



# IVC-3D21113

IVC-3D

3D MACHINE VISION

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	Part no.
IVC-3D21113	1050157

In accordance with Article 2 (4), this product does not fall within the scope of RoHS directive 2011/65/EU and is also not designed for use in products which fall within the scope of this directive. You can find additional information in the product information.

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



### Detailed technical data

#### Features

<b>Task</b>	Presence inspection Quality inspection Measuring, 3D
<b>Technology</b>	3D line scanning
<b>Product category</b>	Programmable
<b>Working distance</b>	189 mm ... 273 mm <sup>1)</sup>
<b>Example field of view</b>	50 mm x 150 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>	134 mm
<b>Width at maximum operating distance</b>	174 mm
<b>Maximum height range</b>	84 mm
<b>Imaging angle</b>	53°
<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) M12, 8-pin female connector (RS-485) M12, 8-pin male connector, A-coded (voltage supply, I/O) 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>	5.5 kg
<b>Dimensions (L x W x H)</b>	311 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>	0.04 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

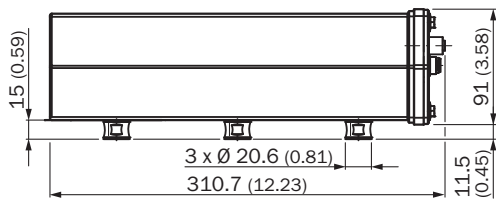
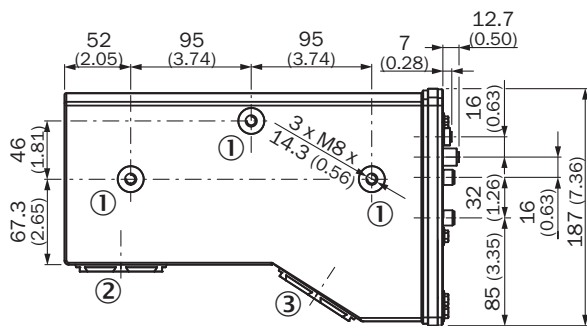
<b>Shock load</b>	15 g, 3 x 6 directions
<b>Vibration load</b>	5 g, 58 Hz ... 150 Hz
<b>Ambient operating temperature</b>	0 °C ... +40 °C
<b>Storage temperature</b>	-20 °C ... +70 °C

### Classifications

<b>eCl@ss 5.0</b>	27310205
<b>eCl@ss 5.1.4</b>	27310205
<b>eCl@ss 6.0</b>	27310205
<b>eCl@ss 6.2</b>	27310205
<b>eCl@ss 7.0</b>	27310205
<b>eCl@ss 8.0</b>	27310205
<b>eCl@ss 8.1</b>	27310205

<b>eCl@ss 9.0</b>	27310205
<b>eCl@ss 10.0</b>	27310205
<b>eCl@ss 11.0</b>	27310205
<b>eCl@ss 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))

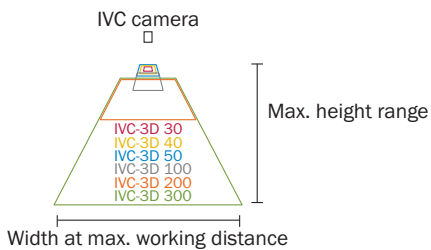


- ① Fastening threads
- ② Laser unit
- ③ Image sensor

### Field of view

Field of view overview

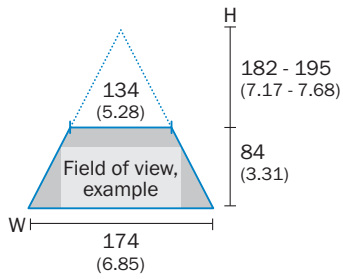
#### Typical field of view



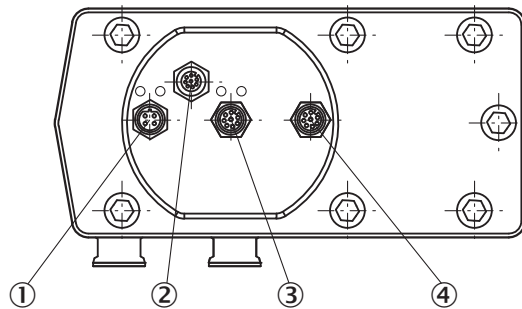
Field of view

**IVC-3D 50**

**Typ. field of view in mm (inch)**



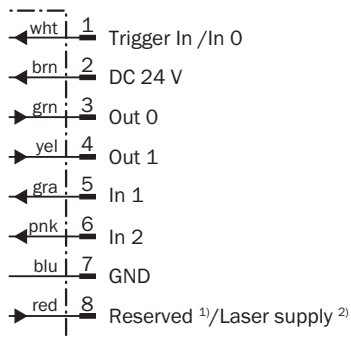
Connection type



- ① Ethernet: M12, 4-pin, D-coded, female thread
- ② M12, 8-pin female connector (RS-485)
- ③ I/O voltage supply: M12, 8-pin, male thread
- ④ Encoder: M12, 5-pin, male

Connection diagram

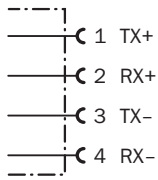
Connection diagram, voltage I/O



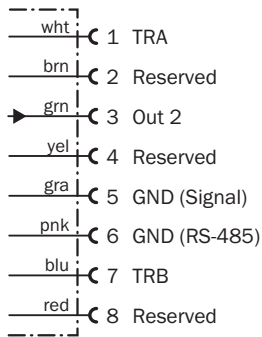
<sup>1)</sup> Do not connect for IVC-3D products with a type code as IVC-3Dxxx1x.

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

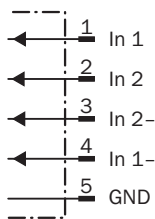
### Ethernet connection diagram



### 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.
<b>Plug connectors and cables</b>			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF2A15-020VB5XLEAX	2096239
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, shielded, 2 m	YF2A28-020VA6XLEAX	2096243
	Head A: male connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, shielded, 2 m	YM2A28-020VA6XLEAX	2096232
	Head A: female connector, M12, 4-pin, straight Head B: male connector, M12, 4-pin, straight Cable: Ethernet, unshielded Connection cable, extension cable 1:1, shielded, for TTK70 inspector	EtherNet/IP adapter	2044264

	Brief description	Type	Part no.
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: PROFINET, PUR, halogen-free, shielded, 3 m	SSL-2J04-G03MZ	6029630

## 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)