Data sheet

NOVA

V2D621P-2MSFFB5S50

InspectorP62x

2D MACHINE VISION

SICK
Sensor Intelligence.

Ordering information

Type	part no.
V2D621P-2MSFFB5S50	1111871

Other models and accessories ➜ www.sick.com/InspectorP62x

Detailed technical data

Features

Technology	2D snapshot
Programmable	✓
Configurable	✓
Application software	Nova Inspector
License included	Intelligent Inspection License
Expansion options	The SICK Nova Tool plug-in enables customer-specific or new tools to be added. Development and customization of the tools is supported by SICK AppSpace and SICK AppStudio.
Toolkit	SICK algorithm API HALCON
Image sensor	CMOS monochrome
Shutter technology	Global-Shutter
Optical focus	Adjustable focus (electrical)
Working range	300 mm ... 1,500 mm [1)]
Illumination	Integrated
Illumination color	Red, LED, Visible, 617 nm, ± 15 nm Blue, LED, Visible, 470 nm, ± 15 nm
Feedback spot	LED, Visible, green, 525 nm, ± 15 nm
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))
Spectral range	Approx. 400 nm ... 900 nm
Lens	

[1)] For details see field of view diagram.

Focal length	17.1 mm
Task	Detecting - Standard objects Measuring - Dimension, contour and volume Measuring - Number Identifying - 2D code Identifying - OCR Identifying - Pattern Identifying - Classifying Identifying - Sorting Determining position - 2D position determination

[1] For details see field of view diagram.

Mechanics/electronics

Connection type	1 x M12, 17-pin male connector (serial, I/Os, voltage supply) 1 x M12, 4-pin female connector (Ethernet)
Supply voltage	12 V DC ... 24 V DC, ± 10 %
Power consumption	Typ. 4 W
Enclosure rating	IP65 (EN 60529 (1991-10), EN 60529/A2 (2002-02))
Protection class	III
Housing material	Aluminum die cast
Window material	PMMA
Weight	170 g
Dimensions (L x W x H)	71 mm x 43 mm x 35.6 mm
MTBF	75,000 h

Performance

Sensor properties	
Sensor resolution	1,280 px x 1,024 px (1.3 MP)
Scan/frame rate	50 Hz [1]

[1] Maximum, lower at long exposure times. Image capture time only, does not include additional required processing time.

Interfaces

Serial	✓ , RS-232, RS-422
Data transmission rate	300 Baud ... 115.2 kBaud
Ethernet	✓ , TCP/IP, UDP
Function	FTP, HTTP, HTTPS, NTP
Data transmission rate	10/100 MBit/s
CAN	✓
Remark	Not yet available in the pre-installed Intelligent Inspection SensorApp
Function	SICK CAN sensor network (CAN controller/CAN device)
EtherNet/IP™	✓
Data transmission rate	10/100 MBit/s
EtherCAT®	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600
Remark	Not yet available in the pre-installed Intelligent Inspection SensorApp
PROFINET	✓

[1] Not yet available in the pre-installed Intelligent Inspection SensorApp.

Function	PROFINET Single Port, PROFINET Dual Port (optional via external connection module CDF600-2)
Data transmission rate	10/100 MBit/s
PROFIBUS DP	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600-2
Remark	Not yet available in the pre-installed Intelligent Inspection SensorApp
Operator interfaces	Web server
Configuration software	Web GUI (SensorApp configuration), SICK AppManager (IP determination and configuration, SensorApp installation), SICK AppStudio (programming)
Data storage and retrieval	Image and data logging via microSD memory card and external FTP
Inputs/outputs	2 opto-decoupled inputs, 4 inputs/outputs, configurable
Output current	≤ 100 mA
Maximum encoder frequency	Max. 300 Hz
External illumination	Via digital output (max. 24 V trigger)
Control elements	2 buttons [1]
Optical indicators	16 LEDs (5 status displays, 10 LED bar graphs, 1 green/red feedback spot)
Acoustic indicators	Beeper [1]

[1] Not yet available in the pre-installed Intelligent Inspection SensorApp.

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).

Licenses

License included	Intelligent Inspection License
Description	The Intelligent Inspection License makes it possible to productively use the complete set of tools in a SICK Nova SensorApp. The Intelligent Inspection toolset includes powerful Deep Learning image analysis tools for solving problems which is not possible with rule-based machine vision.
Product type	Software
License type	Device license
License description	The software is provided as a device license. A license is bound to a specific hardware ID.
Scope of use	Full version
License period	The license is issued without a time limit.
Expansion options	The SICK Nova Tool plug-in enables customer-specific or new tools to be added. Development and customization of the tools is supported by SICK AppSpace and SICK AppStudio.

Certificates

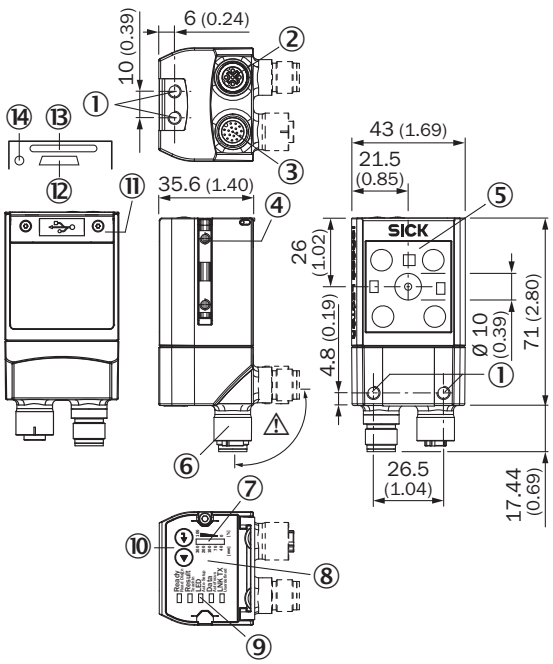
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓

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

Classifications

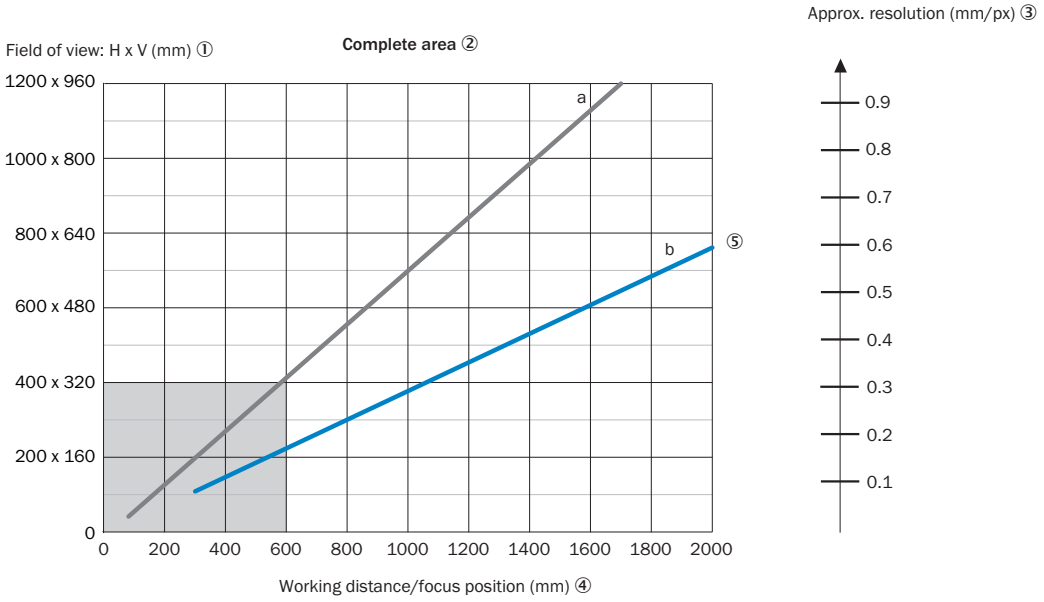
ECLASS 5.0	27310205
ECLASS 5.1.4	27310205
ECLASS 6.0	27310205
ECLASS 6.2	27310205
ECLASS 7.0	27310205
ECLASS 8.0	27310205
ECLASS 8.1	27310205
ECLASS 9.0	27310205
ECLASS 10.0	27310205
ECLASS 11.0	27310205
ECLASS 12.0	27310205
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC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

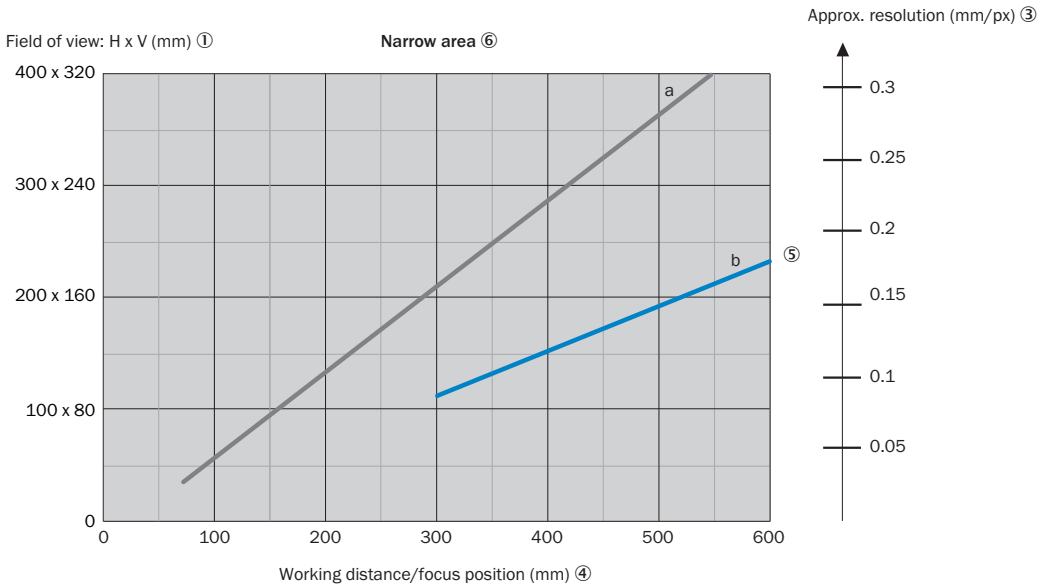
Dimensional drawing



Dimensions in mm (inch)
① 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

Field of view





a: f = 9.6 mm
b: f = 17.1 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/InspectorP62x

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Bracket with adapter board	Mounting bracket	2042902
connectors and cables			
	• **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
	• **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded • **Connection type head B:** Male connector, RJ45, 4-pin, straight • **Signal type:** Ethernet, PROFINET • **Cable:** 2 m, 4-wire, PUR, halogen-free • **Description:** Ethernet, shielded, PROFINET • **Application:** Drag chain operation, Zones with oils and lubricants	YM2D24-020P-N1MRJA4	2106182
Junction boxes			
		CDB650-204	1064114

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com