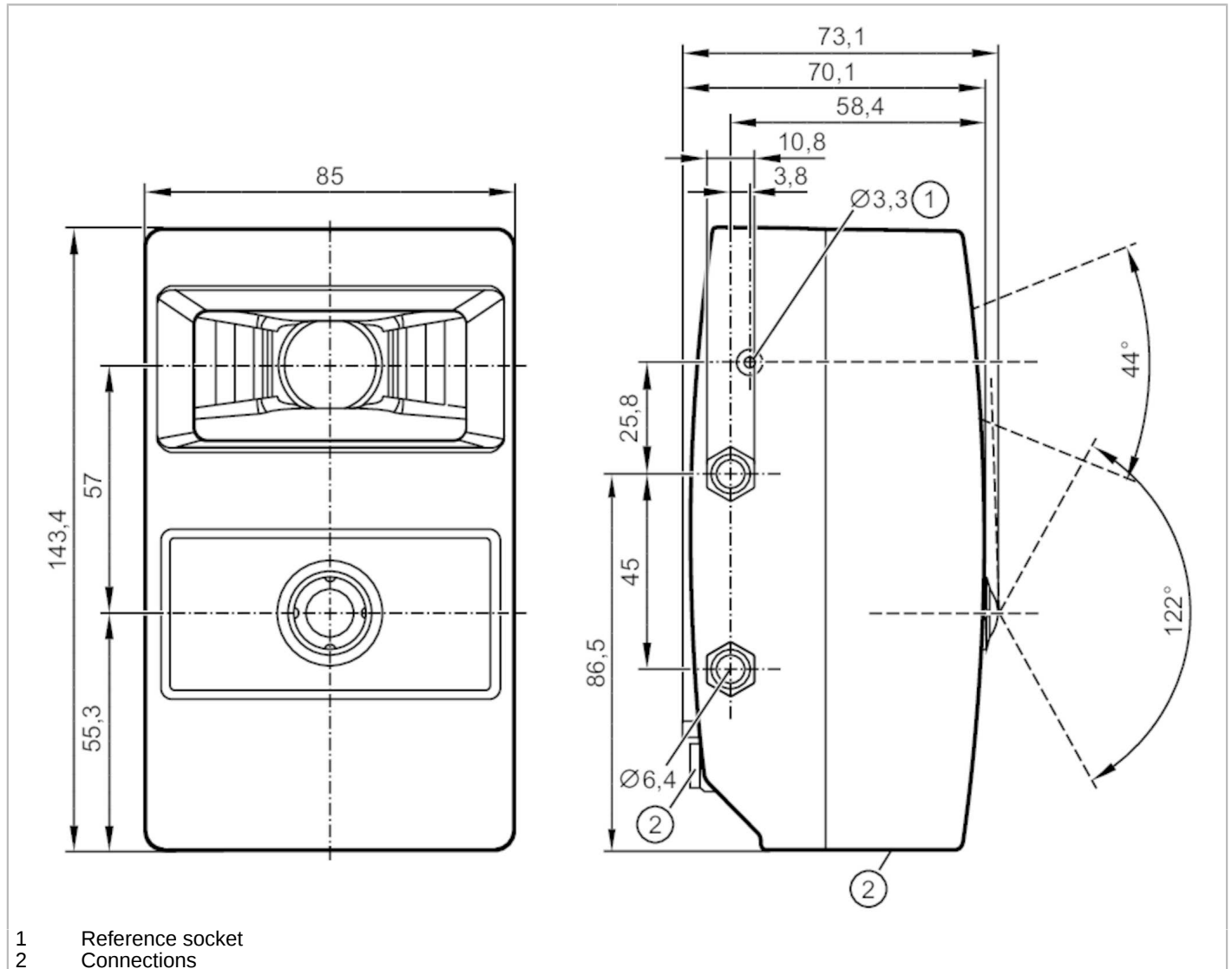


O3M271



3D sensor for mobile applications

O3MXOOKG/CAN/E3/GM/A1/97



Product characteristics

| | | |
|-------------------------------|------|----------------|
| Type of light | | Infrared light |
| Image resolution | [px] | 640 x 480 |
| Image resolution 3D | [px] | 64 x 16 |
| Angle of aperture | [°] | 155 x 122 |
| Angle of aperture 3D | [°] | 97 x 44 |
| Image repetition frequency | [Hz] | 25 |
| Image repetition frequency 3D | [Hz] | 25 / 33 / 50 |

Application

| | |
|-------------|--|
| Application | output of 3D image data; output of 2D image data |
|-------------|--|

Electrical data

| | | |
|---------------------|------|-----------|
| Operating voltage | [V] | 9...32 DC |
| Current consumption | [mA] | < 600 |
| Power consumption | [W] | 4.6 |



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| | | |
|-----------------------------------|---|----------------------|
| Protection class | III | |
| Type of light | Infrared light | |
| Image sensor | PMD 3D ToF-Chip / 2D Chip | |
| Outputs | | |
| Video output | PAL (720x576) | |
| Monitoring range | | |
| Image resolution | [px] | 640 x 480 |
| Image resolution 3D | [px] | 64 x 16 |
| Angle of aperture | [°] | 155 x 122 |
| Angle of aperture 3D | [°] | 97 x 44 |
| Image repetition frequency | [Hz] | 25 |
| Image repetition frequency 3D | [Hz] | 25 / 33 / 50 |
| Software / programming | | |
| Parameter setting options | via PC with ifm Vision Assistant | |
| Interfaces | | |
| Communication interface | CAN; Ethernet | |
| Number of CAN interfaces | 1 | |
| Number of Ethernet interfaces | 1 | |
| Number of video interfaces (CVBS) | 1 | |
| Note on interfaces | Output of preprocessed data via CAN interface | |
| CAN | | |
| Transmission rate | 250 (125...1000) kBaud | |
| Protocol | CANopen; UDS | |
| Factory settings | J1939 interface: default device address (ECU): 239 UDS interface: 500 (125...1000) kBaud | |
| Usage type | Parameter setting; Data transmission | |
| Ethernet | | |
| Protocol | UDP/IP | |
| Factory settings | IP address: 192.168.1.1 subnet mask: 255.255.255.0 target IP address: 255.255.255.255 target port: 42000 | |
| Usage type | Data transmission | |
| Operating conditions | | |
| Ambient temperature | [°C] | -40...85 |
| Note on ambient temperature | with high image repetition frequency of 25Hz | |
| Storage temperature | [°C] | -40...105 |
| Max. relative air humidity | [%] | 90; (non condensing) |
| Max. height above sea level | [m] | 4000 |
| Protection | IP 67; IP 69K; (with mounted connectors or protective caps) | |

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| | | |
|-----------------------------------|-------|-----|
| Max. immunity to extraneous light | [klx] | 120 |
|-----------------------------------|-------|-----|

Tests / approvals

| | | |
|----------------------|--------------------|---|
| EMC | DIN EN 61000-6-4 | industrial environments |
| | DIN EN 61000-6-2 | industrial environments |
| Shock resistance | DIN EN 60068-2-27 | 30 g / 6 ms bump |
| Vibration resistance | DIN EN 60068-2-6 | 10 g / 10...500 Hz swept sine |
| | DIN EN 60068-2-64 | 10...1000 Hz noise |
| Electrical safety | DIN EN 61010-2-201 | electric shock / electrical supply only via PELV circuits |
| MTTF | [years] | 58 |

Mechanical data

| | | |
|------------|------|---|
| Weight | [g] | 1154.8 |
| Dimensions | [mm] | 143.8 x 85 x 70.1 |
| Material | | housing: diecast aluminium; disc: gorilla glass |

Accessories

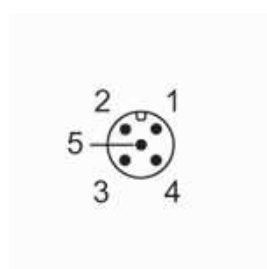
| | |
|----------------|-------------------|
| Items supplied | Protective covers |
|----------------|-------------------|

Remarks

| | |
|---------------|---|
| Remarks | The illumination unit is required for the operation of the sensor. Only use original ifm cables to connect sensor and illumination unit. The function-specific performance values can be found in the applicable documentation. |
| Pack quantity | 1 pcs. |

Electrical connection - CAN

Connector: 1 x M12; coding: A



| | |
|---|----------|
| 1 | screen |
| 2 | 9...32 V |
| 3 | GND |
| 4 | CAN-H |
| 5 | CAN-L |

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Electrical connection - Ethernet

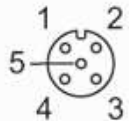
Connector: 1 x M12; coding: D



| | |
|---|------|
| 1 | TD + |
| 2 | RD + |
| 3 | TD - |
| 4 | RD - |

Electrical connection - Video

Connector: 1 x M12; coding: A



| | |
|---|----------|
| 2 | not used |
| 3 | GND |
| 4 | FBAS |
| 5 | not used |

Other data

Field of view size with lens distortion correction

| Measuring range / distance [m] | Length [m] | Width [m] |
|--------------------------------|------------|-----------|
| 5 | 11.3 | 4.0 |
| 10 | 22.6 | 8.1 |
| 15 | 33.9 | 12.1 |
| 30 | 67.8 | 24.2 |

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measuring range for object recognition

| object type / object size | application condition | Measuring range [m] |
|---------------------------|-----------------------|---------------------|
| vehicle | sunny (~120 klx) | 0.25...17 |
| | cloudy (~20 klx) | 0.25...25 |
| | darkness | 0.25...29 |
| person | sunny (~120 klx) | 0.25...7 |
| | cloudy (~20 klx) | 0.25...10 |
| | darkness | 0.25...12 |
| retroreflector | sunny (~120 klx) | 1...24 |
| | cloudy (~20 klx) | 1...35 |
| | darkness | 1...46 |

software variant: OD object recognition

measuring range for ROI

| application condition | Measuring range [m] |
|-----------------------|---------------------|
| | typical value |
| sunny (~120 klx) | 0.25...7 |
| cloudy (~20 klx) | 0.25...9 |
| darkness | 0.25...17 |

software variant : DI / BF distance image basic functions

measuring accuracy

| application condition | measuring accuracy [cm] |
|-----------------------|-------------------------|
| | typical value |
| sunny (~120 klx) | ± 15 |
| cloudy (~20 klx) | ± 10 |
| darkness | ± 5 |

software variant : DI / BF distance image basic functions