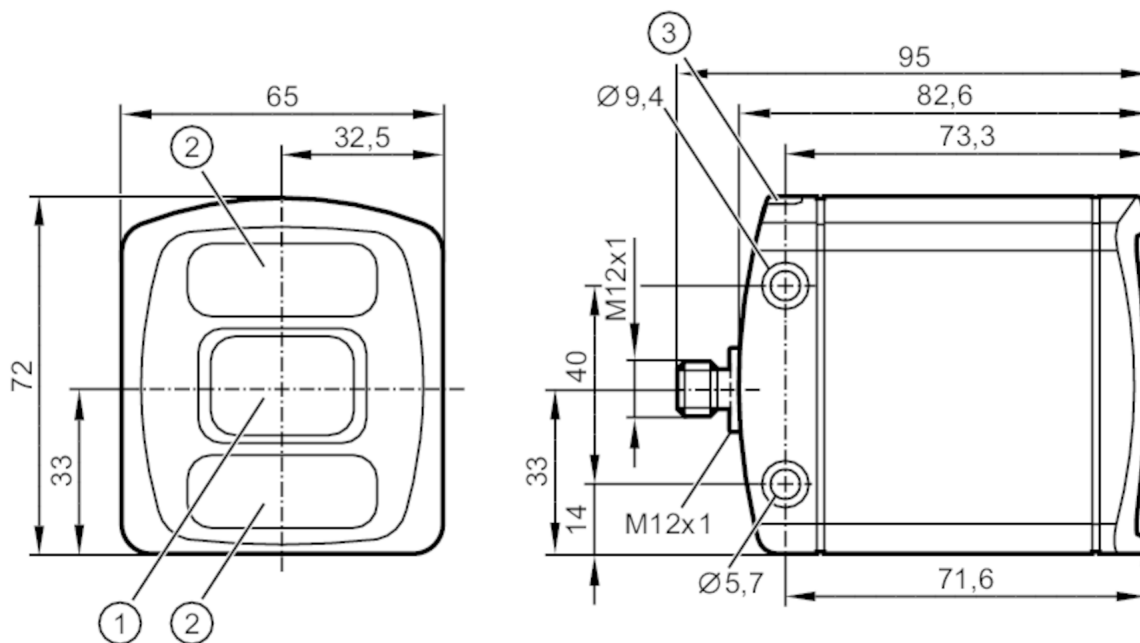




## 3D sensor

O3DIRDKG/E1/GM/S/60



- 1 lens
- 2 illumination unit
- 3 LED 2-colour yellow/green



### Product characteristics

|                      |      |                                                             |
|----------------------|------|-------------------------------------------------------------|
| Image resolution 3D  | [px] | 176 x 132                                                   |
| Angle of aperture 3D | [°]  | 60 x 45; (nominal value without lens distortion correction) |
| Max. reading rate    | [Hz] | 25                                                          |

### Application

|             |                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------|
| Application | dimensioning of the object; completeness monitoring;<br>Level monitoring; distance monitoring; volume monitoring |
|-------------|------------------------------------------------------------------------------------------------------------------|

### Electrical data

|                     |      |                                                                        |
|---------------------|------|------------------------------------------------------------------------|
| Operating voltage   | [V]  | 20.4...28.8 DC; (EN 61131-2)                                           |
| Current consumption | [mA] | < 2400; (peak current pulsed; typical value: 420; maximum value: 1600) |
| Power consumption   | [W]  | 10; (typical value)                                                    |
| Protection class    |      | III                                                                    |
| Image sensor        |      | PMD 3D ToF-Chip                                                        |
| Internal lighting   |      | yes; (infrared: 850 nm invisible radiation LED)                        |

### Inputs / outputs

|                              |                                                                                          |
|------------------------------|------------------------------------------------------------------------------------------|
| Number of inputs and outputs | Number of digital inputs: 2; Number of digital outputs: 3; Number of analogue outputs: 1 |
|------------------------------|------------------------------------------------------------------------------------------|

### Inputs

|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Trigger                         | 24 V PNP/NPN (IEC 61131-2 Typ 3)                |
| Number of digital inputs        | 2                                               |
| Input circuit of digital inputs | 24 V PNP/NPN; (configurable; IEC 61131-2 Typ 3) |



## 3D sensor

O3DIRDKG/E1/GM/S/60

| Outputs                                   |                                                               |
|-------------------------------------------|---------------------------------------------------------------|
| Total number of outputs                   | 3                                                             |
| Number of digital outputs                 | 3; (configurable)                                             |
| Output function                           | 24 V PNP/NPN; (EN 61131-2)                                    |
| Max. voltage drop switching output DC [V] | 1                                                             |
| Max. current load per output [mA]         | 100                                                           |
| Number of analogue outputs                | 1                                                             |
| Analogue current output [mA]              | 4...20                                                        |
| Max. load [Ω]                             | 500                                                           |
| Analogue voltage output [V]               | 0...10                                                        |
| Min. load resistance [Ω]                  | 10000                                                         |
| Short-circuit protection                  | yes                                                           |
| Type of short-circuit protection          | pulsed                                                        |
| Overload protection                       | yes                                                           |
| Detection zone                            |                                                               |
| Operating distance [mm]                   | 300...8000                                                    |
| Note on operating distance                | object size: 200 x 200 mm                                     |
|                                           | reflectivity: 18 %                                            |
| Image resolution 3D [px]                  | 176 x 132                                                     |
| Angle of aperture 3D [°]                  | 60 x 45; (nominal value without lens distortion correction)   |
| Max. reading rate [Hz]                    | 25                                                            |
| Measuring/setting range                   |                                                               |
| Measuring range [m]                       | < 30                                                          |
| Software / programming                    |                                                               |
| Parameter setting options                 | via PC with ifm Vision Assistant                              |
| Interfaces                                |                                                               |
| Communication interface                   | Ethernet                                                      |
| Ethernet                                  |                                                               |
| Number of Ethernet interfaces             | 1                                                             |
| Transmission standard                     | 10Base-T; 100Base-TX                                          |
| Transmission rate                         | 10; 100                                                       |
| Protocol                                  | TCP/IP; PROFINET IO; EtherNet/IP                              |
| Factory settings                          | IP address: 192.168.0.69                                      |
|                                           | subnet mask: 255.255.255.0                                    |
|                                           | gateway IP address: 192.168.0.201                             |
| Operating conditions                      |                                                               |
| Ambient temperature [°C]                  | -10...50                                                      |
| Storage temperature [°C]                  | -40...85                                                      |
| Protection                                | IP 65; IP 67                                                  |
| Max. immunity to extraneous light [klx]   | 8; (with reduced measuring accuracy and repeatability: < 100) |

# O3D302



## 3D sensor

O3DIRDKG/E1/GM/S/60

| Tests / approvals                                                                              |                                                                             |                                                     |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------|
| EMC                                                                                            | DIN EN 61000-6-4                                                            | radiation of interference / industrial environments |
|                                                                                                | DIN EN 61000-6-2                                                            | immunity / industrial environments                  |
| Shock resistance                                                                               | DIN EN 60068-2-27                                                           | 50 g / (11 ms) not repetitive                       |
|                                                                                                | DIN EN 60068-2-27                                                           | 40 g / (6 ms) repetitive                            |
| Vibration resistance                                                                           | DIN EN 60068-2-6                                                            | 2 g / (10...150 Hz)                                 |
|                                                                                                | DIN EN 60068-2-64                                                           | 2.3 g RMS / (10...500 Hz)                           |
| Photobiological safety                                                                         | exempt group; (DIN EN 62471)                                                |                                                     |
| Electrical protection                                                                          | DIN EN 61010-2-201                                                          | electrical supply only via PELV circuits            |
| MTTF                                                                                           | [years]                                                                     | 43.08                                               |
| Mechanical data                                                                                |                                                                             |                                                     |
| Weight                                                                                         | [g]                                                                         | 772.35                                              |
| Dimensions                                                                                     | [mm]                                                                        | 72 x 65 x 82.6                                      |
| Materials                                                                                      | housing: diecast aluminium; front pane: Gorilla Glass; function display: PA |                                                     |
| Displays / operating elements                                                                  |                                                                             |                                                     |
| Display                                                                                        | function                                                                    | 2 x LED, green Ethernet operation                   |
|                                                                                                | switching status                                                            | 2 x LED, yellow OUT 1 OUT 2                         |
| Accessories                                                                                    |                                                                             |                                                     |
| Items supplied                                                                                 | Protective covers                                                           |                                                     |
| Remarks                                                                                        |                                                                             |                                                     |
| Pack quantity                                                                                  | 1 pcs.                                                                      |                                                     |
| Electrical connection - Ethernet                                                               |                                                                             |                                                     |
| Connector: 1 x M12; coding: D                                                                  |                                                                             |                                                     |
| <div></div> |                                                                             |                                                     |
| 1                                                                                              | TD +                                                                        |                                                     |
| 2                                                                                              | RD +                                                                        |                                                     |
| 3                                                                                              | TD -                                                                        |                                                     |
| 4                                                                                              | RD -                                                                        |                                                     |

# O3D302

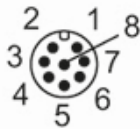


## 3D sensor

O3DIRDKG/E1/GM/S/60

### Electrical connection - Process connection

Connector: 1 x M12; coding: A



- |   |                                            |
|---|--------------------------------------------|
| 1 | U+                                         |
| 2 | trigger input                              |
| 3 | GND                                        |
| 4 | switching output 1 ( digital or analogue ) |
| 5 | switching output 3 Ready                   |
| 6 | switching output 2 ( digital )             |
| 7 | switching input 1                          |
| 8 | switching input 2                          |

### Other data

#### field of view size with lens distortion correction

| measuring range / distance [m] | Length [m] | Width [m] |  |  |
|--------------------------------|------------|-----------|--|--|
| 0.50                           | 0.37       | 0.50      |  |  |
| 1.00                           | 0.75       | 1.00      |  |  |
| 2.00                           | 1.50       | 2.00      |  |  |
| 3.00                           | 2.25       | 3.00      |  |  |
| 4.00                           | 3.00       | 4.00      |  |  |
| 5.00                           | 3.75       | 5.00      |  |  |