



V2D631P-2MWSEB8S50

InspectorP Rack Fine Positioning

2D MACHINE VISION

SICK
Sensor Intelligence.



Ordering information

Type	part no.
V2D631P-2MWSEB8S50	1101157

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



Detailed technical data

Features

Technology	2D snapshot
Configurable	✓
Image sensor	CMOS monochrome
Shutter technology	Global-Shutter
Optical focus	Fixed focus
Working range	200 mm ... 1,950 mm ¹⁾
Illumination	Integrated
Illumination color	White, LED, Visible, 6,000 K, ± 500 K
Alignment aid	Laser, Red, 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 (IEC 62471 (2006-07) / EN 62471 (2008-09))
Lens	S-mount
	Optical format
	Focal length
Task	Localizing, navigating and guiding - Navigating Determining position - 2D position determination

¹⁾ Depending on application, layer 1: 300 mm typical, layer 2: 1,550 mm typical.

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) 1 x M12, 8-pin socket (Gigabit Ethernet) 1 x M8, 4-pin female connector (external illumination)
Supply voltage	12 V DC ... 24 V DC, ± 20 %
Power consumption	Typ. 10 W, ± 20 %

¹⁾ Including lens and protective hood.

Enclosure rating	IP67 (EN 60529 (1991-10), EN 60529/A2 (2002-02))
Protection class	III (EN 60950-1 (2014-08))
Housing material	Aluminum die cast
Window material	PMMA
Weight	450 g
Dimensions (L x W x H)	108 mm x 63 mm x 59 mm ¹⁾

¹⁾ Including lens and protective hood.

Performance

Sensor properties	
Sensor resolution	1,280 px x 1,024 px (1.3 MP)
Repeatability	0.05 mm ... 0.1 mm typical ¹⁾
Target	Drill holes (Hole diameter 8 mm ... 15 mm)

¹⁾ Depending on application, layer 1: 0.05 mm, layer 2: 0.1 mm.

Interfaces

Ethernet	✓, TCP/IP
Function	FTP, HTTP
Data transmission rate	10/100/1,000 Mbit/s
PROFINET	✓
Data transmission rate	10/100 MBit/s
Operator interfaces	Web-Interface
Configuration software	Web-Interface, PLC interface
Data storage and retrieval	Image and data logging via microSD memory card and external FTP
Digital output	4 digital outputs, 24 V
Output current	≤ 100 mA
Control elements	2 buttons
Optical indicators	11 LEDs (5 status displays, 16 LEDs, 5 LED bar graphs, 1 green/red feedback spot)
Acoustic indicators	Beeper

Ambient data

Shock load	EN 60068-2-27:2009-05
Vibration load	EN 60068-2-6:2008-02
Ambient operating temperature	0 °C ... +50 °C ¹⁾
Storage temperature	-20 °C ... +70 °C ¹⁾

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

Certificates

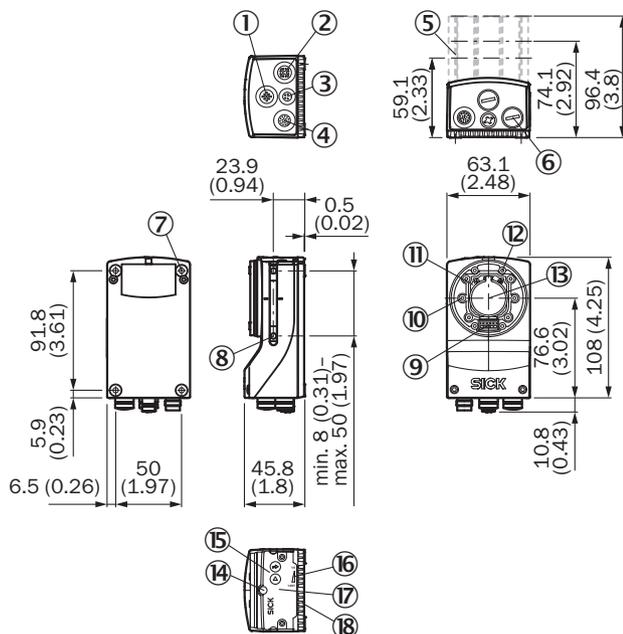
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

KC Mark certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓
4Dpro	✓

Classifications

ECLASS 5.0	27310205
ECLASS 5.1.4	27310205
ECLASS 6.0	27310205
ECLASS 6.2	27310205
ECLASS 7.0	27310205
ECLASS 8.0	27310205
ECLASS 8.1	27310205
ECLASS 9.0	27310205
ECLASS 10.0	27310205
ECLASS 11.0	27310205
ECLASS 12.0	27310205
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	43211731

Dimensional drawing

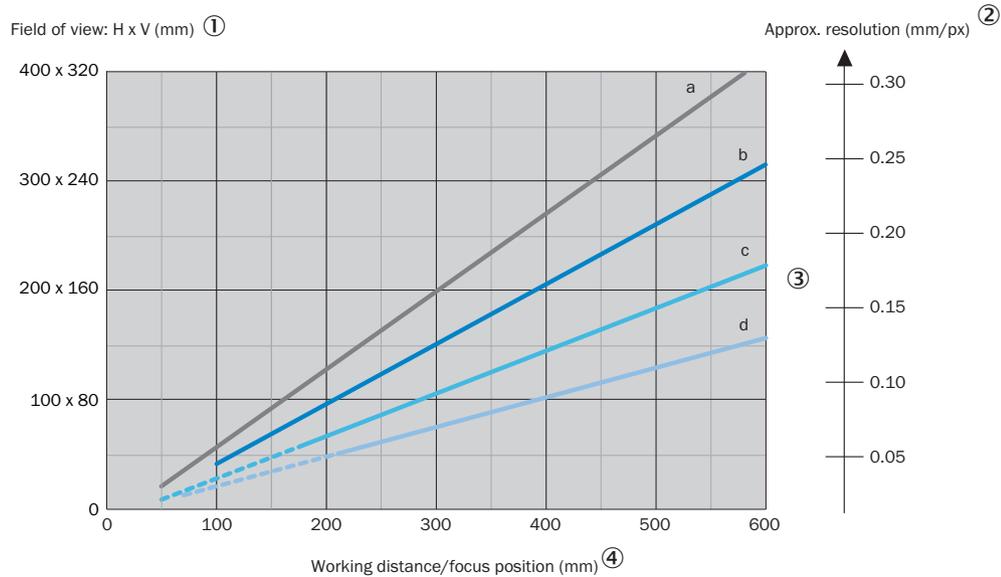
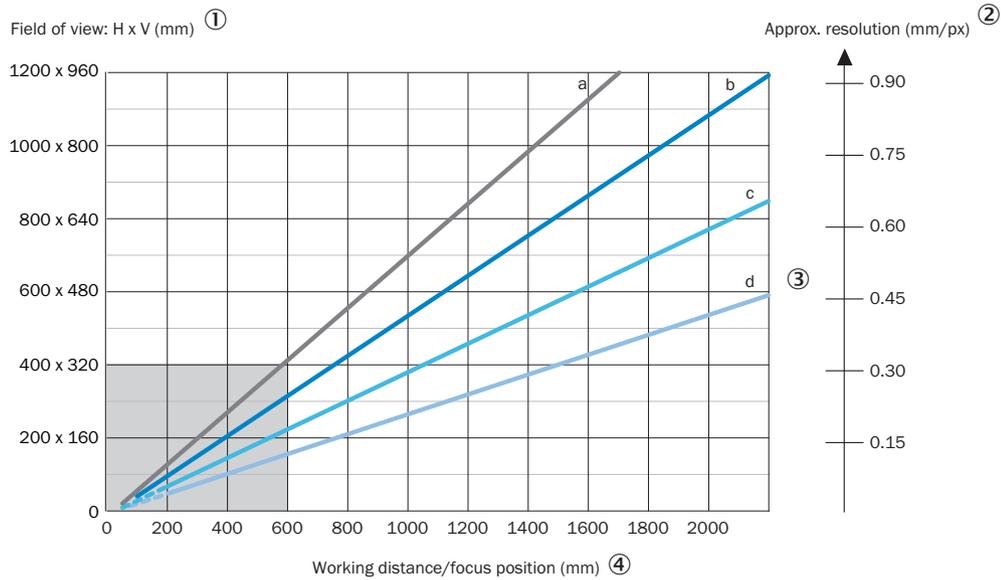


Dimensions in mm (inch)

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)

Field of view



- a: f = 9.6 mm — c: f = 17.5 mm
- b: f = 12.5 mm — d: f = 25.0 mm
- - - Optional distance ring required ⑤

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

Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 17-pin, straight, A-coded Connection type head B: Male connector, M12, 17-pin, straight, A-coded Signal type: Power, serial, CAN, digital I/Os Cable: 3 m, 17-wire Description: Power, suitable for 2 A, shielded, Serial, CAN, Digital I/Os Application: Drag chain operation 	YM2A8D-030XXXF2A8D	6051194
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 8-pin, straight, X-coded Connection type head B: Male connector, RJ45, 8-pin, straight Signal type: Ethernet, Gigabit Ethernet Cable: 2 m, 8-wire, PUR, halogen-free Description: Ethernet, shielded, Gigabit Ethernet Application: Zones with oils and lubricants 	YM2X18-020EG1M-RJA8	2106258
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 8-pin, straight, X-coded Connection type head B: Male connector, RJ45, 8-pin, straight Signal type: Ethernet, Gigabit Ethernet Cable: 3 m, 8-wire, PUR, halogen-free Description: Ethernet, shielded, Gigabit Ethernet Application: Zones with oils and lubricants 	YM2X18-030EG1M-RJA8	2145693
Junction boxes			
		CDB650-204	1064114
Storage media			
	<ul style="list-style-type: none"> Description: microSD memory card with 2 GB for industrial use 	microSD memory card	4077575
Mounting systems			
	<ul style="list-style-type: none"> Description: Mounting bracket set consisting of mounting bracket, cooling plate, includes angle display for setting the tilt angle Suitable for: Lector63x, Inspector63x, Lector83x – up to 40 °C ambient operating temperature, Insepctor83x – up to 40 °C ambient operating temperature, Lector83x – up to 40 °C ambient operating temperature, Insepctor83x – up to 40 °C ambient operating temperature, Lector63x, Inspector63x 	Mounting bracket set with inclination angle -40° - 40°	2076735
	<ul style="list-style-type: none"> Description: Sliding nut, M5, short Usable for: Lector62x, EventCam 	Sliding nut	5324896

SICK AT A GLANCE

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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