed technical data

Features

Optical focus	Adjustable focus (electric)
Sensor	CMOS matrix sensor, grayscale values
Sensor resolution	752 px x 480 px (WVGA)
Light source	Internal lighting LED, Visible, Red, 617 nm, ± 15 nm Feedback spot LED, Visible, green, 525 nm, ± 15 nm
LED class	1 (IEC 62471:2006-07, EN 62471:2008-09)
Laser class	EN 60825-1:2014
Scanning frequency	25 Hz, WVGA resolution
Code resolution	≥ 0.1 mm ¹⁾
Reading distance	40 mm ... 1,500 mm ^{1) 2)}
Lens	Integrated
Focal length	7 mm

¹⁾ Valid for Data Matrix, PDF417, and 1D codes with good print quality.

²⁾ For details see reading field diagram.

Mechanics/electronics

Connection type	1 x 15-pin D-Sub HD male connector (0.9 m)
Supply voltage	10 V DC ... 30 V DC
Power consumption	Typ. 3 W
Output current	≤ 100 mA
Housing	Aluminum die cast
Housing color	Light blue (RAL 5012)

¹⁾ Swivel connector is 17.8 mm longer.

Front screen	Glass
Enclosure rating	IP65 (EN 60529 (1991-10), EN 60529/A2 (2002-02))
Protection class	III
Electrical safety	EN 60950-1 (2006-04) / EN 60950-1/A11 (2009-03)
Weight	170 g
Dimensions (L x W x H)	71 mm x 43 mm x 35.6 mm ¹⁾
MTBF	75,000 h

¹⁾ Swivel connector is 17.8 mm longer.

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
2D code types	Data Matrix ECC200, GS1 Data-Matrix, PDF417, PDF417 Truncated, QR code
No. of codes per reading interval	1 ... 50
No. of characters per reading interval	500 (for multiplexer function in CAN operation)
Internal image storage	135 MB
Transport speed	2 m/s

Interfaces

PROFINET	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600-2
Function	PROFINET Single Port, PROFINET Dual Port
EtherCAT®	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600-2
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	20 kbit/s ... 1 Mbit/s
CANopen	✓
Data transmission rate	20 kbit/s ... 1 Mbit/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 parameter storage CMC600 in CDB620/CDM420)
Digital outputs	4 ("Result 1", "Result 2", 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)
Reading pulse	Digital inputs, non-powered, serial interface, CAN, auto pulse, presentation mode
Optical indicators	16 LEDs (5 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
Data storage and retrieval	Image and data storage via microSD memory card and external FTP
Maximum encoder frequency	300 Hz
External illumination control	Via digital output (max. 24 V trigger)

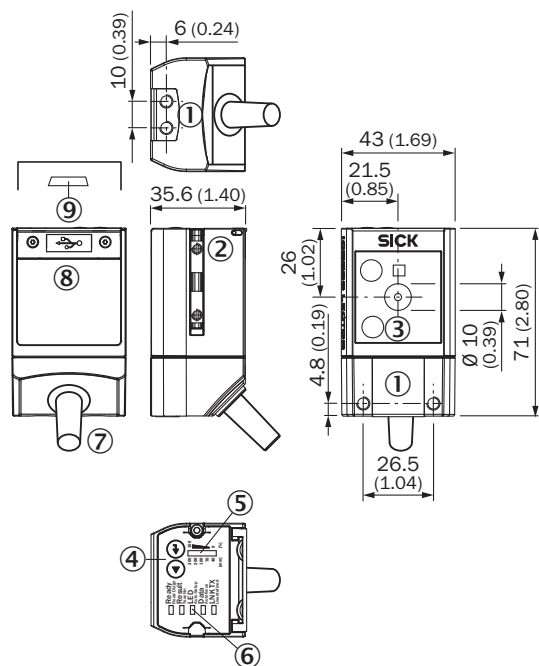
Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-2 (2006-03) / EN 61000-6-2 (2009-05)
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
Ambient light immunity	2,000 lx, on code

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

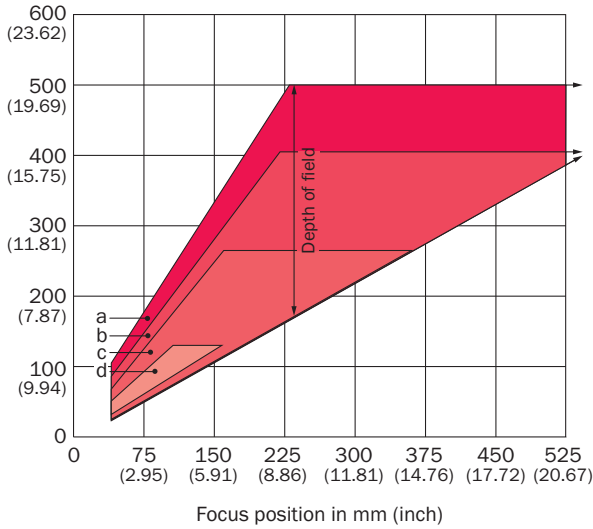
Dimensional drawing (Dimensions in mm (inch))



- ① M5 blind tapped holes, 5 mm deep (4 x), for mounting the sensor
- ② Sliding nut M5, 5 mm deep (2 x), for mounting (as alternative)
- ③ Reading field
- ④ Function button (2 x)
- ⑤ Bar graph display
- ⑥ LEDs for status display (2 levels), 5 x
- ⑦ Cable with 15-pin D-sub HD male connector
- ⑧ Cover (flap)
- ⑨ "Micro USB" connection

Reading field diagram

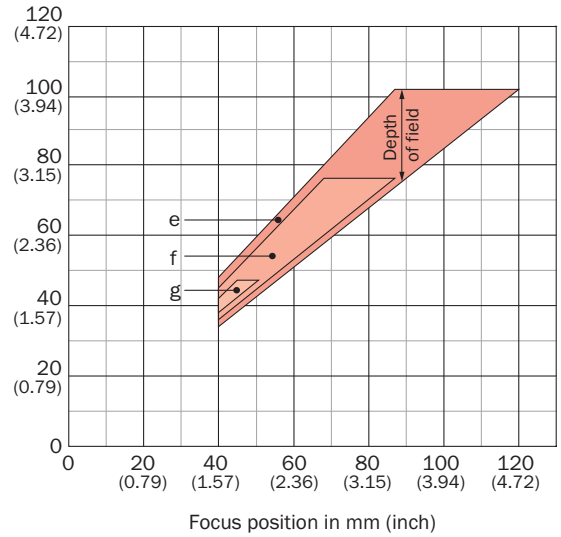
Working distance in mm (inch)



Resolution

- a: 1.00 mm (39.4 mil)
- b: 0.75 mm (29.5 mil)
- c: 0.50 mm (19.7 mil)
- d: 0.25 mm (9.8 mil)

Working distance in mm (inch)



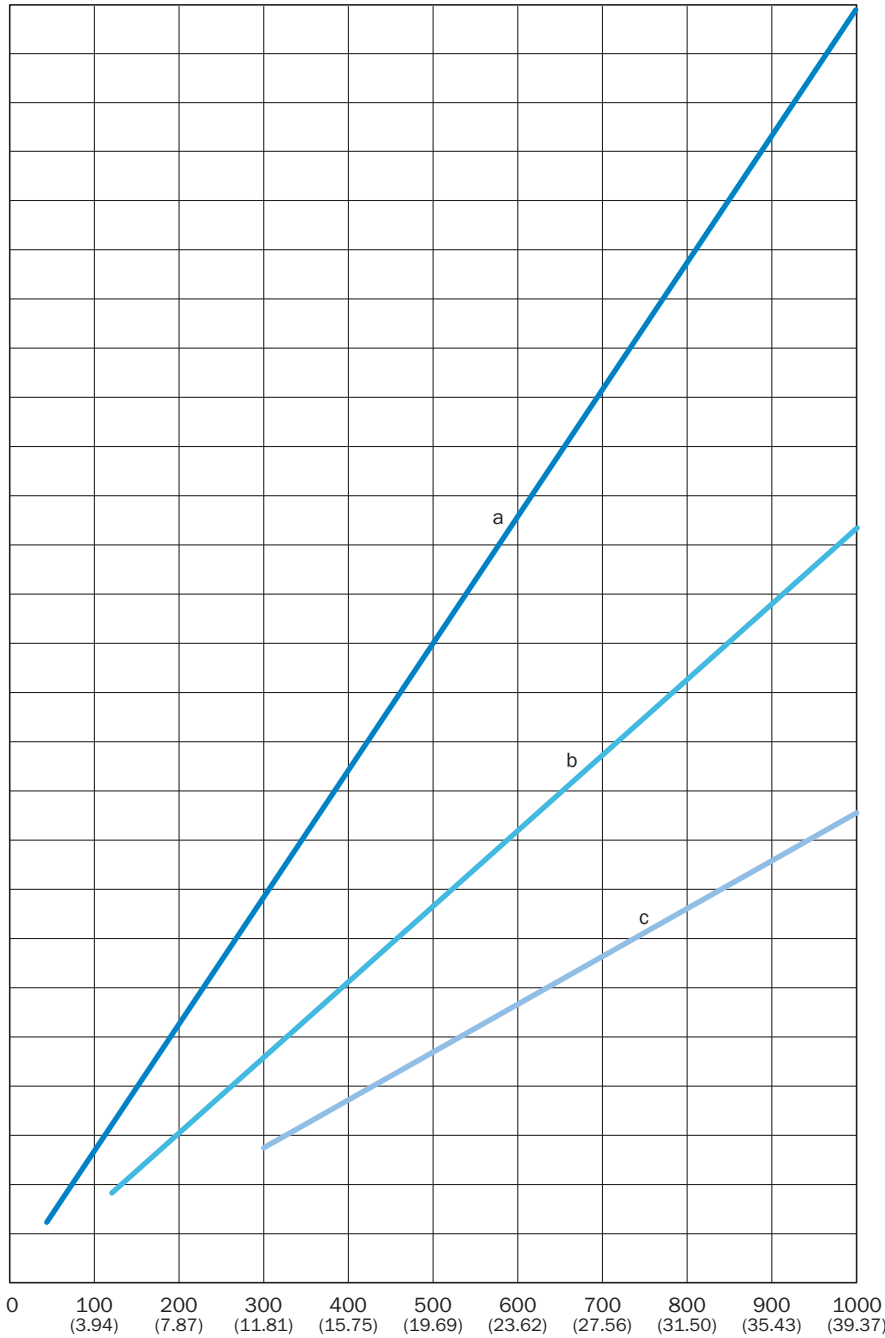
Resolution

- e: 0.20 mm (7.9 mil)
- f: 0.15 mm (5.9 mil)
- g: 0.10 mm (3.9 mil)

Field of view

Field of view in mm² (sq inch)

650 x 416
(25.60 x 16.38)
625 x 400
(24.61 x 15.75)
600 x 384
(23.62 x 15.12)
575 x 368
(22.64 x 14.49)
550 x 352
(21.65 x 13.86)
525 x 336
(20.67 x 13.23)
500 x 320
(19.69 x 12.60)
475 x 304
(18.70 x 11.97)
450 x 288
(17.72 x 11.34)
425 x 272
(16.73 x 10.71)
400 x 256
(15.75 x 10.08)
375 x 240
(14.76 x 9.45)
350 x 224
(13.78 x 8.82)
325 x 208
(12.18 x 8.19)
300 x 192
(11.81 x 7.56)
275 x 176
(10.83 x 6.93)
250 x 160
(9.84 x 6.30)
225 x 144
(8.86 x 5.67)
200 x 128
(7.87 x 5.04)
175 x 112
(6.89 x 4.41)
150 x 96
(5.91 x 3.78)
125 x 80
(4.92 x 3.15)
100 x 64
(3.94 x 2.52)
75 x 48
(2.95 x 1.89)
50 x 32
(1.97 x 1.26)
25 x 16
(0.98 x 0.63)








Min. resolution in mm (mil)

1D code	2D code
1.3 (51.2)	1.7 (66.9)
1.2 (47.2)	1.6 (63.0)
1.1 (43.3)	1.5 (59.1)
1.0 (39.4)	1.4 (55.1)
0.9 (35.4)	1.3 (51.2)
0.8 (31.5)	1.2 (47.2)
0.7 (27.6)	1.1 (43.3)
0.6 (23.6)	1.0 (39.4)
0.5 (19.7)	0.9 (35.4)
0.4 (15.7)	0.8 (31.5)
0.3 (11.8)	0.7 (27.6)
0.2 (7.9)	0.6 (23.6)
0.1 (3.9)	0.5 (19.7)
	0.4 (15.7)
	0.3 (11.8)
	0.2 (7.9)
	0.1 (3.9)

- a: f = 7 mm (ICR620E-H12013, ICR620S-T11503, ICR620S-T11504)
- b: f = 12 mm (ICR620D-T31503)
- c: f = 18 mm (ICR620D-T51503)

Recommended accessories

Other models and accessories → www.sick.com/Lector62x

	Brief description	Type	Part no.
Mounting brackets and plates			
	Bracket with adapter board	Mounting bracket	2042902
Plug connectors and cables			
	Head A: male connector, USB-A Head B: male connector, Micro-B Cable: USB 2.0, unshielded, 2 m	USB cable	6036106
Modules			
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966

Recommended services

Additional services → www.sick.com/Lector62x

	Type	Part no.
Warranty extensions		
<ul style="list-style-type: none"> • 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		
<ul style="list-style-type: none"> • 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		
<ul style="list-style-type: none"> • 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

	Type	Part no.
Maintenance		
<ul style="list-style-type: none">• 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		
<ul style="list-style-type: none">• 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:

Contacts and other locations –www.sick.com