



### 3D vision

RS-485 Fast Ethernet (10/100 Mbit/s): TCP/IP, UDP/IP, EtherNet/IP OPC server included , IVC-3D, IVC-3D 50, IVC-3D 50, plastic windows

IVC-3D21112



**windows**

**Model Name** > [IVC-3D21112](#)  
**Part No.** > [1041710](#)



**At a glance**

- Easy 3D measurement - provides information about object height, shape and volume
- Independent of contrast and color
- Easy-to-use graphical user interface for fast application development
- Simple connection of PLCs, robots, and other control systems, e.g., via EtherNet/IP or OPC
- Scans up to 5,000 profiles per second
- Industrial, robust metal housing

**Your benefits**

- The IVC-3D makes advanced 3D shape inspections easy, enabling cost-efficient solutions
- Contrast-independent measurement provides greater reliability even at varying object color and when the object color is the same as the background
- Factory calibrated - instantly providing true metric dimensions at production speed
- The camera's OPC server and EtherNet/IP interface enables simple communication with PLCs, robots and control systems, making integration easy
- Stand-alone operation – no PC is needed after configuration



**Features**

Task:	Inspection, Reading, Measuring, Positioning
Technology:	3D Image analysis LineScan
Example field of view (H x W):	50 mm x 150 mm
Sensing distance:	195 mm ... 279 mm <sup>1)</sup>
Maximum height range:	84 mm
Light source:	Visible red light (laser, 658 nm, ± 15 nm)
Laser class:	2M (IEC 60825-1 : 2007-03)
Width at minimum working distance:	134 mm
Width at maximum working distance:	174 mm
Imaging angle:	53 °
Offline support:	Emulator

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

## Performance

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Image sensor:	CMOS
Maximum performance:	5,000 3D profiles/s
3D profile resolution:	2,048 points
Typical height resolution:	0.04 mm
Processor:	800 MHz
Memory:	128 MB RAM, 16 MB flash

## Interfaces

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Configuration software:	IVC Studio
Communication interfaces:	RS-485 Fast Ethernet (10/100 Mbit/s): TCP/IP, UDP/IP, EtherNet/IP OPC server included
Digital inputs:	3 program controlled inputs (1 trigger input), HIGH = 10 V ... 28.8 V
Digital outputs:	3 B-type program controlled outputs, Total output load < 100 mA, Trigger output
Maximum encoder frequency:	2 MHz
Operator interfaces:	Application specific operator interfaces can be created using ActiveX (COM) or as web page. Included OPC server enables data exchange with e.g. SCADA systems.
Data store and retrieve:	Images and data can be stored to and retrieved from flash and external FTP servers
Encoder interface:	RS-422

## Mechanics/electronics

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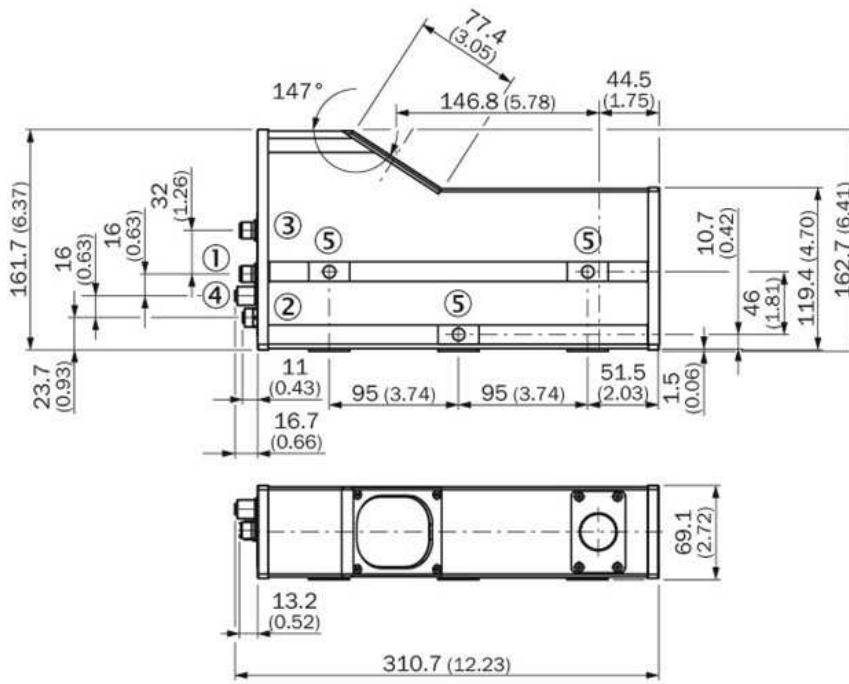
Connectors:	M12, 4-pin female connector, D-coded (Ethernet) M12, 5-pin male (Encoder) M12, 8-pin female connector (RS-485) M12, 8-pin male connector (power I/O)
Connector material:	Nickel plated brass
Supply voltage:	24 V DC ± 20 %
Power consumption:	< 1 A Without output load
Ripple:	< 5 Vpp
Enclosure rating:	IP 65
Housing material:	Anodized aluminum
Window material:	PMMA
Weight:	3.2 kg
Dimensions (L x W x H):	294 mm x 69 mm x 163 mm
Optics:	Fixed
Protection class:	II, III

## Ambient data

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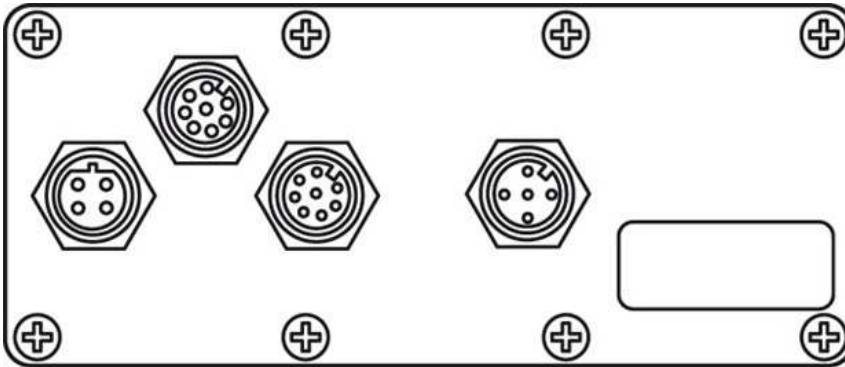
Shock load:	15 g, 3 x 6 directions
Vibration load:	5 g, 58 Hz ... 150 Hz
Ambient operating temperature:	0 °C ... +40 °C
Ambient storage temperature:	-20 °C ... +70 °C

## Dimensional drawing



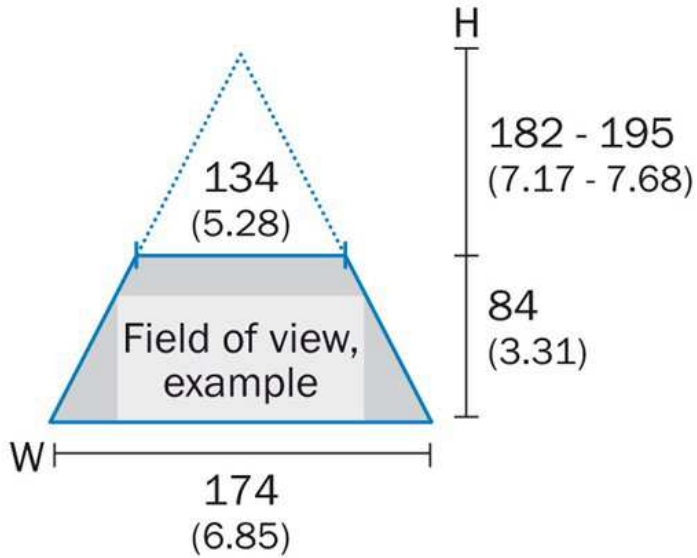
- [1] Power I/O: M12, 8-pin, male
- [2] Ethernet: M12, 4-pin, D-coded, female
- [3] Encoder: M12, 5-pin, male
- [4] M12, 8-pin female connector (RS-485)
- [5] Mounting holes M8 x 10

## Connection type



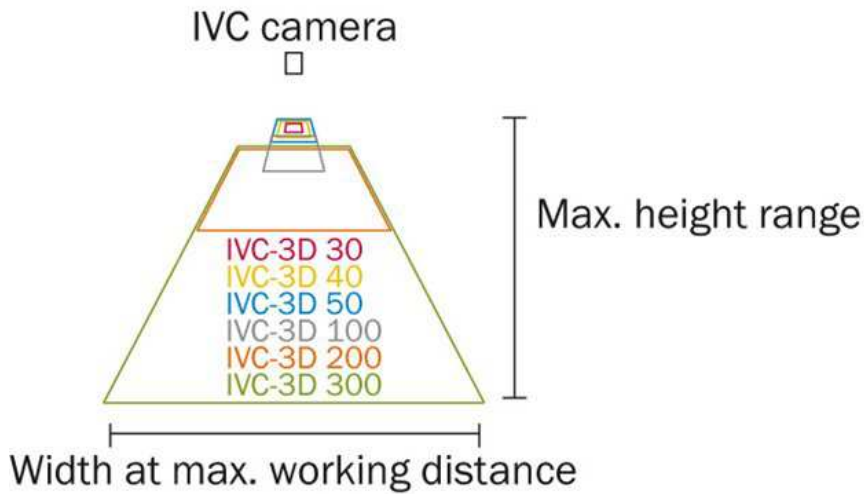
## IVC-3D 50

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

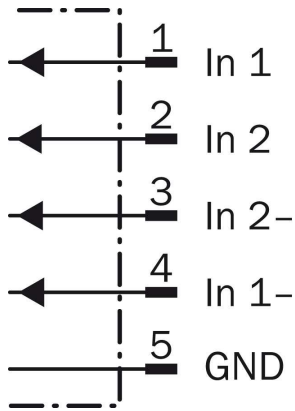


Field of view overview

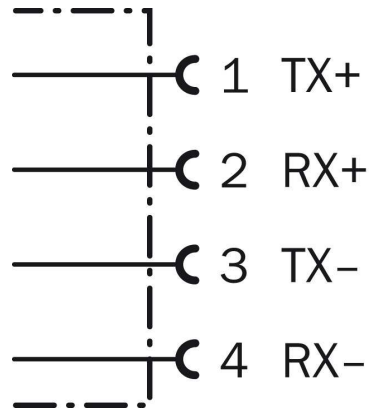
### Typical field of view



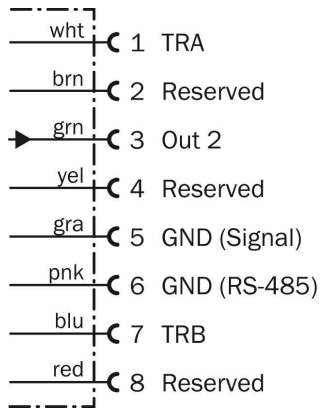
**Connection diagram Encoder**



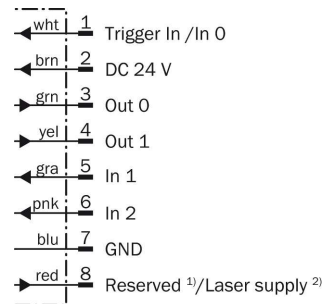
**Connection diagram Ethernet**



**Connection diagram RS-485**



**Connection diagram Power 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.

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