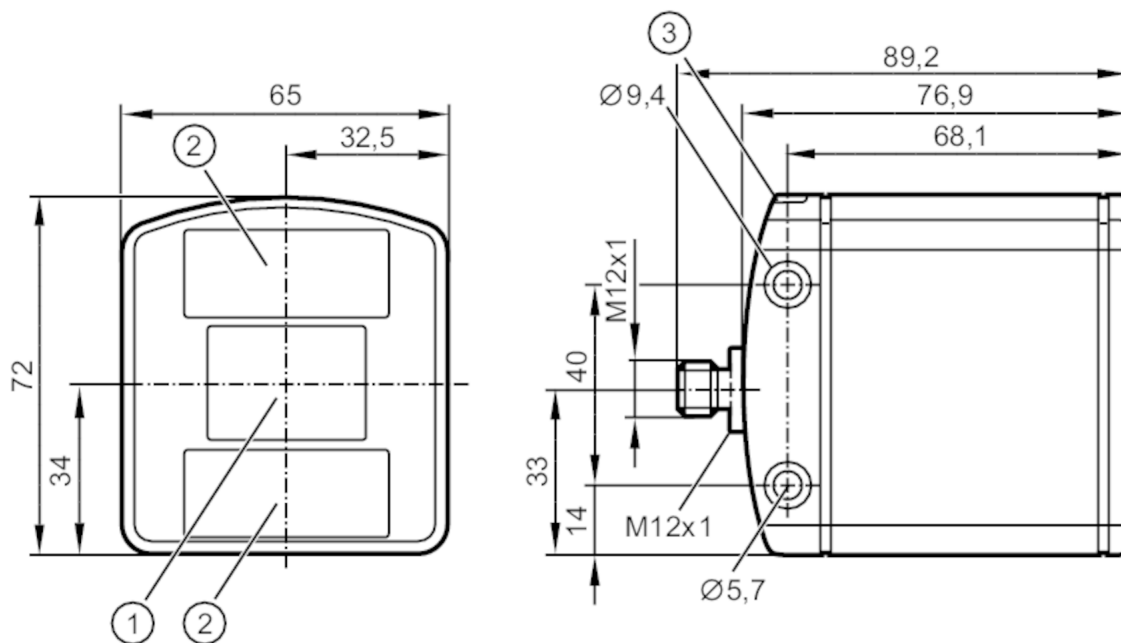


O3D355



3D camera

O3DIRDKG/E1/GM/W/70



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



Product characteristics

Type of light	Infrared light
Image resolution 3D [px]	352 x 264
Angle of aperture 3D [°]	70 x 51; (nominal value without lens distortion correction)
Image repetition frequency 3D [Hz]	25

Application

Application	Camera for the output of 3D image data
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Electrical data

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

Inputs / outputs

Number of inputs and outputs	Number of digital inputs: 1; Number of digital outputs: 2
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Inputs

Trigger	external; 24 V PNP/NPN (IEC 61131-2 Typ 3)
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3D camera

O3DIRDKG/E1/GM/W70

Number of digital inputs		1
Outputs		
Number of digital outputs		2; (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
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes
Monitoring range		
Operating distance [mm]		300...8000
Note on operating distance		object size: 200 x 200 mm
		reflectivity: 18 %
Image resolution 3D [px]		352 x 264
Angle of aperture 3D [°]		70 x 51; (nominal value without lens distortion correction)
Image repetition frequency 3D [Hz]		25
Software / programming		
Parameter setting options		via PC with ifm Vision Assistant or XML-RPC; software API for C, C++ and Halcon
Interfaces		
Communication interface		Ethernet
Ethernet		
Transmission standard		10Base-T; 100Base-TX
Transmission rate		10; 100
Protocol		TCP/IP
Factory settings		IP address: 192.168.0.69
		subnet mask: 255.255.255.0
		gateway IP address: 192.168.0.201
Usage type		Parameter setting; Data transmission
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)
Tests / approvals		
EMC	DIN EN 61000-6-4	radiation of interference / industrial environments
	DIN EN 61000-6-2	noise 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)

O3D355



3D camera

O3DIRDKG/E1/GM/W/70

Electrical safety	DIN EN 61010-2-201	electrical supply only via PELV circuits
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Mechanical data

Weight	[g]	723.3
Dimensions	[mm]	72 x 65 x 76.9
Material	housing: diecast aluminium; front lens: Gorilla Glas; Function display: PA	
Tightening torque	[Nm]	< 0.8

Displays / operating elements

Display	Function	2 x LED, green Ethernet Power
	Switching status	2 x LED, yellow OUT 1 OUT 2

Accessories

Items supplied	Protective covers
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Remarks

Remarks	Repeatability and accuracy depend on the image settings and the environmental conditions.	
	The data sheet values apply to typical settings and conditions.	
Pack quantity	1 pcs.	

Electrical connection - Ethernet

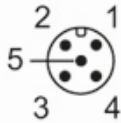
Connector: 1 x M12; coding: D



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

Electrical connection - Process connection

Connector: 1 x M12; coding: A



1	U+
2	trigger input
3	GND
4	Switching output 1 Ready
5	Switching output 2 Cascading



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Other data

Field of view size

	without lens distortion correction		with lens distortion correction	
Measuring range / distance [m]	Length [m]	Width [m]	Length [m]	Width [m]
0.50	0.47	0.68	0.40	0.55
1.00	0.94	1.36	0.80	1.10
2.00	1.88	2.72	1.60	2.20
3.00	2.82	4.08	2.40	3.30
4.00	3.76	5.44	3.20	4.40
5.00	4.70	6.80	4.00	5.50

repeatability of the distance measurement of an individual pixel

Measuring range / distance [m]	repeatability of the measured distance values on grey objects (18% reflectivity) [mm]	Accuracy [mm]
	typical value	typical value
0.3...1.0	± 10	± 9
1.0...3.0	± 14	± 9
3.0...5.0	± 23	± 13
5.0...7.0	± 34	± 18
7.0...8.0	± 55	± 24

measured in the center of the image at an ambient temperature of
20°C

The repeatability can be optimized with filter functions

Repeatability 1σ

Relative accuracy

	typical value
Relative accuracy	± 7 mm
Temperature drift -10...+50 °C	0.3 mm/K
measured at a reflectivity of 18% to 90%	

O3D355



3D camera

O3DIRDKG/E1/GM/W/70

Parameter setting options

Parameter	Setting range	Factory setting
Exposure time [ms]	0.001...17	5
dynamic range	low; Normal operation ; high	Normal operation
filter	Time function:	
	mean value; adaptive exponential	disabled
	3D function:	
	mean value, median, bilateral function	disabled
Trigger	Continuous ; data interface; positive edge; negative edge;positive and negative edge	Continuous
Image repetition frequency [Hz]	0.02...25	5

data format

data type	data value	Remarks
Distance [mm]	0...65535 uint16	radial distance
Cartesian coordinates x,y,z [mm]	-32767...32767 int16	x,y: lateral position z: vertical distance
amplitude	0...65535 uint16	object brightness