Product data sheet

# V2D621R-2MSFBB5

## Lector62x

**IMAGE-BASED CODE READERS**

SICK
Sensor Intelligence.

## Ordering information

| Type | Part no. |
|---|---|
| V2D621R-2MSFBB5 | 1085372 |

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

## Detailed technical data

### Features

| | |
|---|---|
| **Optical focus** | Teach auto focus |
| **Sensor** | CMOS matrix sensor, grayscale values |
| **Sensor resolution** | 1,280 px x 1,024 px |
| **Illumination** | Integrated |
| **Illumination color** | Red, LED, Visible, 617 nm, ± 15 nm<br>Blue, LED, Visible, 470 nm, ± 15 nm |
| **Feedback spot** | LED, Visible, green, 525 nm, ± 15 nm |
| **Alignment aid** | Laser, Red, 630 nm ... 680 nm |
| **LED class** | 1 (IEC 62471:2006-07, EN 62471:2008-09) |
| **Laser class** | 1, complies with 21 CFR 1040.10 except for the conformance according to “Laser Notice No. 50” from June 24, 2007 (IEC 60825-1:2014, EN 60825-1:2014+A11:2021) |
| **Lens** | |
| Focal length | 9.6 mm |
| **Reading distance** | 70 mm ... 1,500 mm [1) 2)] |
| **Scanning frequency** | 50 Hz |
| **Code resolution** | ≥ 0.05 mm [2)] |

[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 M12, 17-pin male connector<br>1 x M12, 4-pin Ethernet female connector |

[1)] Swivel connector is 17.8 mm longer.

| | |
|---|---|
| | Circular plug-in connector |
| **Supply voltage** | 12 V DC ... 24 V DC, ± 20 % |
| **Power consumption** | Typ. 4 W |
| **Housing** | Aluminum die cast |
| **Housing color** | Light blue (RAL 5012) |
| **Window material** | Plastic |
| **Enclosure rating** | IP65 (EN 60529, EN 60529/A2) |
| **Protection class** | III |
| **Electrical safety** | EN 62368 |
| **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, Plessey Code, MSI/Plessey, Telepen, postal codes |
| **2D code types** | Data Matrix ECC200, GS1 Data-Matrix, PDF417, PDF417 Truncated, QR code, MaxiCode |
| **Code qualification** | On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 15416, ISO/IEC 18004 |
| **No. of codes per reading interval** | 1 ... 50 |
| **No. of characters per reading interval** | 500 (for multiplexer function in CAN operation) |
| **Automated parameter switching** | ✓ |

## Interfaces

| | |
|---|---|
| **Ethernet** | ✓, TCP/IP |
| Function | Data interface (read result output), Service interface, FTP (image transmission) |
| Data transmission rate | 10/100 MBit/s |
| **PROFINET** | ✓ |
| Function | PROFINET Single Port, PROFINET Dual Port (optional via external connection module CDF600-2) |
| Data transmission rate | 10/100 MBit/s |
| **EtherNet/IP™** | ✓ |
| Data transmission rate | 10/100 MBit/s |
| **EtherCAT** | ✓ |
| Type of fieldbus integration | Optional over external fieldbus module CDF600 |
| **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 |
| **CANopen** | ✓ |
| 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 parameter storage CMC600 in CDM420) |
| **Digital outputs** | 4 (“Result 1”, “Result 2”, 2 outputs via CMC and CDM420 or “Result 1”, “Result 2”, “Result 3”, “Result 4” when using the 17-wire cable with open cable end) |
| **Reading pulse** | Digital inputs, non-powered, serial interface, Ethernet, 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 |
| **Memory card** | microSD memory card (flash card), optional |
| **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) |

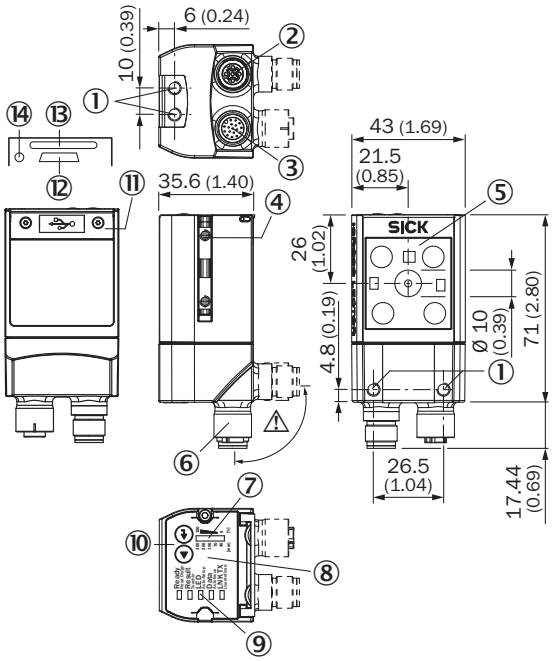
## Ambient data

| | |
|---|---|
| **Electromagnetic compatibility (EMC)** | EN 61000-6-2:2005-08 / 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 |
| **Ambient light immunity** | 2,000 lx, on code |

## Classifications

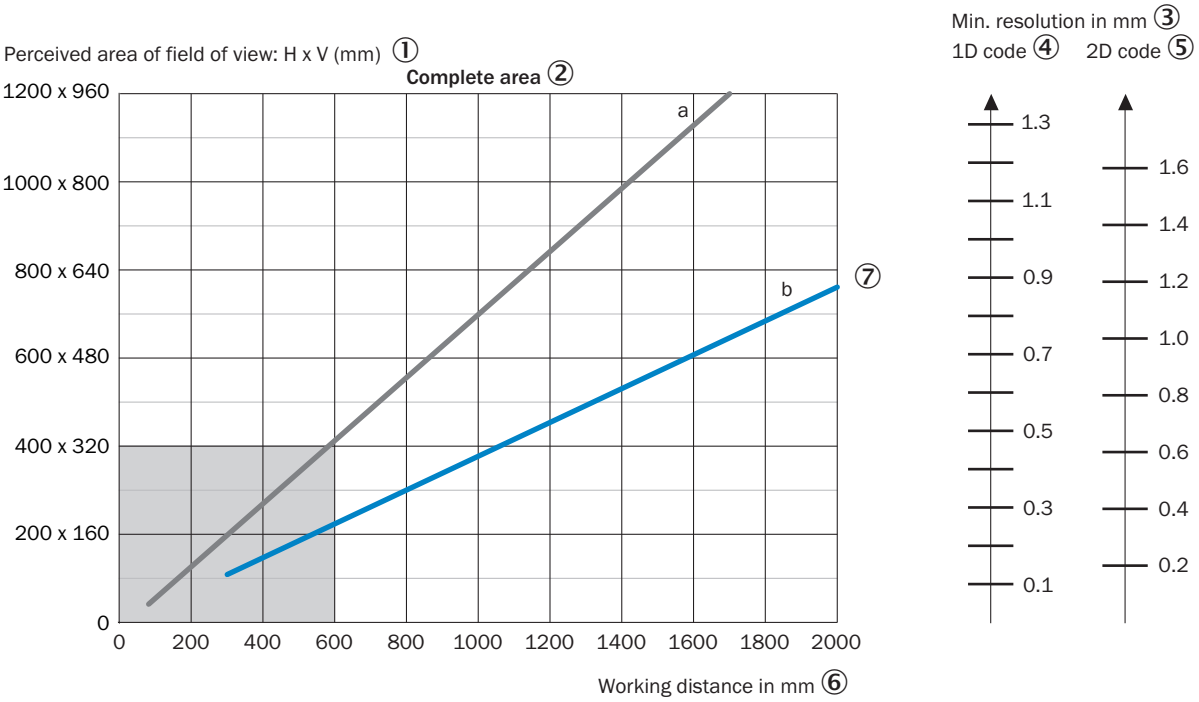
| | |
|---|---|
| **ECLASS 5.0** | 27280103 |
| **ECLASS 5.1.4** | 27280103 |
| **ECLASS 6.0** | 27280103 |
| **ECLASS 6.2** | 27280103 |
| **ECLASS 7.0** | 27280103 |
| **ECLASS 8.0** | 27280103 |
| **ECLASS 8.1** | 27280103 |
| **ECLASS 9.0** | 27280103 |
| **ECLASS 10.0** | 27280103 |
| **ECLASS 11.0**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

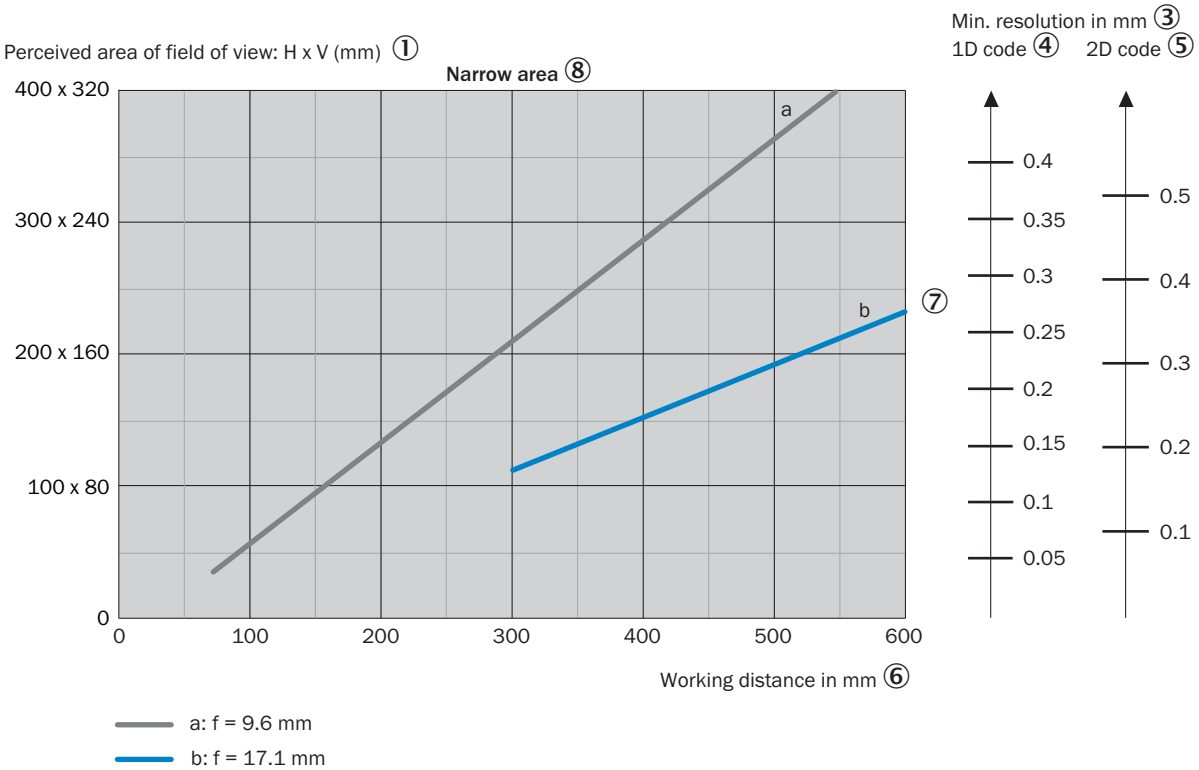
## Dimensional drawing (Dimensions in mm (inch))




① M5 blind tapped holes, 5 mm deep (4 x), for mounting the sensor
② "Ethernet" connection, 4-pin M12 female connector, D-coded
③ "Power/Serial Data/CAN/I/O" connection, 17-pin M12 male connector, A-coded
④ Sliding nut M5, 5.5 mm deep (2 x), for mounting (as alternative)
⑤ Reading window with internal illumination LEDs (4 x)
⑥ Swivel connector unit
⑦ Bar graph
⑧ Beeper (under housing cover)
⑨ LEDs for status display (2 levels), 5 x
⑩ Function button (2 x)
⑪ Cover (flap)
⑫ "USB" connection (female connector, 5-pin, type Micro-B) interface for temporary use (service)
⑬ Slot for microSD memory card
⑭ LED for microSD memory card

## Field of view




a: f = 9.6 mm
b: f = 17.1 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 = 17.1 mm

⑧ Close range

## 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** | | | |
| | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 2 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, PROFINET, shielded<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-020PN1MRJA4 | 2106182 |
| **Others** | | | |
| | • **Connection type head A:** Male connector, USB-A<br>• **Connection type head B:** Male connector, Micro-B<br>• **Signal type:** USB 2.0<br>• **Cable:** 2 m<br>• **Description:** USB 2.0, unshielded | USB cable | 6036106 |
| **Modules** | | | |
| | • **Sub product family:** CDB650<br>• **Supported products:** Lector® series, CLV62x - CLV64x (depending on type), CLV69x, RFID read/write device, InspectorP series<br>• **Brief description:** 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 |
| | • **Sub product family:** CDF600-2 PROFIBUS DP<br>• **Supported products:** Lector® series, CLV61x - CLV65x, CLV69x, RFID read/write device, Mobile handheld scanners<br>• **Brief description:** 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 |
| | • **Sub product family:** CDF600-2 PROFIBUS DP<br>• **Supported products:** Lector® series, CLV61x - CLV65x, CLV69x, RFID read/write device, Mobile handheld scanners<br>• **Brief description:** 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. |
|---|---|---|
| Performance check | | |
| • **Product area:** Image-based code readers<br>• **Range of services:** Inspection of defined functions, e.g., reading performance<br>• **Travel expenses:** The prices do not include travel costs such as hotel, flight, travel time and expenses.<br>• **Duration:** Additional work will be invoiced separately | Performance check Lector | 1608207 |
| Maintenance | | |
| • **Product area:** Image-based code readers<br>• **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<br>• **Duration:** Additional work will be invoiced separately<br>• **Travel expenses:** The prices do not include travel costs such as hotel, flight, travel time and expenses. | Maintenance Lector | 1611421 |
| Commissioning | | |
| • **Product area:** Image-based code readers<br>• **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 illumination, code configuration, trigger and digital inputs, interfaces and digital outputs as well as data processing<br>• **Travel expenses:** The prices do not include travel costs such as hotel, flight, travel time and expenses.<br>• **Duration:** Additional work will be invoiced separately | Commissioning Lector | 1608206 |
| Extended warranty | | |
| • **Product area:** Identification solutions, machine vision, Detection and ranging solutions, safety camera sensors, Safety laser scanners, Safety radar sensors<br>• **Range of services:** The services correspond to the scope of the statutory manufacturer warranty (SICK general terms of delivery).<br>• **Duration:** Five-year warranty from delivery date. | Extended warranty for a total of five years from delivery date | 1680671 |

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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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