



# IVC-3D11113

IVC-3D

3D MACHINE VISION

**SICK**  
Sensor Intelligence.



## Ordering information

| Type        | part no. |
|-------------|----------|
| IVC-3D11113 | 1048004  |

Other models and accessories → [www.sick.com/IVC-3D](http://www.sick.com/IVC-3D)



## Detailed technical data

### Features

|                                            |                                                            |
|--------------------------------------------|------------------------------------------------------------|
| <b>Task</b>                                | Presence inspection<br>Quality inspection<br>Measuring, 3D |
| <b>Technology</b>                          | 3D line scanning                                           |
| <b>Product category</b>                    | Programmable                                               |
| <b>Working distance</b>                    | 300 mm ... 677 mm <sup>1)</sup>                            |
| <b>Example field of view</b>               | 200 mm x 600 mm                                            |
| <b>Light source</b>                        |                                                            |
| Internal lighting                          | Laser, Visible, Red, 658 nm, ± 15 nm                       |
| <b>Laser class</b>                         | 2 (IEC 60825-1:2014, EN 60825-1:2014)                      |
| <b>Factory calibrated</b>                  | ✓                                                          |
| <b>Width at minimum operating distance</b> | 436 mm                                                     |
| <b>Width at maximum operating distance</b> | 810 mm                                                     |
| <b>Maximum height range</b>                | 377 mm                                                     |
| <b>Imaging angle</b>                       | 58°                                                        |
| <b>Offline support</b>                     | Emulator                                                   |

<sup>1)</sup> The specified values are valid for single device installations. Please see operating instructions for details.

### Mechanics/electronics

|                            |                                                                                                                                                                                  |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Connection type</b>     | M12, 4-pin female connector, D-coded (Ethernet)<br>M12, 8-pin female connector (RS-485)<br>M12, 8-pin male connector, A-coded (voltage supply, I/O)<br>M12, 5-pin male (Encoder) |
| <b>Connector material</b>  | Stainless steel                                                                                                                                                                  |
| <b>Supply voltage</b>      | 24 V DC, ± 20 %                                                                                                                                                                  |
| <b>Ripple</b>              | < 5 V <sub>pp</sub>                                                                                                                                                              |
| <b>Current consumption</b> | < 1 A, without output load                                                                                                                                                       |
| <b>Enclosure rating</b>    | IP67                                                                                                                                                                             |
| <b>Protection class</b>    | III                                                                                                                                                                              |
| <b>Housing material</b>    | Stainless steel                                                                                                                                                                  |
| <b>Window material</b>     | PMMA                                                                                                                                                                             |
| <b>Weight</b>              | 6.7 kg                                                                                                                                                                           |

|                               |                          |
|-------------------------------|--------------------------|
| <b>Dimensions (L x W x H)</b> | 404 mm x 103 mm x 187 mm |
|-------------------------------|--------------------------|

## Performance

|                                  |                         |
|----------------------------------|-------------------------|
| <b>Image sensor</b>              | CMOS                    |
| <b>Processor</b>                 | 800 MHz                 |
| <b>Scan/frame rate</b>           | 5,000 3D profiles/s     |
| <b>Memory</b>                    | 128 MB RAM, 16 MB flash |
| <b>Typical height resolution</b> | 0.2 mm                  |
| <b>3D profile resolution</b>     | 2,048 points            |

## Interfaces

|                                   |                                                                                                                                                                |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ethernet</b>                   | ✓ , TCP/IP, UDP/IP                                                                                                                                             |
| Remark                            | Including OPC server                                                                                                                                           |
| Data transmission rate            | 10/100 MBit/s                                                                                                                                                  |
| <b>EtherNet/IP™</b>               | ✓                                                                                                                                                              |
| Data transmission rate            | 10/100 MBit/s                                                                                                                                                  |
| <b>Serial</b>                     | ✓ , RS-422, RS-485                                                                                                                                             |
| Function                          | Encoder (RS-422)                                                                                                                                               |
| Data transmission rate            | Maximum encoder frequency: 2 MHz                                                                                                                               |
| <b>Operator interfaces</b>        | Application-specific user interfaces can be set up as stand-alone web pages. The integrated OPC server supports data exchange with SCADA systems, for example. |
| <b>Configuration software</b>     | IVC Studio                                                                                                                                                     |
| <b>Data storage and retrieval</b> | Images and data can be stored to and retrieved from flash and external FTP servers                                                                             |
| <b>Digital input</b>              | 3 program controlled inputs (1 trigger input), HIGH = 10 V ... 28.8 V                                                                                          |
| <b>Digital output</b>             | 3 programmable type B digital outputs, Max. output current 100 mA, trigger output                                                                              |
| <b>Encoder interface</b>          | RS-422                                                                                                                                                         |
| <b>Maximum encoder frequency</b>  | 2 MHz                                                                                                                                                          |

## Ambient data

|                                      |                        |
|--------------------------------------|------------------------|
| <b>Shock load</b>                    | 15 g, 3 x 6 directions |
| <b>Vibration load</b>                | 5 g, 58 Hz ... 150 Hz  |
| <b>Ambient operating temperature</b> | 0 °C ... +40 °C        |
| <b>Storage temperature</b>           | -20 °C ... +70 °C      |

## Certificates

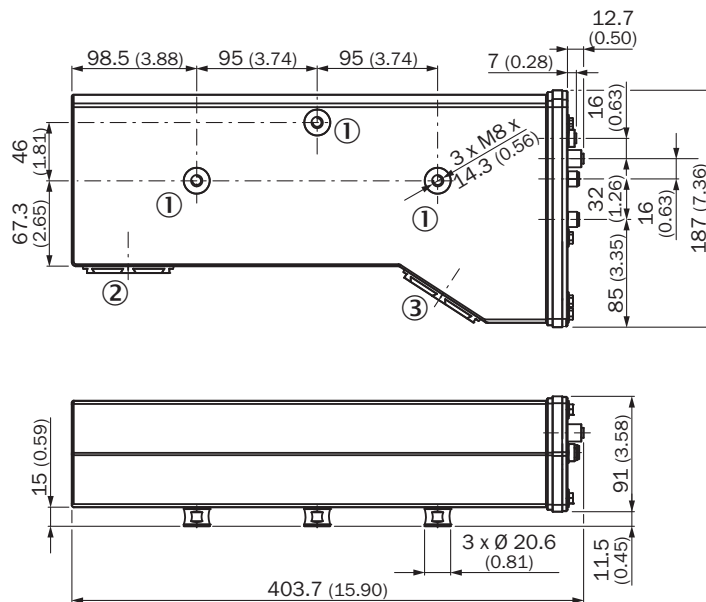
|                                       |   |
|---------------------------------------|---|
| <b>EU declaration of conformity</b>   | ✓ |
| <b>ACMA declaration of conformity</b> | ✓ |
| <b>China RoHS</b>                     | ✓ |

## Classifications

|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27310205 |
| <b>ECLASS 5.1.4</b> | 27310205 |
| <b>ECLASS 6.0</b>   | 27310205 |
| <b>ECLASS 6.2</b>   | 27310205 |
| <b>ECLASS 7.0</b>   | 27310205 |

|                       |          |
|-----------------------|----------|
| <b>ECLASS 8.0</b>     | 27310205 |
| <b>ECLASS 8.1</b>     | 27310205 |
| <b>ECLASS 9.0</b>     | 27310205 |
| <b>ECLASS 10.0</b>    | 27310205 |
| <b>ECLASS 11.0</b>    | 27310205 |
| <b>ECLASS 12.0</b>    | 27310205 |
| <b>ETIM 5.0</b>       | EC001820 |
| <b>ETIM 6.0</b>       | EC001820 |
| <b>ETIM 7.0</b>       | EC001820 |
| <b>ETIM 8.0</b>       | EC001820 |
| <b>UNSPSC 16.0901</b> | 43211731 |

### Dimensional drawing

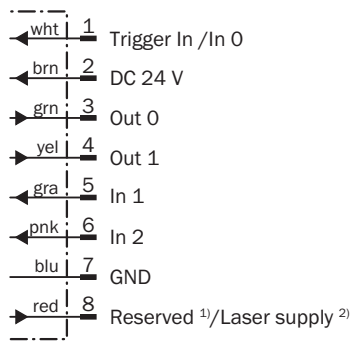


Dimensions in mm (inch)

- ① Fastening threads
- ② Laser unit
- ③ Image sensor



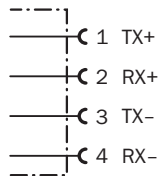
### Connection diagram, voltage I/O



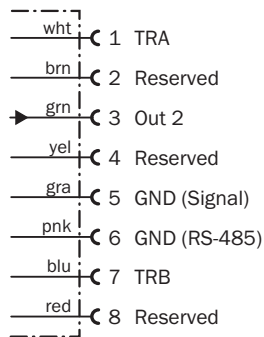
<sup>1)</sup> Do not connect for IVC-3D products with a type code as IVC-3Dxxx1x.

<sup>2)</sup> Only in IVC-3D products with a type code as IVC-3Dxxx2x.

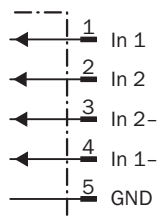
### Ethernet connection diagram



### Connection diagram RS-485



### Encoder connection diagram





### Recommended accessories

Other models and accessories → [www.sick.com/IVC-3D](http://www.sick.com/IVC-3D)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                         | Type                | part no. |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |          |
|    | <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, 8-pin, straight</li> <li><b>Signal type:</b> PROFINET</li> <li><b>Cable:</b> 3 m, 4-wire, AWG22, PUR, halogen-free</li> <li><b>Description:</b> PROFINET, shielded</li> </ul>                                                           | SSL-2J04-G03MZ      | 6029630  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight</li> <li><b>Connection type head B:</b> Male connector, M12, 4-pin, straight</li> <li><b>Signal type:</b> Ethernet</li> <li><b>Cable:</b> 4-wire</li> <li><b>Description:</b> Ethernet, unshielded</li> <li><b>Note:</b> Connection cable, extension cable 1:1, shielded, for TTK70 inspector</li> </ul>     | EtherNet/IP adapter | 2044264  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 8-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, 8-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>       | YM2A28-020VA6XLEAX  | 2096232  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-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, 5-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>   | YF2A15-020VB5XLEAX  | 2096239  |
|   | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-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, 8-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>     | YF2A28-020VA6XLEAX  | 2096243  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-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> 3 m, 8-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>     | YF2A28-030VA6XLEAX  | 2145695  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 8-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> 0.6 m, 8-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>     | YM2A28-C60VA6XLEAX  | 2145392  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 8-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> 1 m, 8-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>       | YM2A28-010VA6XLEAX  | 2145393  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 8-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> 3 m, 8-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>       | YM2A28-030VA6XLEAX  | 2145394  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-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> 0.6 m, 5-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul> | YF2A15-C60VB5XLEAX  | 2145570  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-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> 3 m, 5-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> </ul>                                                                           | YF2A15-030VB5XLEAX  | 2145572  |



|                                                                                   | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Type               | part no. |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
|  | <ul style="list-style-type: none"> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> <li>• <b>Connection type head A:</b> Female connector, M12, 8-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> 0.6 m, 8-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul> | YF2A28-C60VA6XLEAX | 2145385  |
|                                                                                   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-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> 1 m, 8-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>                                                                             | YF2A28-010VA6XLEAX | 2145386  |

## 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)