



Ordering information

Integrated applications	Items supplied	Type	Part no.
Basic resolution 2D localization of parts in medium fields of view at medium reading distances	Camera, complete with integrated optics and illumination PLOC2D software	PLOC2D-621-10RB	1118608

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



Detailed technical data

Features

Industries	Automotive and parts suppliers Consumer Goods Courier, express, parcel, and postal Electronics Food and beverage Packaging Robotics								
System features	Stand-alone sensor with easy teach, for localization of parts using 2D measurements								
Example field of view	For details see field of view diagram								
Working range	70 mm ... 1,500 mm								
Light source	<table border="0"> <tr> <td>Internal lighting</td> <td>LED, visible red light, 617 nm, ± 15 nm</td> </tr> <tr> <td>Internal lighting</td> <td>LED, visible blue light, 470 nm, ± 15 nm</td> </tr> <tr> <td>Feedback spot</td> <td>LED, visible green light, 525 nm, ± 15 nm</td> </tr> <tr> <td>Adjustment aid</td> <td>Laser, visible red light, 630 nm ... 680 nm</td> </tr> </table>	Internal lighting	LED, visible red light, 617 nm, ± 15 nm	Internal lighting	LED, visible blue light, 470 nm, ± 15 nm	Feedback spot	LED, visible green light, 525 nm, ± 15 nm	Adjustment aid	Laser, visible red light, 630 nm ... 680 nm
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Feedback spot	LED, visible green light, 525 nm, ± 15 nm								
Adjustment aid	Laser, visible red light, 630 nm ... 680 nm								
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								
LED class	Risk group 1 (low risk, IEC 62471 (2006-07) / EN 62471 (2008-09))								
Localization principle	Shape comparison								
Sensor resolution	1,280 px x 1,024 px (1.3 Mpixel)								
Lens	Integrated								
Lens	Integrated								
Focal length	9.6 mm								

Mechanics/electronics

Electrical connection	1 x M12, 17-pin male connector (serial, I/Os, voltage supply) 1 x M12, 4-pin female connector (Ethernet)
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¹⁾ When using optics cover and male connector.

Supply voltage	24 V, ± 20 %
Power consumption	4 W, ± 20 %
Housing material	Aluminum die cast
Housing color	Light blue (RAL 5012)
Window material	PMMA
Dimensions, system (L x W x H)	71 mm x 43 mm x 35.6 mm
Weight	170 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	M12, 4-pin, A-coded
Operator interfaces	Web server

Ambient data

Ambient operating temperature	0 °C ... +50 °C ¹⁾
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 air humidity: 0 % ... 90 % (non-condensing).

General notes

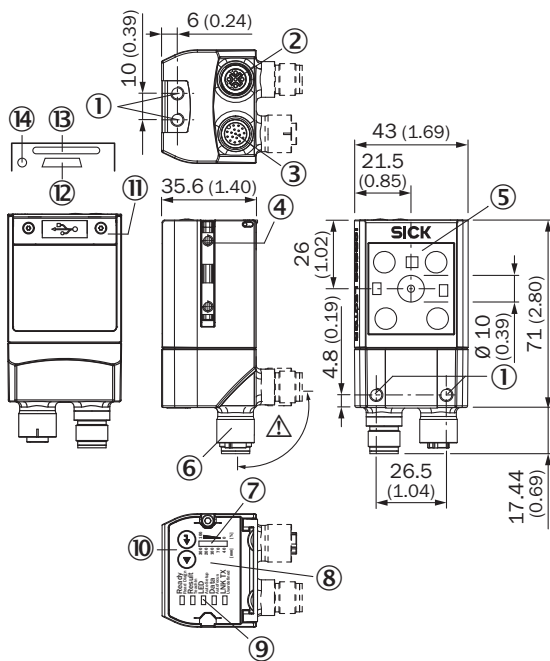
Items supplied	Camera, complete with integrated optics and illumination PLOC2D software
Factory calibrated	✓

Classifications

ECl@ss 5.0	27381501
ECl@ss 5.1.4	27381501
ECl@ss 6.0	27381590
ECl@ss 6.2	27381590
ECl@ss 7.0	27381590
ECl@ss 8.0	27381590

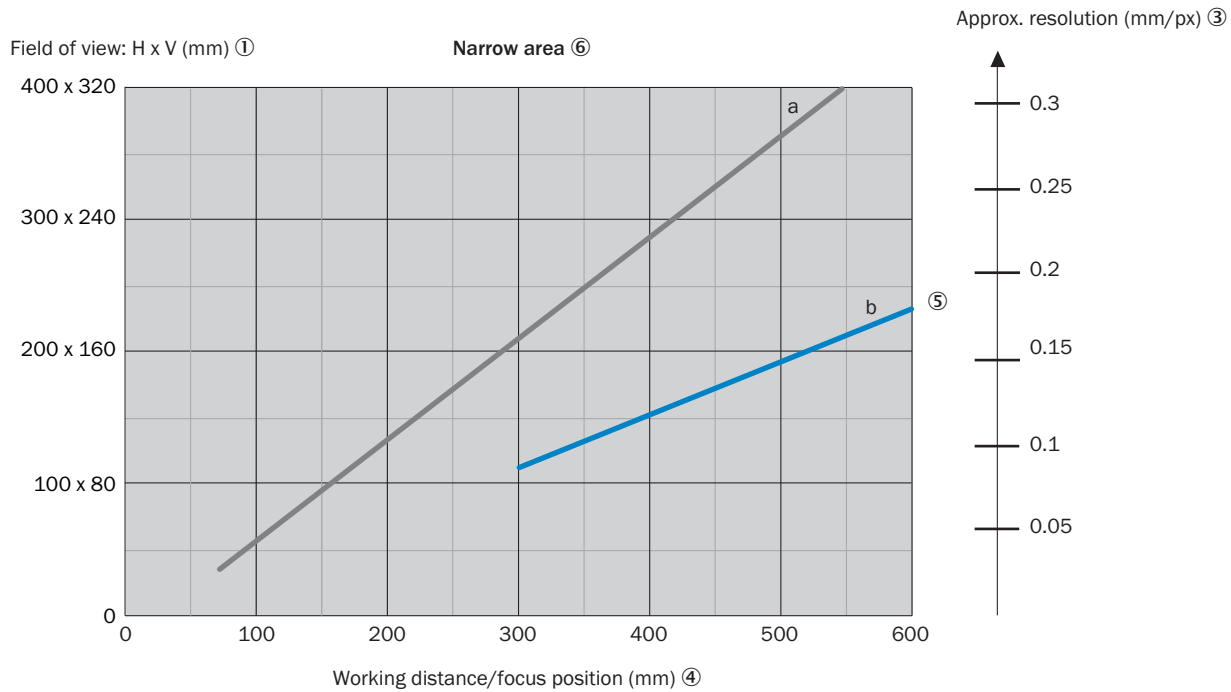
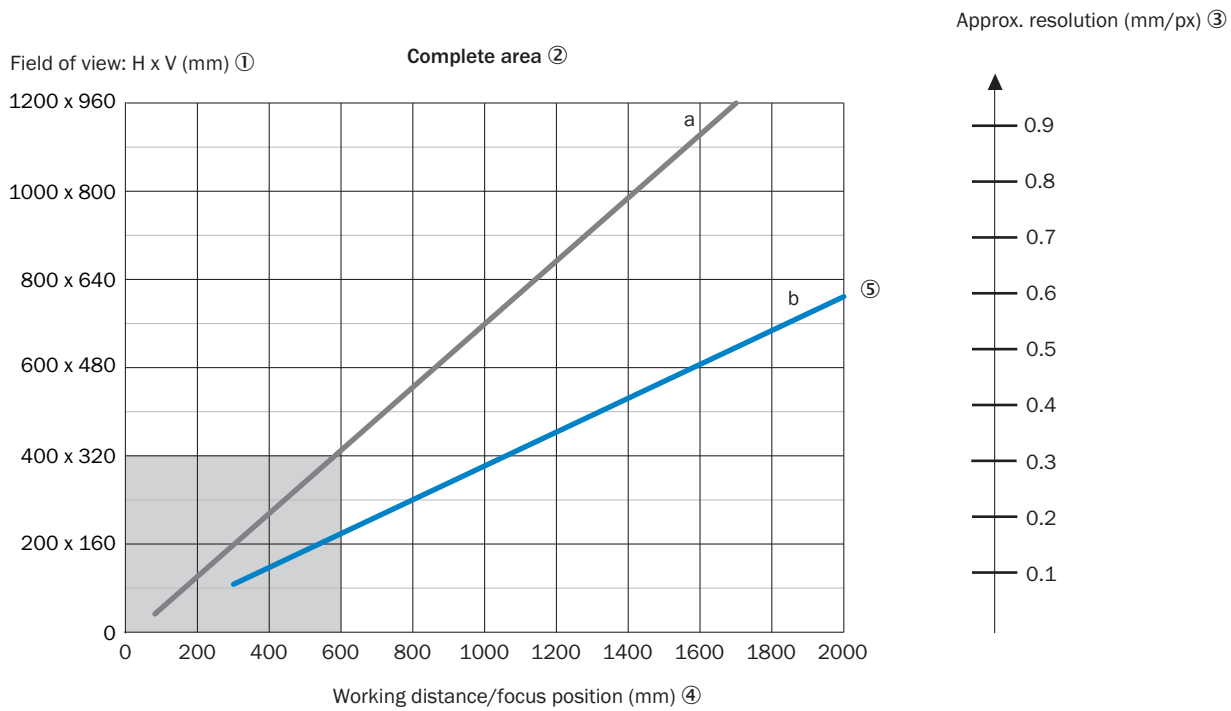
ECl@ss 8.1	27381590
ECl@ss 9.0	27381590
ECl@ss 10.0	27381590
ECl@ss 11.0	27381591

Dimensional drawing (Dimensions in mm (inch))



- ① M5 blind tapped holes, 5 mm deep (4 x), for mounting the sensor
- ② “Ethernet” connection, 4-pin M12 female connector, D-coded
- ③ “Power/Serial Data/CAN/I/O” connection, 17-pin M12 male connector, A-coded
- ④ Sliding nut M5, 5.5 mm deep (2 x), for mounting (as alternative)
- ⑤ Reading window with internal illumination LEDs (4 x)
- ⑥ Swivel connector unit
- ⑦ Bar graph
- ⑧ Beeper (under housing cover)
- ⑨ LEDs for status display (2 levels), 5 x
- ⑩ Function button (2 x)
- ⑪ Cover (flap)
- ⑫ “USB” connection (female connector, 5-pin, type Micro-B) interface for temporary use (service)
- ⑬ Slot for microSD memory card
- ⑭ LED for microSD memory card

Characteristic curve



- a: $f = 9.6 \text{ mm}$
- b: $f = 17.1 \text{ mm}$

Take into account the following aspects when designing the application: the field of view geometry of the device, and the position of the field of view in the space in front of the device. Possible angles at which the objects can arise in relation to the device. For the planned working distance: resultant field of view length and width as well as the approximate resolution.

- ① Field of view: Horizontal x vertical in mm
- ② Complete area

- ③ Approximate resolution in mm/px
- ④ Working distance/Focus position in mm
- ⑤ Focal length of lens, here example for $f = 17.1$ mm
- ⑥ Narrow range

Recommended accessories

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

	Brief description	Type	Part no.
Calibration tools			
	Target for alignment and calibration, A3-size	PLOC2D alignment and calibration target A3	4092645

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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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