Data sheet

PLOC2D

PLOC2D-631S

PLOC2D

ROBOT GUIDANCE SYSTEMS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
PLOC2D-631S	1089627

Other models and accessories ➜ www.sick.com/PLOC2D

Detailed technical data

Features

Product name	PLOC2D-FLEX0006
System features	Stand-alone sensor with easy teach, for localization of parts using 2D measurements
Light source	Illumination LEDs: (to be ordered separately as accessories)
Laser class	1, complies with 21 CFR 1040.10 except for the conformance according to “Laser Notice No. 50” from June 24, 2007 (IEC 60825-1:2014) EN 60825-1:2014
Optical focus	Adjustable focus (manually)
Localization principle	Shape comparison
Sensor resolution	1,280 px x 1,024 px (1.3 MP)
Lens	S-mount
Mounting method	Changeable
Optical format	1/1.8"
Remark	To be ordered separately as accessories
Technology	2D snapshot, image analysis
Description	2D location of parts at standard resolution with a small field of view and short reading distances

Mechanics/electronics

Connection type	1 x M12, 17-pin male connector (serial, I/Os, voltage supply) 1 x M8, 4-pin female connector (USB, not used) 2 x M12, 8-pin socket (Gigabit Ethernet, only one connection used) 1 x M12, 4-pin male connector (external illumination)
Supply voltage	12 V ... 24 V, ± 20 %
Power consumption	10 W, ± 20 %
Housing material	Aluminum die cast
Housing color	Light blue (RAL 5012)
Dimensions (L x W x H)	108 mm x 63 mm x 46 mm (Housing only, without lens and optics protection hood)
Weight	430 g
Enclosure rating	IP65 [1]

[1] When using optics cover and male connector.

Performance

Part localization time	< 0.5 seconds for the first part in the image and then < 100 ms for additional parts in the image
Localization accuracy	± 0.5 px, ± 0.1°
Output data	X, Y (mm), rotation around Z (degrees)

Interfaces

Ethernet	✓
Data transmission rate	100 Mbit/s
Protocol	TCP/IP XML and CSV (robot), TCP/IP (operator) PROFINET EtherNet/IP™ FTP
Electrical connection	M12 male connector, 8-pin, x-coded
Supply voltage	
Electrical connection	Male connector M12, 17-pin
User interface	Web server
Data storage and retrieval	Image and data logging via microSD memory card and external FTP

Ambient data

Ambient temperature, operation	0 °C ... +50 °C, permissible relative humidity: 0% ... 90% (non-condensing)
Ambient temperature, storage	–20 °C ... +70 °C [1]
Shock load	EN 60068-2-27:2009-05
Vibration load	EN 60068-2-6:2008-02

[1] Permissible relative humidity: 0% ... 90% (non-condensing).

General notes

Items supplied	Camera with S-mount PLOC2D software Not included with delivery: Optics and illumination

Certificates

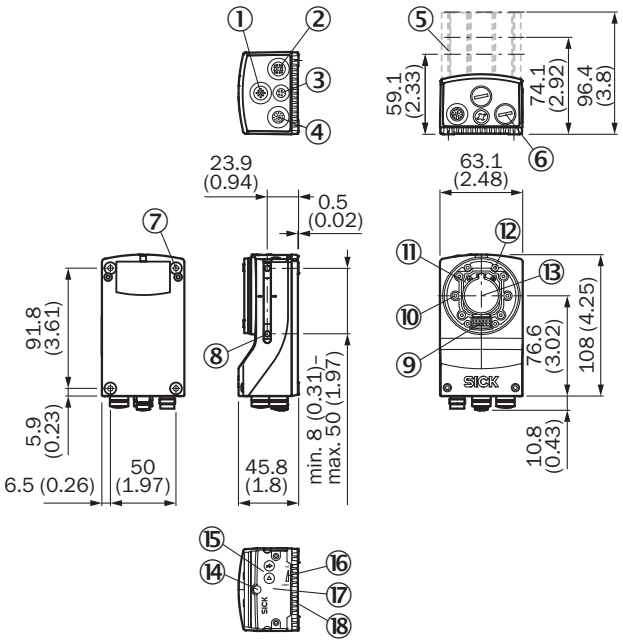
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

ECLASS 5.0	27381501
ECLASS 5.1.4	27381501
ECLASS 6.0	27381590
ECLASS 6.2	27381590
ECLASS 7.0	27381590
ECLASS 8.0	27381590
ECLASS 8.1	27381590

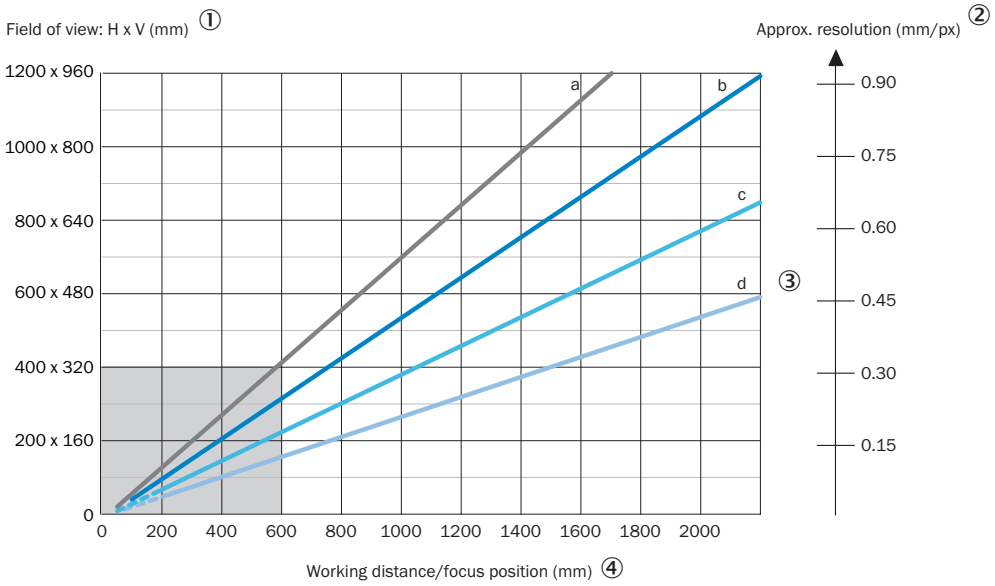
ECLASS 9.0	27381590
ECLASS 10.0	27381590
ECLASS 11.0	27381591
ECLASS 12.0	27381591

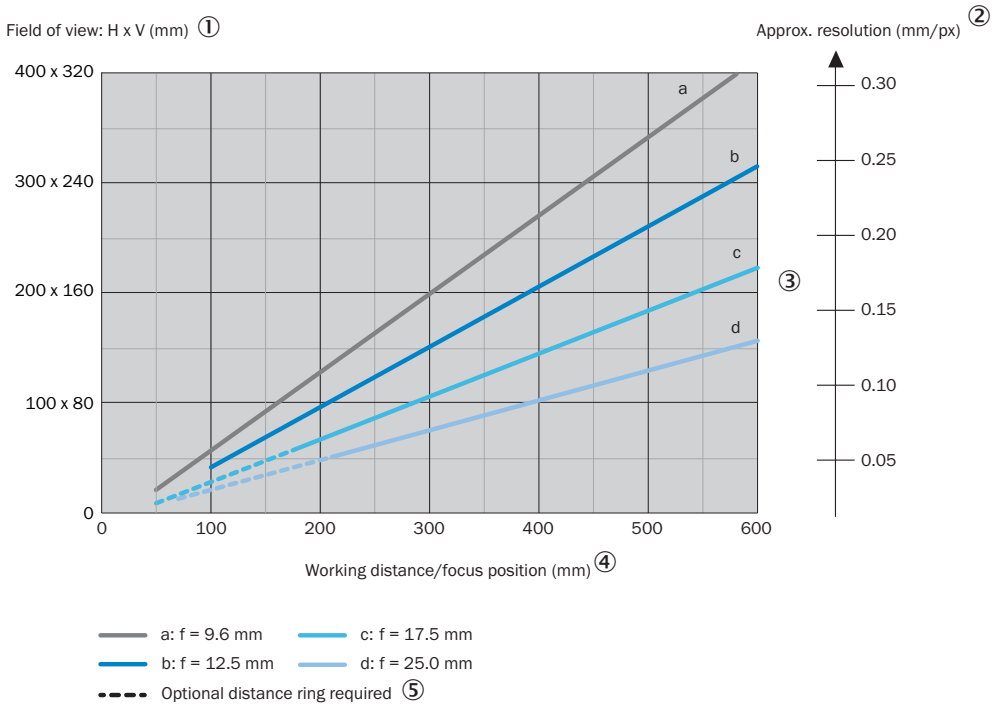
Dimensional drawing



Dimensions in mm (inch)
① “External light” connection (external illumination unit, female connector, M12, 4-pin, A-coded)
② “Ethernet” connection (Gigabit Ethernet, female connector, M12, 8-pin, X-coded)
③ “USB” connection (female connector, type M8, 4-pin), for temporary use as a service interface only
④ “Power/Serial Data/CAN/I/O” connection (male connector, M12, 17-pin, A-coded)
⑤ Optics protection hood (length: 22.7 mm, 37.7 mm or 60 mm)
⑥ 4 protective caps for sealing off the electrical connections as required for enclosure rating IP67 (delivery condition)
⑦ 4 tapped blind holes, M5, 5.5 mm deep for mounting the product
⑧ 2 M5 sliding nuts; 5.5 mm deep; pivoting; as an alternative method of mounting the product
⑨ Connection for an integrable illumination unit (VI55I ring illumination unit)
⑩ 2 laser alignment aids
⑪ S-mount or C-mount optics module
⑫ 4 blind tapped holes, 2.5 mm for mounting the spacers for the integrable illumination (VI55I ring illumination unit)
⑬ Optical axis and center of the image sensor
⑭ Basic device: Manual focus screw for an S-mount lens, accessible via the round opening in the housing cover. To secure the focus setting, cover the round opening with a self-adhesive label. Complete device: The opening is already covered by a label.
⑮ 2 function keys
⑯ 5 bar graph LEDs
⑰ Hinged cover on the top side of the device, access to the microSD memory card and the manual focus screw (S-mount)
⑱ 5 status LEDs (2 levels)

Characteristic curve

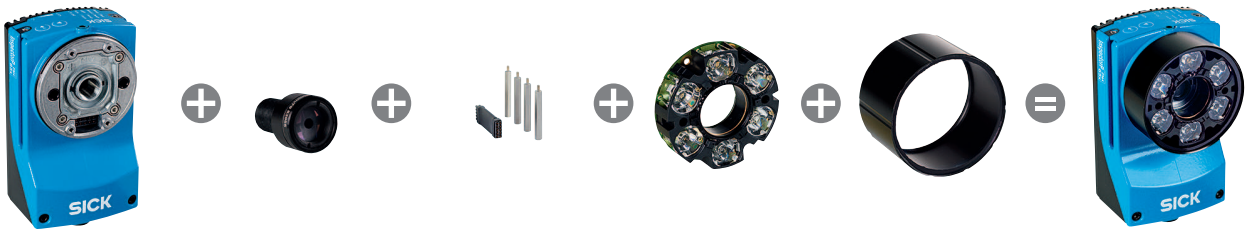




For S-mount and standard C-mount lenses, spacer rings are needed for working distances shorter than approximately 10 times the focal length. For compact C-mount lenses, spacer rings are not needed, but the built-in illumination cannot be used for distances shorter than 300 mm.

① Field of view: Horizontal x vertical in mm
② approximate resolution in mm/px
③ Lens focal length
④ Working distance/Focus position in mm
⑤ Optional spacer rings required

Selection Guide



Body, incl. S-mount module	S-mount lens	Spacer screws and illumination connector	Integratable illumination	Lens protective hood	Assembled device, incl. all mentioned parts
PL0C2D-631S 1089627 **PL0C2D-632S** 1089643	Focal length **9.6 mm** Aperture **F8** 2079336		**Wide, white** 2078428	**Short – 22.7 mm** 2079176	
			Wide, blue 2083813	**Short – 22.7 mm** 2079176	
			Wide, IR 2101371	**Short – 22.7 mm** 2092587	
	Focal length **12.5 mm** Aperture **F8** on request		**Medium, white** 2078430	**Short – 22.7 mm** 2079176	
			Medium, blue 2083814	**Short – 22.7 mm** 2079176	
			Wide, IR 2101371	**Short – 22,7 mm** 2092587	
	Focal length **17.5 mm** Aperture **F8** 5330231		**Medium, white** 2078430	**Short – 22.7 mm** 2079176	
			Medium, blue 2083814	**Short – 22.7 mm** 2079176	
			Medium, IR 2098834	**Short – 22.7 mm** 2092587	
	Focal length **25 mm** Aperture **F8** 2076656	**Medium – 15 mm** 2079501	**Narrow, white** 2078431	**Medium – 37.7 mm** 2079127	
			Narrow, blue 2083812	**Medium – 37.7 mm** 2079127	
			Medium, IR 2098834	**Medium – 37.7 mm** 2092590	

Recommended accessories

Other models and accessories ➜ www.sick.com/PLOC2D

	Brief description	Type	part no.
Commissioning aids and test equipment			
	• **Product:** Test equipment • **Description:** Target for alignment and calibration, A3-size	PLOC2D alignment and calibration target A3	4092645

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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