SICK.COM



NOVA

DATA SHEET

V2D8505P-1MCXXXAF0SXXXX

Inspector85x
2D machine vision

SICK Sensor Intelligence



NOVA

2D MACHINE VISION

V2D8505P-1MCXXXAF0SXXXX

ORDERING INFORMATION

Type	part no.
V2D8505P-1MCXXXAF0SXXXX	1139001

Further device versions and accessories at www.sick.com/Inspector85x

DETAILED TECHNICAL DATA

FEATURES

Technology	2D snapshot
Programmable	✓
Configurable	✓
Application software	Nova Inspector
License included	Quality 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 (manual)
Working range	500 mm ... 2,500 mm, depends on lens used [1]
Illumination	To be ordered separately as accessories
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. 56” from May 8, 2019 (IEC 60825-1:2014, EN 60825-1:2014)
Lens	C-mount
Optical format	1/1.8"
Note	To be ordered separately as accessories
Task	Detecting - Standard objects Measuring - Dimension, contour and volume Measuring - Number Identifying - 2D code Identifying - OCR Identifying - Pattern Identifying - Classifying Identifying - Sorting

[1] For details see field of view diagram.

	Determining position - 2D position determination

[1] For details see field of view diagram.

MECHANICS/ELECTRONICS

Supply voltage	24 V DC, ± 20 % [1]
Power consumption	Typ. 24 W, ± 20 % [2]
Enclosure rating	IP65 (IEC 60529:2013 +C1:2013 +C2:2015 +AMD2 C1:2019, EN 60529:1991 +A1:2010 +A2:2013 +AC:2019-02)
Housing material	Aluminum die cast
Weight	640 g, without lens and connection cables
Dimensions (L x W x H)	143.3 mm x 90 mm x 46 mm [3]
MTBF	100,000 h [4]

[1] Voltage source in accordance with ES1 (EN 62368-1) or SELV (EN 60950-1).

[2] For digital outputs without load.

[3] Housing only, without lens and optics protection hood.

[4] At 25 °C ambient operating temperature.

PERFORMANCE

Sensor properties	
Sensor resolution	2,464 px x 2,048 px (5 MP)
Pixel size	2.74 µm x 2.74 µm
Sensor size	6.75 mm x 5.61 mm
Scan/frame rate	40 Hz [1]

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

INTERFACES

Ethernet	✓, TCP/IP, UDP
Function	FTP, HTTP, HTTPS, NTP
Data transmission rate	10/100/1,000 Mbit/s, MAC address (device-specific), see type label
EtherNet/IP™	✓
Function	EtherNet/IP™ Dual Port
Data transmission rate	10/100 MBit/s
PROFINET	✓
Function	PROFINET Dual Port
Data transmission rate	10/100 MBit/s
Serial	✓, RS-232, RS-422
Data transmission rate	300 Baud ... 115.2 Baud
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 x opto-decoupled inputs, physical, switching 4 x configurable input/output, physical, switching (3 on the Power-I/O connection, 1 on the external illumination connection)
Output current	≤ 50 mA
Maximum encoder frequency	Max. 50 kHz
External illumination	Internal voltage supply and trigger via external illumination connection (max. 1 A) or external voltage supply and trigger via digital output
Optical indicators	12 LEDs (10 x status displays, 2 x feedback spot)

AMBIENT DATA

Electromagnetic compatibility (EMC)	
Interference resistance	IEC 61000-6-2:2016 / EN IEC 61000-6-2:2019
Interference emission	IEC 61000-6-4:2018 / EN IEC 61000-6-4:2019
Vibration resistance	EN 60068-2-6:2007, EN 60068-2-64:2019
Shock resistance	EN 60068-2-27:2008
Ambient operating temperature	0 °C ... +50 °C [1]
Storage temperature	–20 °C ... +70 °C
Relative humidity	≤ 90 %, Non-condensing
Altitude (above sea level)	< 5,000 m

[1] If the ambient operating temperature will be ≥ 45 °C, ensure adequate heat dissipation when mounting the device.

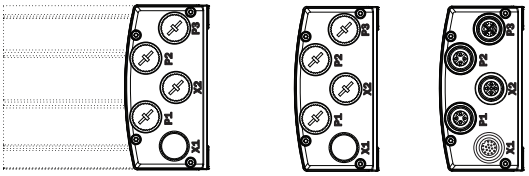
LICENSES

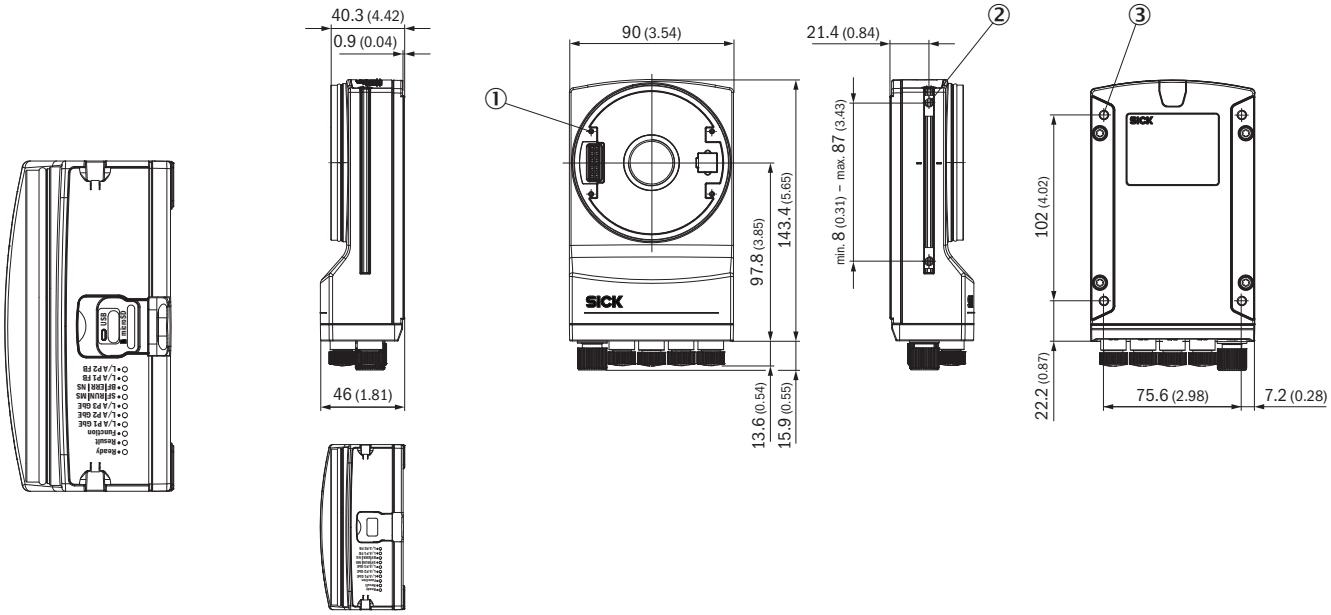
License included	Quality Inspection License
Product type	Software
License type	Device license
License description	The Quality Inspection license enables productive use of a large subset of the tools of a SICK Nova SensorApp. The Quality Inspection toolkit is used to ensure that products comply with exact requirements after production, for instance when it comes to dimensions and angular degrees. The software is provided as a device license. A license is bound to a specific hardware ID.
Function range	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. Optional upgrade with the Intelligent Inspection Upgrade License, which enables productive use of the complete toolset.

CERTIFICATES

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

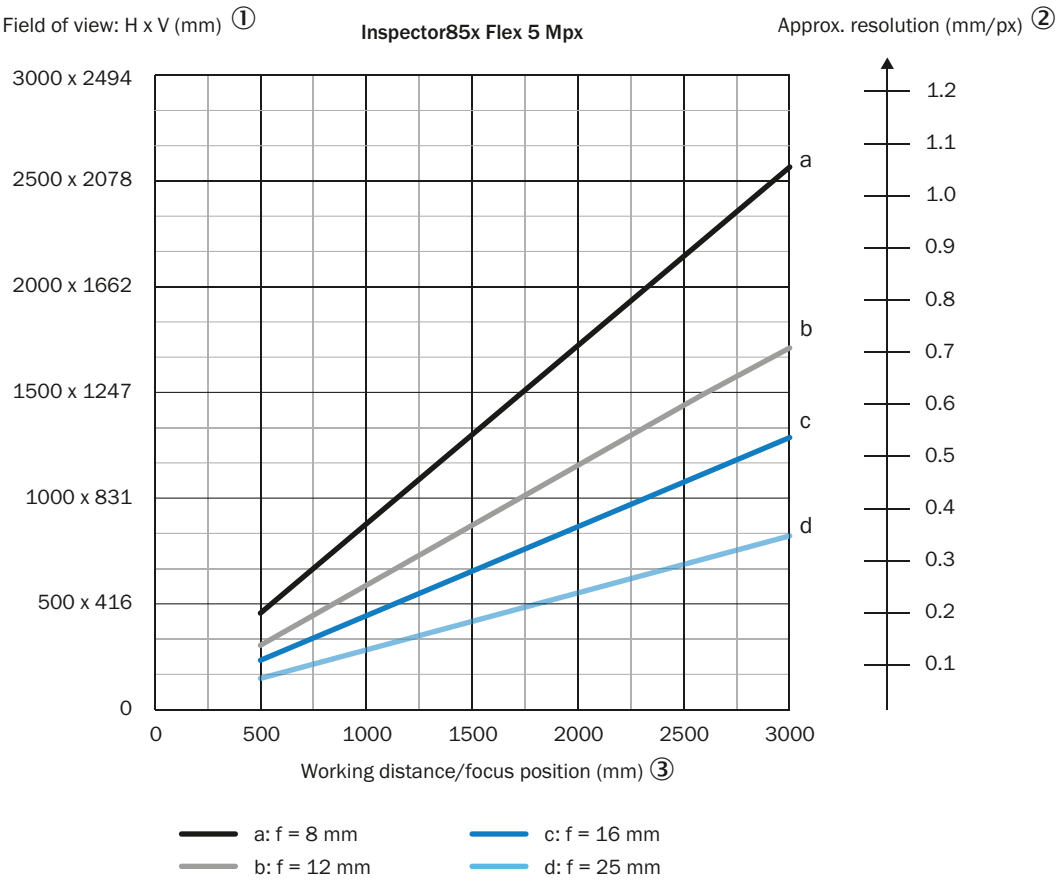
DIMENSIONAL DRAWING





Dimensions in mm (inch)
① 4 tapped blind holes, M2.5, 5.5 mm deep, for mounting the spacer
② 2 M5 sliding nuts; 5.5 mm deep; pivoting; as an alternative method of mounting the product
③ 4 tapped blind holes, M5, 5.5 mm deep for mounting the product

FIELD OF VIEW V2D8505P



① Field of view: Horizontal x vertical in mm
② approximate resolution in mm/px
③ Working distance/Focus position in mm

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1139001

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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