**ifm electronic**

# Even more at a glance: 3D vision sensor



**efector pmd 3d**
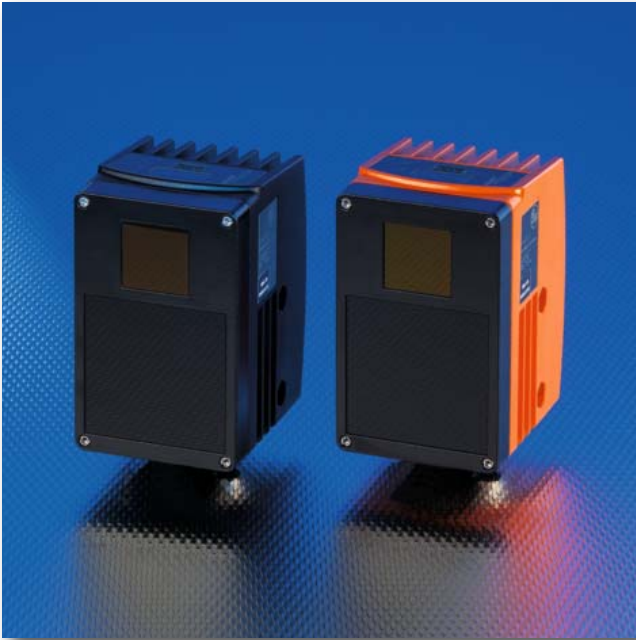
## Visual assessment of distance, level or volume

- **Wide-angle version with an angle of aperture of 64° x 48°**

- **Operating principle: Time-of-flight measurement based on pmd technology**

- **Illumination, time-of-flight measurement and evaluation in one housing**

- **3,072 distance values per measurement for the detailed assessment of the application**

- **4...20 mA / 0...10 V analogue output or 2 switching outputs for providing the result**



IP 67 | Laptop parameter setting | Ethernet | Integrated lighting

### Object detection in three dimensions – efector *PMD* 3d

efector pmd 3d is the first industrial 3D sensor that can detect objects in three dimensions at a glance. The new wide-angle version provides a wider angle of aperture of 64° x 48°.

The time-of-flight measurement in three dimensions enables the assessment of different applications, for example the detection of volume, distance or level.

Special feature: The time-of-flight measurement and evaluation are integrated on one chip. The sensor chip has 64 x 48 pixels. Each pixel of this chip matrix evaluates its distance to the object. This results in 3,072 distance values at the same time.

The image of the object on the chip matrix and the respective distance values correspond to a 3D image. These values enable the detailed assessment of the object's or scene's characteristics up to a range of 5.5 m with an unambiguous range up to 48 m.

| Type | Type of sensor | Resolution pixels [pixels] | Angle of aperture horizontal x vertical [°] | Illumination | Max. sampling rate [Hz] | Order no. |
|---|---|---|---|---|---|---|
| **PMD 3D sensor · Type O3D · M12 connector** | | | | | | |
| | PMD 3D chip | 64 x 48 | 64 x 48 | Infrared LED (850 nm) | 20 (adjustable) | **O3D222** |
| **PMD 3D camera · Type O3D · M12 connector** | | | | | | |
| | PMD 3D chip | 64 x 48 | 64 x 48 | Infrared LED (850 nm) | 20 (adjustable) | **O3D223** |
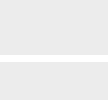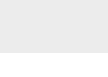
## Accessories

| Type | Description | Order no. |
|---|---|---|
| | Operating software for 3D sensor | **E3D200** |
| | Mounting set for clamp mounting, Ø 14mm / stainless steel | **E3D103** |
| | Rod, 100 mm, Ø 14mm, M12 thread, stainless steel | **E20939** |
| | Rod, 200 mm, Ø 14mm, stainless steel | **E21228** |
| | Rod, 300 mm, Ø 14mm, stainless steel | **E21229** |
| | Rod, 500 mm, Ø 14mm, stainless steel | **E21232** |
| | Switched-mode power supply 24 V DC, primary, output current 3.3 A, regulated | **DN4011** |
| | Switched-mode power supply 24 V DC, primary, output current 2.5 A, regulated | **DN1031** |

## Connection technology

| Type | Description | Order no. |
|---|---|---|
| | Ethernet, cross-over patch cable, 2 m, PUR cable, M12 / RJ45 | **E11898** |
| | Ethernet, cross-over patch cable, 10 m, PUR cable, M12 / RJ45 | **E12204** |
| | Ethernet, cross-over patch cable, 20 m, PUR cable, M12 / RJ45 | **E12205** |
| | Socket, M12, 2 m, PUR cable, 8 poles | **E11950** |
| | Socket, M12, 5 m, PUR cable, 8 poles | **E11807** |
| | Socket, M12, 10 m, PUR cable, 8 poles | **E11311** |

| Technical data O3D222, O3D223 | | |
|---|---|---|
| Function display | LED | 4 x yellow, 4 x green |
| Result display / dialogue | | 4-digit 10-segment display |
| Operating voltage | [V] | 24 DC (± 10 %) |
| Current consumption | [mA] | < 1000 (max. 2500) |
| Current rating | [mA] | 100 (per switching output) |
| Short-circuit protection, pulsed | | • |
| Overload protection | | • |
| Ambient temperature | [°C] | -10...50 |
| Storage temperature | [°C] | -40...85 |
| Protection rating, protection class | | IP 67, III |
| Material | Housing Front lens Display window | Diecast aluminium PMMA PC |
| Trigger | | External: 24V PNP acc. to IEC 61131-2 type 2, internal |
| Switching inputs | | Max: 2 (configurable), 24 V PNP to. IEC 61131-2 type 2 |
| Switching outputs | | Max: 2 (configurable) 24 V PNP |
| Analogue output configurable scalable | | 4...20 mA to IEC 61131-2, Max. load current 300 Ω 0...10 V to IEC 61131-2, Min. load 10 kΩ |
| Parameter setting options | | Via PC / notebook or 10-segment display and 2 pushbuttons |
| Parameter setting interface | | Ethernet 10Base-T / 100 Base-TX |

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**For further technical details please visit: www.ifm.com**