V2D631P-2MWSEB8S50

InspectorP Rack Fine Positioning

2D MACHINE VISION

SICK
Sensor Intelligence.

V2D631P-2MWSEB8S50 | InspectorP Rack Fine Positioning

2D MACHINE VISION

Ordering information

Type	Part no.
V2D631P-2MWSEB8S50	1101157

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

Detailed technical data

Features

Task	Position determination Navigation
Technology	2D snapshot
Product category	Configurable
Sensor	CMOS matrix sensor, grayscale values
Shutter technology	Global-Shutter
Optical focus	Fixed focus
Working distance	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)
Lens	S-mount
Optical format	1/1.8"
Focal length	17.5 mm

[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 female connector (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 resolution	1,280 px x 1,024 px (1.3 Mpixel)
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 x status display, 5 x LED bar graph, 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]
Depth precision	0.05 mm … 0.1 mm typical [2]

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

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

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))
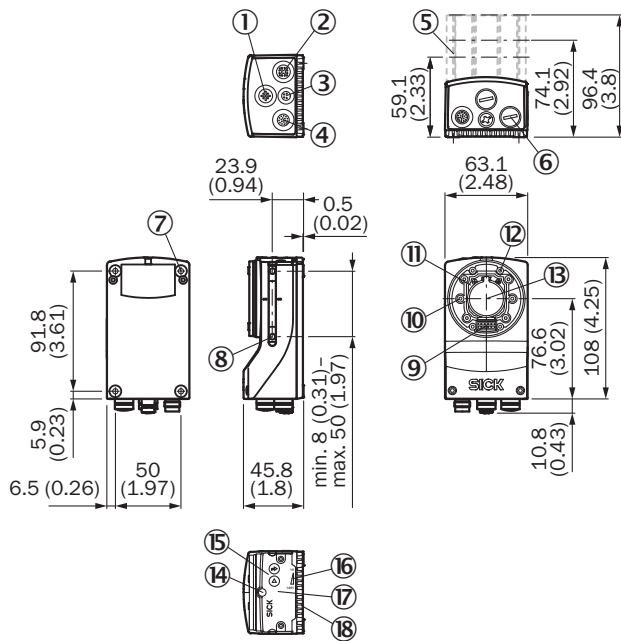
① "External light" connection (external illumination unit, female connector, M12, 4-pin, A-coded)
② "Ethernet" connection (Gigabit Ethernet, female connector, M12, 8-pin, X-coded)
③ "USB" connection (female connector, type M8, 4-pin), for temporary use as a service interface only
④ "Power/Serial Data/CAN/I/O" 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 device
⑧ 2 sliding nuts, M5, 5.5 mm deep, as an alternative method of mounting the device
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)

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Product data sheet | 2024-05-13 16:47:23
Subject to change without notice

Field of view
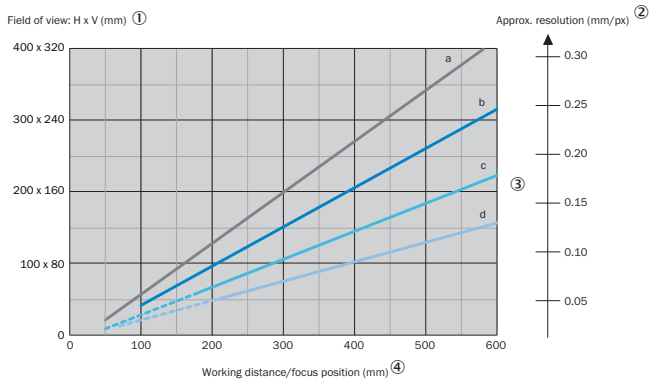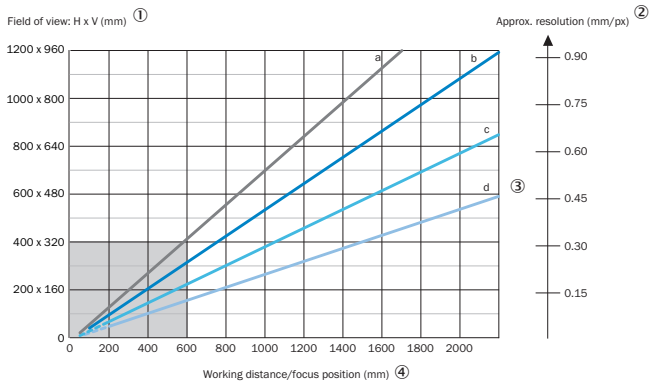
- ─── a: f = 9.6 mm
- ─── b: f = 12.5 mm
- ─── c: f = 17.5 mm
- ─── d: f = 25.0 mm
- ---- Optional distance ring required ⑤

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.
Storage media		
microSD memory card with 2 GB for industrial use	microSD memory card	4077575
Mounting brackets and plates		
Mounting bracket set consisting of mounting bracket, cooling plate, includes angle display for setting the tilt angle	Mounting bracket	2076735

Brief description	Type	Part no.
Other mounting accessories		
Sliding nut, M5, short	Sliding nut	5324896
Plug connectors and cables		
• **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, Gigabit Ethernet, shielded • **Application:** Zones with oils and lubricants	YM2X18-020EG1MRJA8	2106258
Others		
• **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, serial, CAN, digital I/Os, suitable for 2 A, shielded, to connection module CDB650 • **Application:** Drag chain operation	YM2A8D-030XXXF2A8D	6051194
Modules		
• **Sub product family:** CDB650 • **Supported products:** Lector® series, CLV62x - CLV64x (depending on type), CLV69x, RFID read/write device, InspectorP series • **Brief description:** Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals.	CDB650-204	1064114

Recommended services

Additional services ➜ www.sick.com/InspectorP_Rack_Fine_Positioning

	Type	Part no.
Extended warranty		
• **Product area:** Identification solutions, machine vision, Detection and ranging solutions, safety camera sensors, Safety laser scanners, Safety radar sensors • **Range of services:** The services correspond to the scope of the statutory manufacturer warranty (SICK general terms of delivery). • **Duration:** Five-year warranty from delivery date.	Extended warranty for a total of five years from delivery date	1680671

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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