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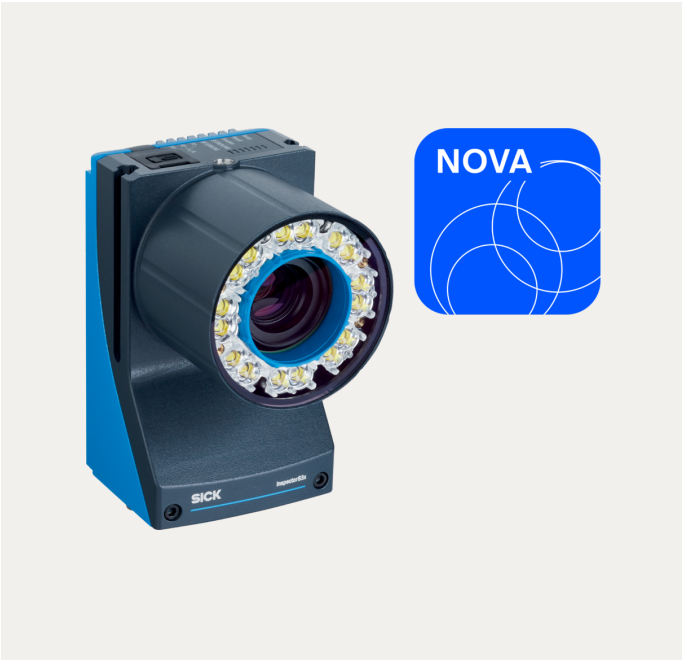
NOVA

DATA SHEET

V2D8301P-1MCIBXAF1SXXXX

Inspector83x
2D machine vision

SICK Sensor Intelligence



2D MACHINE VISION

V2D8301P-1MCIBXAF1SXXXX

ORDERING INFORMATION

Type	part no.
V2D8301P-1MCIBXAF1SXXXX	1146690

Further device versions and accessories at www.sick.com/Inspector83x

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 (manual)
Working range	200 mm ... 2,500 mm, depends on lens used [1]
Illumination	Integrated
Illumination color	White, LED, Visible, 6,500 K, ± 1,000 K
LED class	Risk group 1 (IEC 62471 (2006-07) / EN 62471 (2008-09))
Lens Optical format Focal length	C-mount 1/1.8" 8 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

Supply voltage	24 V DC, ± 20 % [1]
Power consumption	21 W [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
Window material	Plastic (PMMA), 2 mm thick, scratch-resistant, anti-reflective (AR) coated on both sides
Weight	545 g, without lens and connection cables
Dimensions (L x W x H)	108 mm x 63.1 mm x 84.5 mm
MTBF	100,000 h [3]

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

[2] For digital outputs without load.

[3] At 25 °C ambient operating temperature.

PERFORMANCE

Sensor properties	
Sensor resolution	1,232 px x 1,024 px (1.3 MP)
Pixel size	5.48 µm x 5.48 µm
Sensor size	6.75 mm x 5.61 mm
Scan/frame rate	60 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 6 x configurable input/output, physical, switching (4 on the Power-I/O connection, 2 on the external illumination connection)
Output current	≤ 50 mA
Maximum encoder frequency	Max. 50 kHz
External illumination	External voltage supply or via Vout (max. 1 A) at the X2 4-pin female connector as an illumination connection. Trigger via digital output via X1 17-pin male connector or via external illumination connection at the X2 4-pin female connector.
Optical indicators	8 status LEDs

AMBIENT DATA

Vibration resistance	EN 60068-2-6:2007, EN 60068-2-64:2019

[1] If the ambient operating temperature will be ≥ 40 °C, ensure adequate heat dissipation when mounting the device, see Operating Instructions for details.

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 ≥ 40 °C, ensure adequate heat dissipation when mounting the device, see Operating Instructions for details.

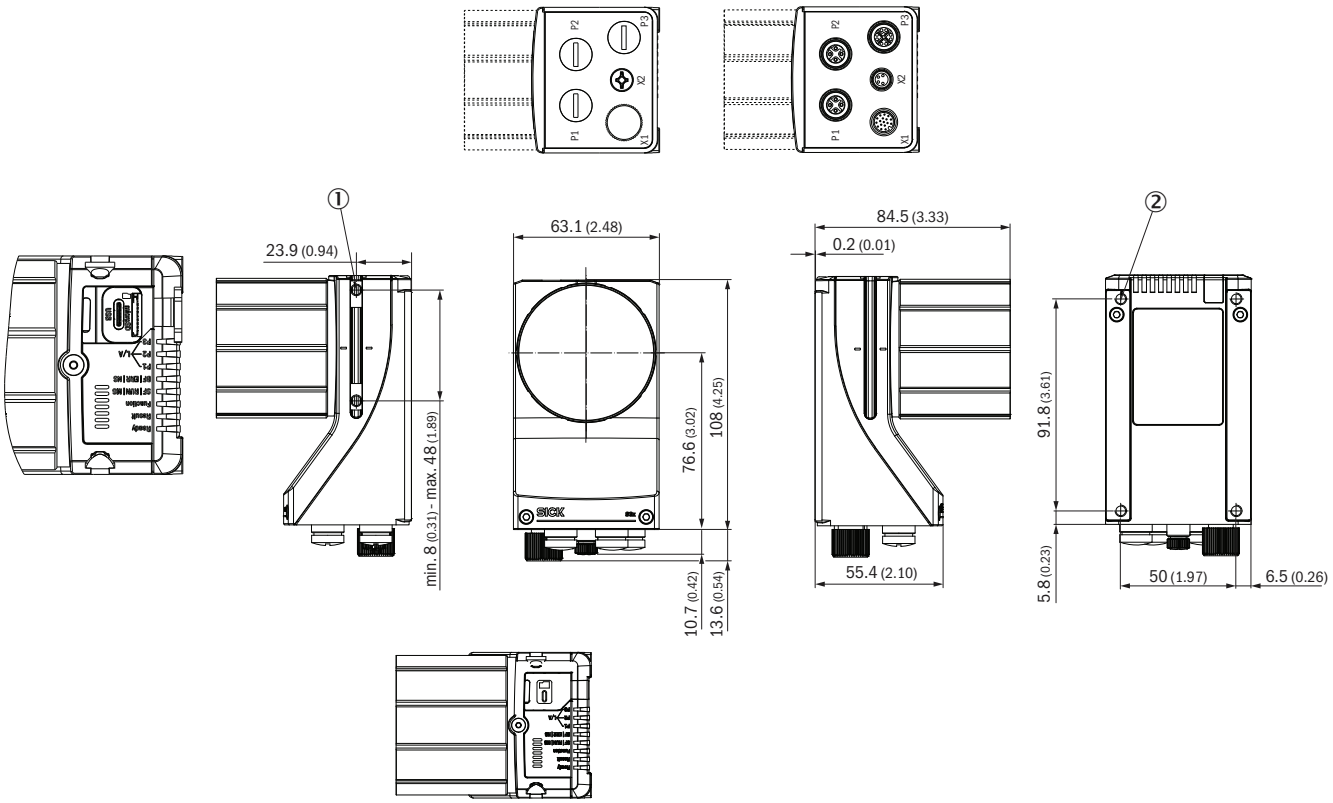
LICENSES

License included	Intelligent Inspection License
Product type	Software
License type	Device license
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. 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.

CERTIFICATES

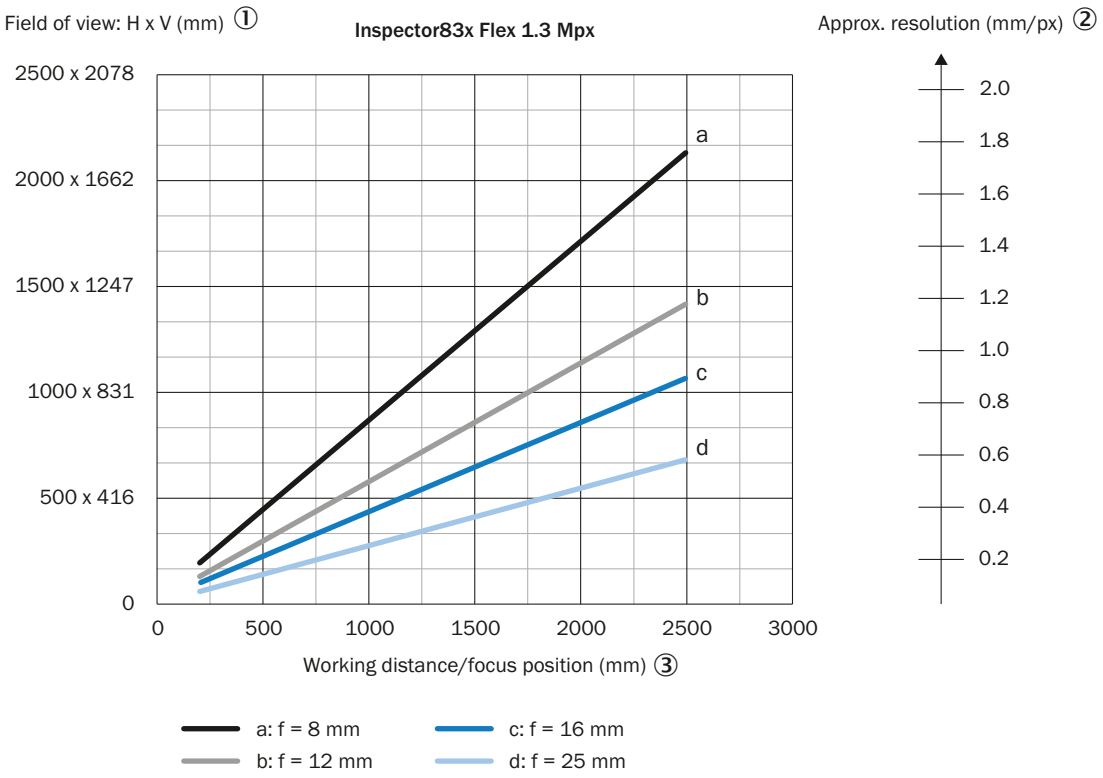
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Profinet certificate	✓
Ethernet/IP certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING STRUCTURE AND DEVICE DIMENSIONS, UNIT: MM (INCH), DECIMAL SEPARATOR: PERIOD



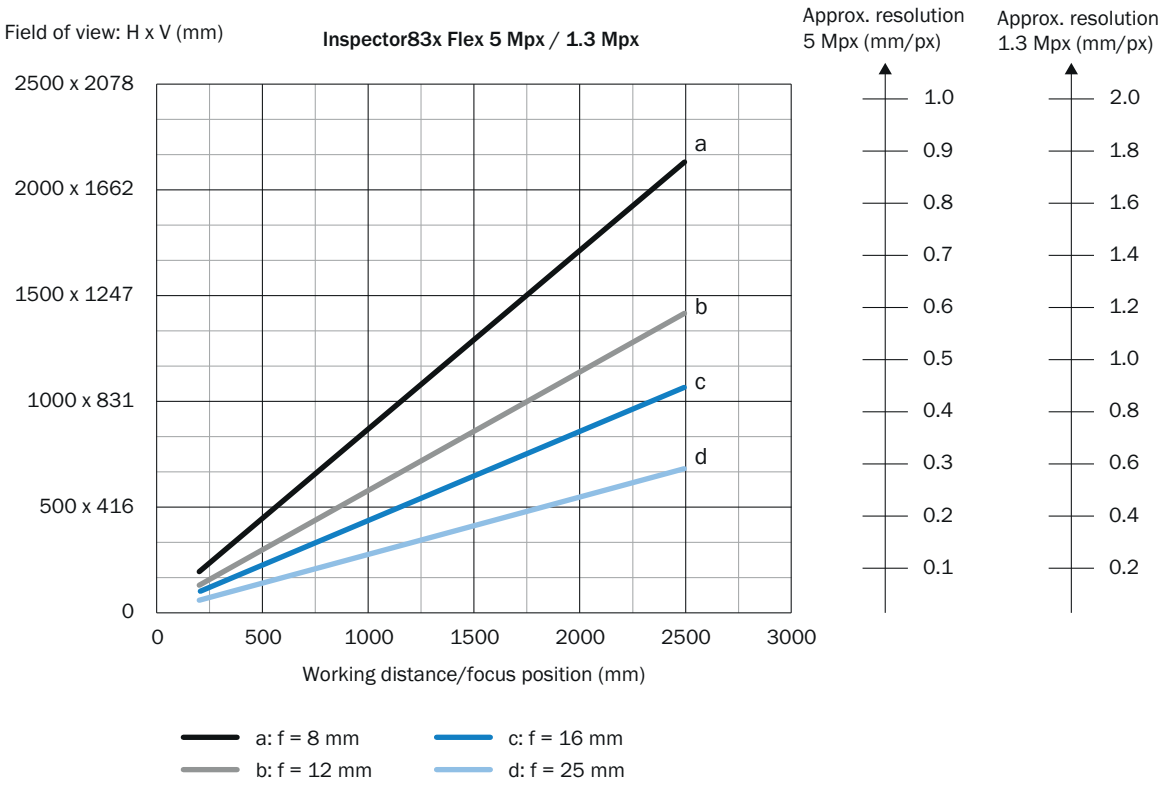
Dimensions in mm (inch)
① 2 M5 sliding nuts; 5.5 mm deep; pivoting; as an alternative method of mounting the product
② 4 tapped blind holes, M5, 5.5 mm deep for mounting the product

FIELD OF VIEW V2D8301P



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

FIELD OF VIEW V2D8301P/V2D8305P



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/1146690

SICK AG
WALDKIRCH
GERMANY
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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

SICK

Sensor Intelligence