



# V2D610R-MMSCE4

Lector61x

IMAGE-BASED CODE READERS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type           | part no. |
|----------------|----------|
| V2D610R-MMSCE4 | 1117774  |

Other models and accessories → [www.sick.com/Lector61x](http://www.sick.com/Lector61x)



### Detailed technical data

#### Features

|                           |                                                                                                                                                             |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Variant</b>            | Complete device                                                                                                                                             |
| <b>Optical focus</b>      | Adjustable focus (manual)                                                                                                                                   |
| <b>Sensor</b>             | CMOS monochrome                                                                                                                                             |
| <b>Sensor resolution</b>  | 640 px x 480 px (0.3 MP)                                                                                                                                    |
| <b>Illumination</b>       | Integrated                                                                                                                                                  |
| <b>Illumination color</b> | Amber, LED, Visible, 617 nm, ± 15 nm<br>Blue, LED, Visible, 470 nm, ± 15 nm                                                                                 |
| <b>LED class</b>          | 1 (IEC 62471:2006-07, EN 62471:2008-09)                                                                                                                     |
| <b>Feedback spot</b>      | LED, Visible, green, 525 nm, ± 15 nm<br>LED, Visible, Red, 635 nm, ± 15 nm                                                                                  |
| <b>Alignment aid</b>      | LED, Red, 630 nm, ± 15 nm                                                                                                                                   |
| <b>Laser class</b>        | 1, complies with 21 CFR 1040.10 except for the conformance according to "Laser Notice No. 56" from May 8, 2019 (IEC 60825-1:2014, EN 60825-1:2014+A11:2021) |
| <b>Lens</b>               |                                                                                                                                                             |
| Focal length              | 12 mm                                                                                                                                                       |
| <b>Scanning frequency</b> | 40 Hz                                                                                                                                                       |
| <b>Code resolution</b>    | 0.04 mm <sup>1)</sup>                                                                                                                                       |
| <b>Working range</b>      | 50 mm ... 300 mm <sup>1) 2)</sup>                                                                                                                           |

<sup>1)</sup> For details see reading field diagram.

<sup>2)</sup> With internal illumination, can be extended to longer distances when using external illumination.

#### Mechanics/electronics

|                        |                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Connection type</b> | 1 x Cable with M12 male connector, 17-pin<br>1 x Cable with M12 Ethernet socket, 4-pin<br>Circular plug-in connector |
|------------------------|----------------------------------------------------------------------------------------------------------------------|

|                               |                                 |
|-------------------------------|---------------------------------|
| <b>Supply voltage</b>         | 12 V DC ... 24 V DC, $\pm 15\%$ |
| <b>Power consumption</b>      | Typ. 3.5 W                      |
| <b>Output current</b>         | $\leq 50$ mA                    |
| <b>Housing material</b>       | Zinc diecast                    |
| <b>Housing color</b>          | Light blue (RAL 5012)           |
| <b>Window material</b>        | Plastic                         |
| <b>Enclosure rating</b>       | IP54 (EN 60529, EN 60529/A2)    |
| <b>Protection class</b>       | III                             |
| <b>Electrical safety</b>      | EN 62368-1                      |
| <b>Weight</b>                 | 165 g                           |
| <b>Dimensions (L x W x H)</b> | 50 mm x 40.3 mm x 29.6 mm       |

## Performance

|                                               |                                                                                                                                                                                  |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Readable code structures</b>               | 1D codes, 2D codes, Stacked                                                                                                                                                      |
| <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, Plessey Code, MSI/Plessey, Telepen, postal codes |
| <b>2D code types</b>                          | Data Matrix ECC200, GS1 Data-Matrix, PDF417, PDF417 Truncated, QR code, MaxiCode                                                                                                 |
| <b>Code qualification</b>                     | On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 15416, ISO/IEC 18004                                                                                                       |
| <b>No. of codes per reading interval</b>      | 1 ... 50                                                                                                                                                                         |
| <b>No. of characters per reading interval</b> | 500 (for multiplexer function in CAN operation)                                                                                                                                  |
| <b>Exposure time</b>                          | $\geq 60$ $\mu$ s                                                                                                                                                                |
| <b>Automated parameter switching</b>          | ✓                                                                                                                                                                                |

## Interfaces

|                              |                                                                             |
|------------------------------|-----------------------------------------------------------------------------|
| <b>Ethernet</b>              | ✓ , TCP/IP                                                                  |
| Function                     | Data interface (read result output), FTP (image transmission)               |
| Data transmission rate       | 10/100 MBit/s                                                               |
| <b>PROFINET</b>              | ✓                                                                           |
| Function                     | PROFINET Single Port                                                        |
| Data transmission rate       | 10/100 MBit/s                                                               |
| <b>EtherNet/IP™</b>          | ✓                                                                           |
| Data transmission rate       | 10/100 MBit/s                                                               |
| <b>EtherCAT®</b>             | ✓                                                                           |
| Type of fieldbus integration | Optional over external fieldbus module                                      |
| <b>Serial</b>                | ✓ , RS-232                                                                  |
| Function                     | Data interface (read result output)                                         |
| Data transmission rate       | 0.3 kBaud ... 115.2 kBaud                                                   |
| <b>CAN</b>                   | ✓                                                                           |
| Function                     | SICK CAN sensor network CSN (CAN controller/CAN device, multiplexer/server) |
| Data transmission rate       | 20 kbit/s ... 1 Mbit/s                                                      |
| <b>CANopen</b>               | ✓                                                                           |
| Data transmission rate       | 20 kbit/s ... 1 Mbit/s                                                      |
| <b>Digital inputs</b>        | 2 (physical, switching, "Sensor 1", "Sensor 2")                             |
| <b>Digital outputs</b>       | 3 (physical, switching, "Result 1" ... "Result 3")                          |

|                                      |                                                                                             |
|--------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Reading pulse</b>                 | Digital inputs, non-powered, serial interface, Ethernet, CAN, auto pulse, presentation mode |
| <b>Optical indicators</b>            | 9 LEDs (6 status displays, 2 LED alignment aids, 1 feedback spot)                           |
| <b>Control elements</b>              | 1 pushbutton (select and start/stop functions)                                              |
| <b>Operator interfaces</b>           | Web server                                                                                  |
| <b>Configuration software</b>        | SOPAS ET                                                                                    |
| <b>Data storage and retrieval</b>    | Image and data storage via external FTP                                                     |
| <b>EncoderFrequency</b>              | Max. 300 Hz                                                                                 |
| <b>External illumination control</b> | Via digital output (max. 24 V trigger)                                                      |

#### Ambient data

|                                            |                                                   |
|--------------------------------------------|---------------------------------------------------|
| <b>Electromagnetic compatibility (EMC)</b> | EN 61000-6-3:2007+A1:2011<br>EN 61000-6-2:2005-08 |
| <b>Vibration resistance</b>                | EN 60068-2-6:2008-02                              |
| <b>Shock resistance</b>                    | EN 60068-2-27:2009-05                             |
| <b>Ambient operating temperature</b>       | 0 °C ... +40 °C <sup>1)</sup>                     |
| <b>Storage temperature</b>                 | -20 °C ... +70 °C                                 |
| <b>Permissible relative humidity</b>       | 90 %, Non-condensing                              |

<sup>1)</sup> To use the product at the maximum ambient operating temperature, mount it with an aluminum mounting bracket (e.g., part number 2113160, 2112790).

#### Certificates

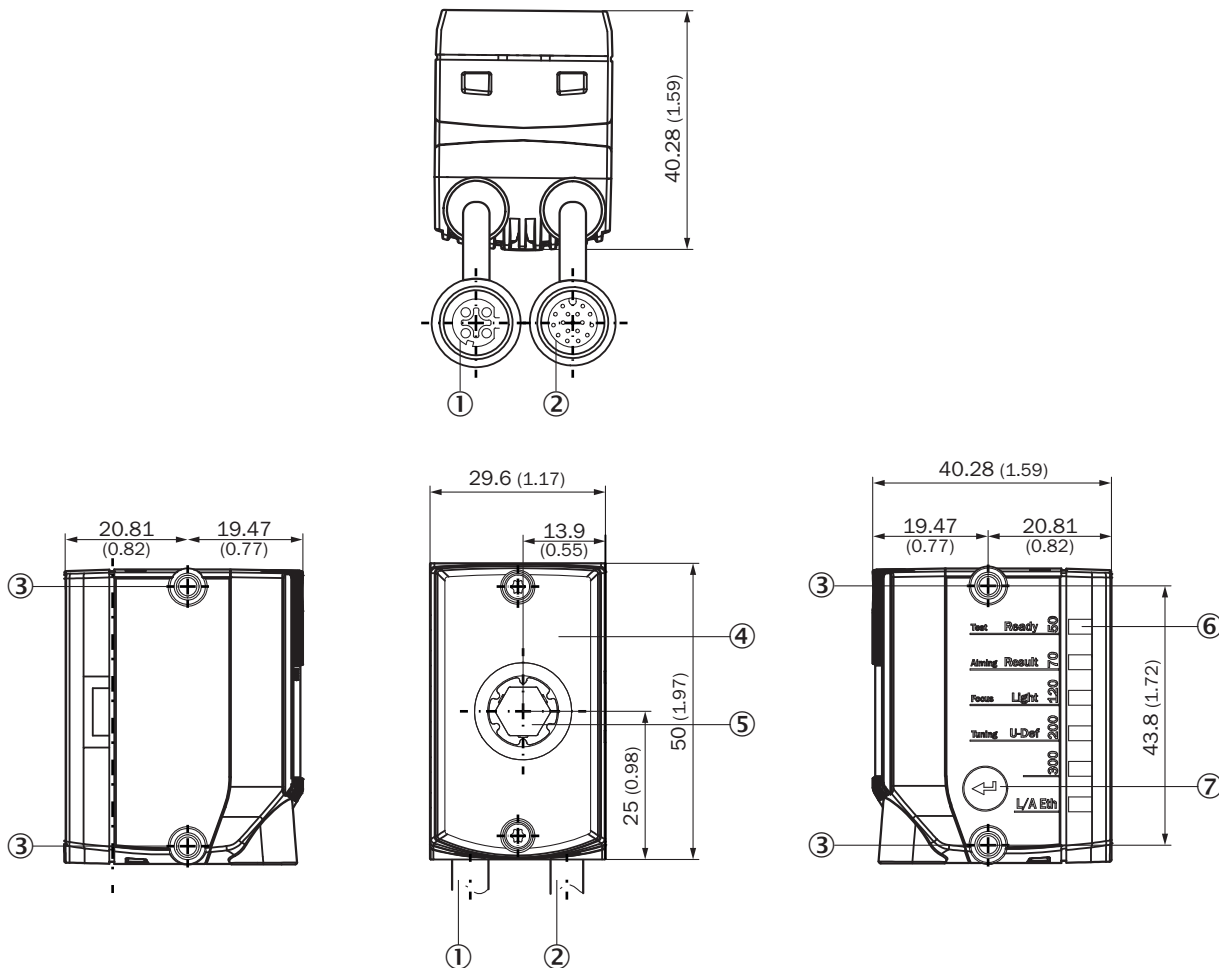
|                                                                              |   |
|------------------------------------------------------------------------------|---|
| <b>EU declaration of conformity</b>                                          | ✓ |
| <b>UK declaration of conformity</b>                                          | ✓ |
| <b>ACMA declaration of conformity</b>                                        | ✓ |
| <b>China RoHS</b>                                                            | ✓ |
| <b>BIS registration</b>                                                      | ✓ |
| <b>ESD conformity</b>                                                        | ✓ |
| <b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b> | ✓ |
| <b>4Dpro</b>                                                                 | ✓ |

#### Classifications

|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27280103 |
| <b>ECLASS 5.1.4</b> | 27280103 |
| <b>ECLASS 6.0</b>   | 27280103 |
| <b>ECLASS 6.2</b>   | 27280103 |
| <b>ECLASS 7.0</b>   | 27280103 |
| <b>ECLASS 8.0</b>   | 27280103 |
| <b>ECLASS 8.1</b>   | 27280103 |
| <b>ECLASS 9.0</b>   | 27280103 |
| <b>ECLASS 10.0</b>  | 27280103 |
| <b>ECLASS 11.0</b>  | 27280103 |
| <b>ECLASS 12.0</b>  | 27280103 |
| <b>ETIM 5.0</b>     | EC002550 |
| <b>ETIM 6.0</b>     | EC002550 |

|                       |          |
|-----------------------|----------|
| <b>ETIM 7.0</b>       | EC002999 |
| <b>ETIM 8.0</b>       | EC002999 |
| <b>UNSPSC 16.0901</b> | 43211701 |

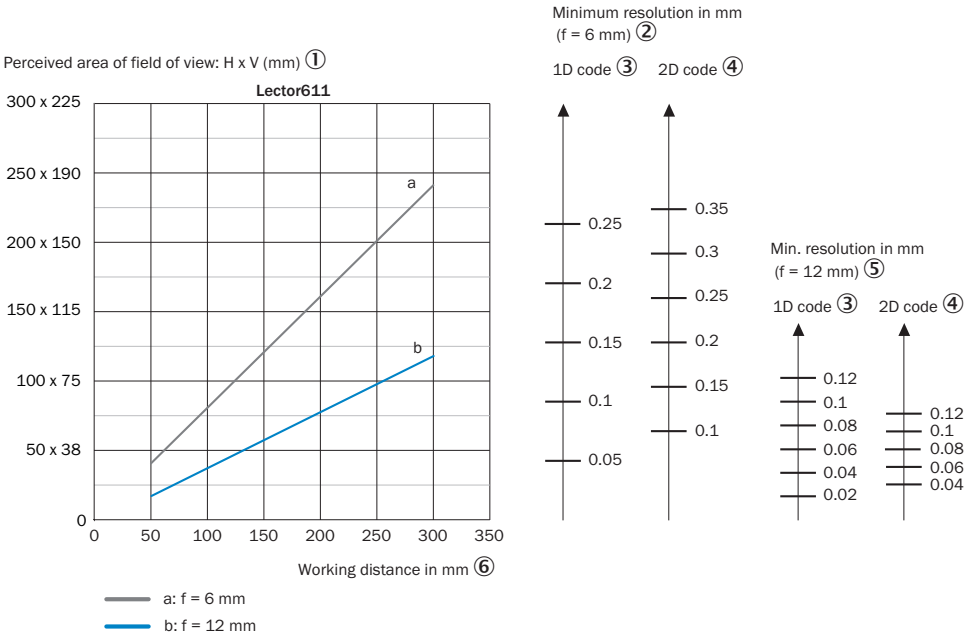
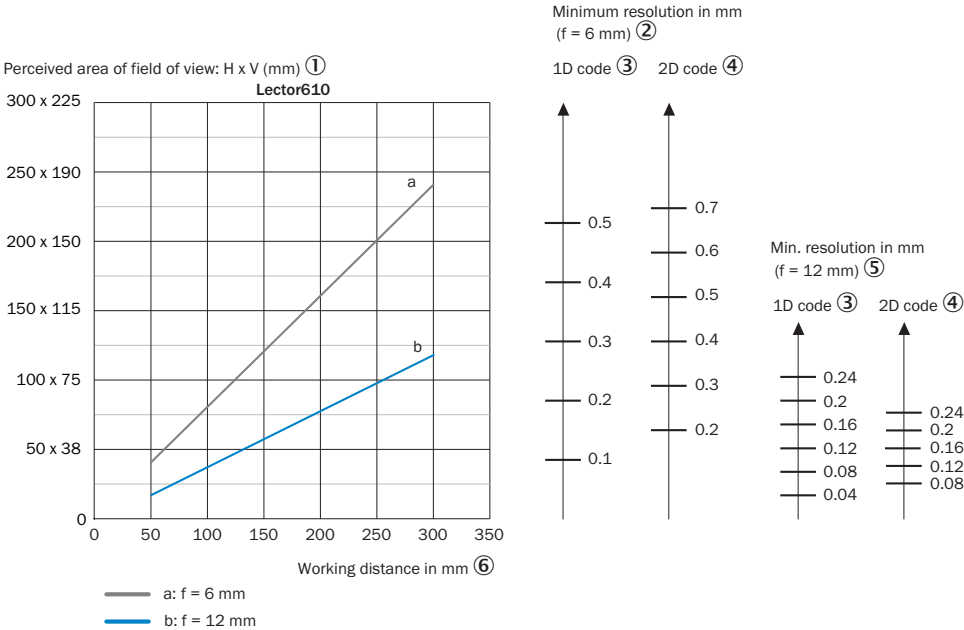
## Dimensional drawing



Dimensions in mm (inch)

- ① Connecting cable with "Ethernet" connection (female connector, M12, 4-pin, D-coded), length of cable: 0.25 m
- ② Connecting cable with "Power/Serial Data/CAN/I/O" connection (male connector, M12, 17-pin, A-coded), length of cable: 0.35 m
- ③ 4 x M4 blind tapped holes, 6.4 mm deep for mounting the device
- ④ Viewing window with 8 integrated illumination LEDs, 2 LED alignment aids, 1 feedback LED, 1 time-of-flight sensor
- ⑤ Optics, manual focus adjustment with the help of a focus adjustment tool
- ⑥ 6 status LEDs to display the focus position and working distance, device status and device function (3 display levels)
- ⑦ Function key

Field of view



- ① perceived field of view area: horizontal x vertical (mm)  
② Minimum resolution in mm (f = 6 mm)  
③ 1D code  
④ 2D code  
⑤ Minimum resolution in mm (f = 12 mm)  
⑥ Working distance in mm

## Recommended accessories

Other models and accessories → [www.sick.com/Lector61x](http://www.sick.com/Lector61x)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Type                | part no. |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|
| Junction boxes                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |          |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CDB650-204          | 1064114  |
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |          |
|    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 17-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 17-wire, PUR</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>                 | YF2A2D-020U-V2XLEAX | 2114287  |
|    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 17-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 17-wire, PUR</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>                 | YF2A2D-050U-V2XLEAX | 2114296  |
|    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 17-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 17-wire, PUR</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>                | YF2A2D-100U-V2XLEAX | 2114297  |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li>• <b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li>• <b>Signal type:</b> Ethernet, PROFINET</li> <li>• <b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Ethernet, shielded, PROFINET</li> <li>• <b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>                           | YM2D24-020P-N1MRJA4 | 2106182  |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 17-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Male connector, M12, 17-pin, A-coded</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.3 m, 17-wire, PUR</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul> | YM2A2D-C30S01F2A2D  | 2148050  |

## 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](http://www.sick.com)