# V2D8305P-1CCKDXAF1SXXXX

Inspector83x

**2D MACHINE VISION**

**SICK**
Sensor Intelligence.

# V2D8305P-1CCKDXAF1SXXXX | Inspector83x

## 2D MACHINE VISION

## Ordering information

| Type | part no. |
|---|---|
| V2D8305P-1CCKDXAF1SXXXX | 1144167 |

Other models and accessories ➜ 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. |
| License type | The software is provided as a device license. A license is bound to a specific hardware ID. |
| License period | The license is issued without a time limit. |
| Toolkit | SICK algorithm API<br>HALCON |
| Image sensor | CMOS Color |
| Shutter technology | Global-Shutter |
| Optical focus | Adjustable focus (manually) |
| 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 | C-mount |
| Optical format | 1/1.8" |
| Focal length | 16 mm |
| Task | Detecting - Standard objects<br>Measuring - Dimension, contour and volume<br>Measuring - Number<br>Identifying - 2D code<br>Identifying - OCR<br>Identifying - Pattern |

[1] For details see field of view diagram.

| | 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, A-coded (Power, I/O) |
| | 1 x M8, 4-pin female connector (external illumination) |
| | 1 x M12, 8-pin female connector, X-coded (Gigabit Ethernet) |
| | 2 x M12, 4-pin female connector, D-coded (fieldbus Ethernet) |
| **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 |
| **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 | 2,464 px x 2,048 px (5.1 MP) |
| Pixel size | 2.74 µm x 2.74 µm |
| Sensor size | 6.75 mm x 5.61 mm |
| **Scan/frame rate** | 30 Hz [1] |

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

## Interfaces

| | |
| --- | --- |
| **Ethernet** | ✓ , TCP/IP |
| Function | FTP |
| 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 |
| **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 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 |
|---|---|
| Shock resistance | EN 60068-2-27:2008 |
| Ambient operating temperature | 0 °C … +40 °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 | 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. |

## 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 |

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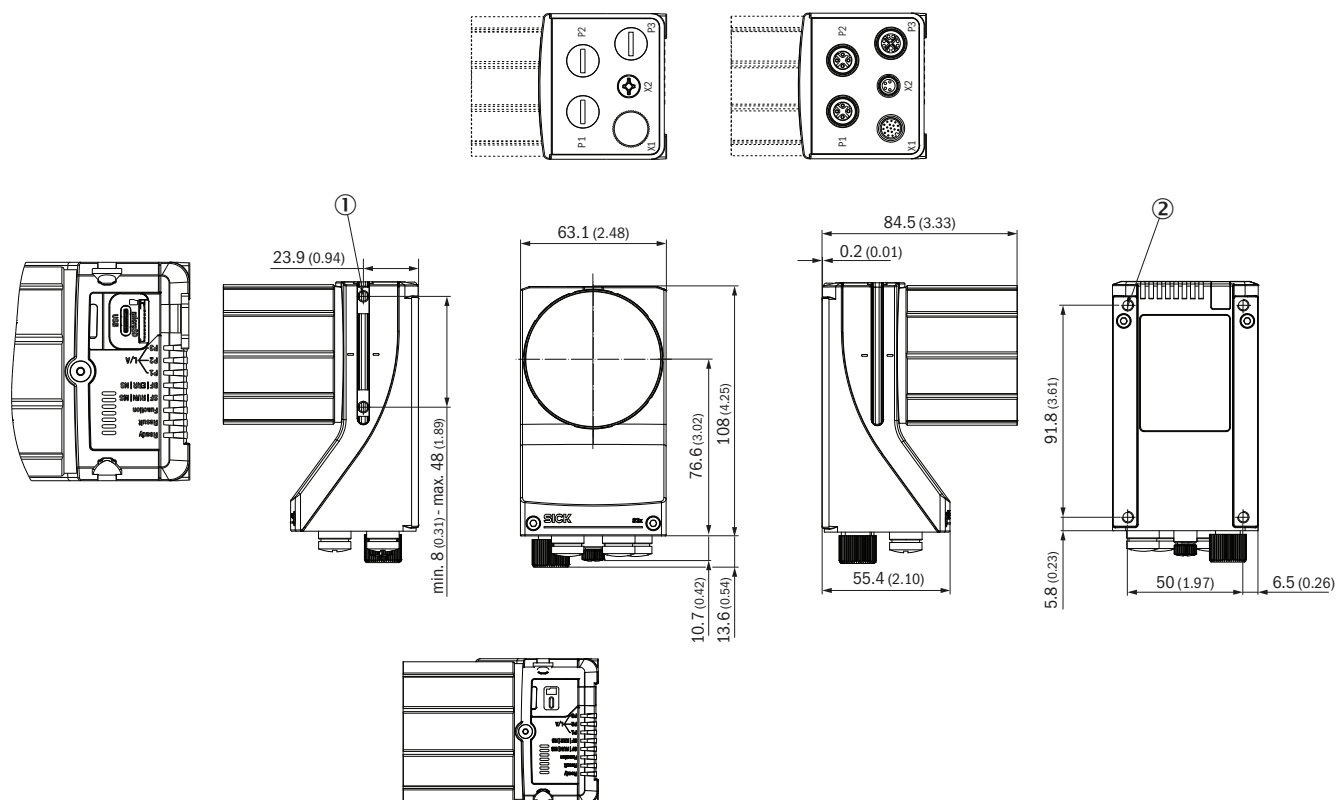
Dimensions in mm (inch)
① 2 M5 sliding nuts; 5.5 mm deep; pivoting; as an alternative method of mounting the product
② 4 tapped blind holes, M5, 5.5 mm deep for mounting the product

## Field of view V2D8301P/V2D8305P
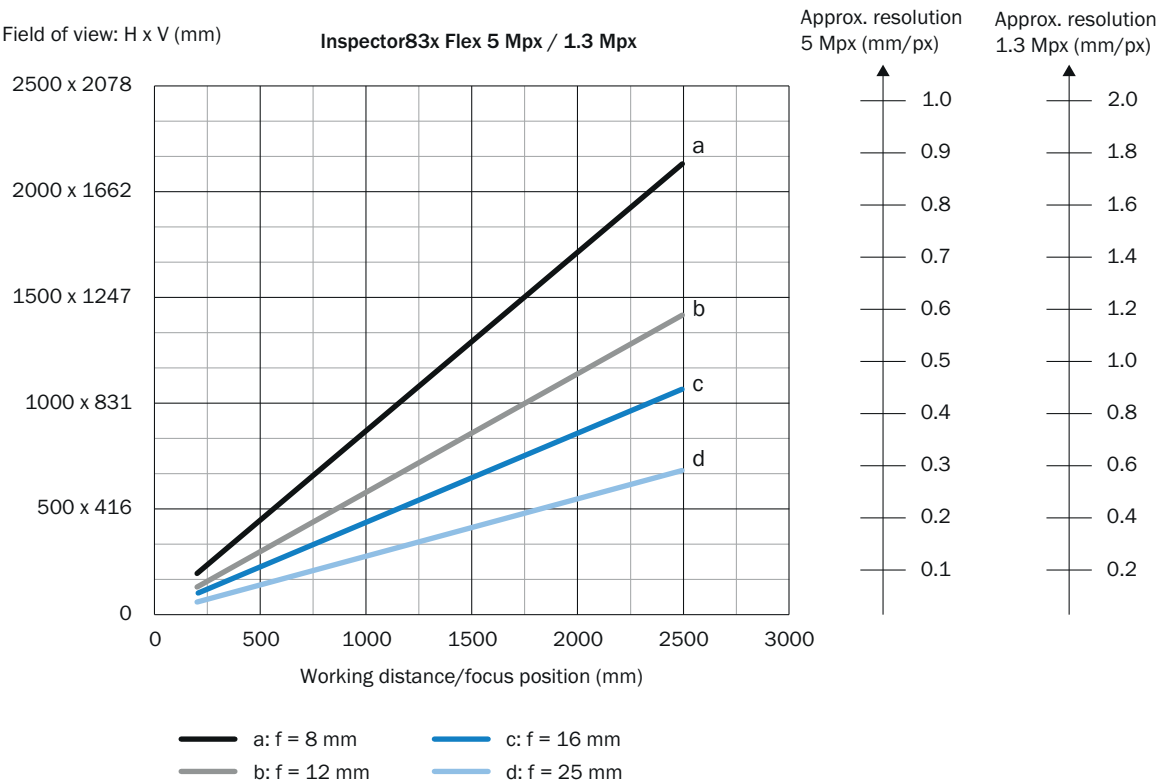
Field of view: H x V (mm)

**Inspector83x Flex 5 Mpx / 1.3 Mpx**

Approx. resolution 5 Mpx (mm/px)

Approx. resolution 1.3 Mpx (mm/px)

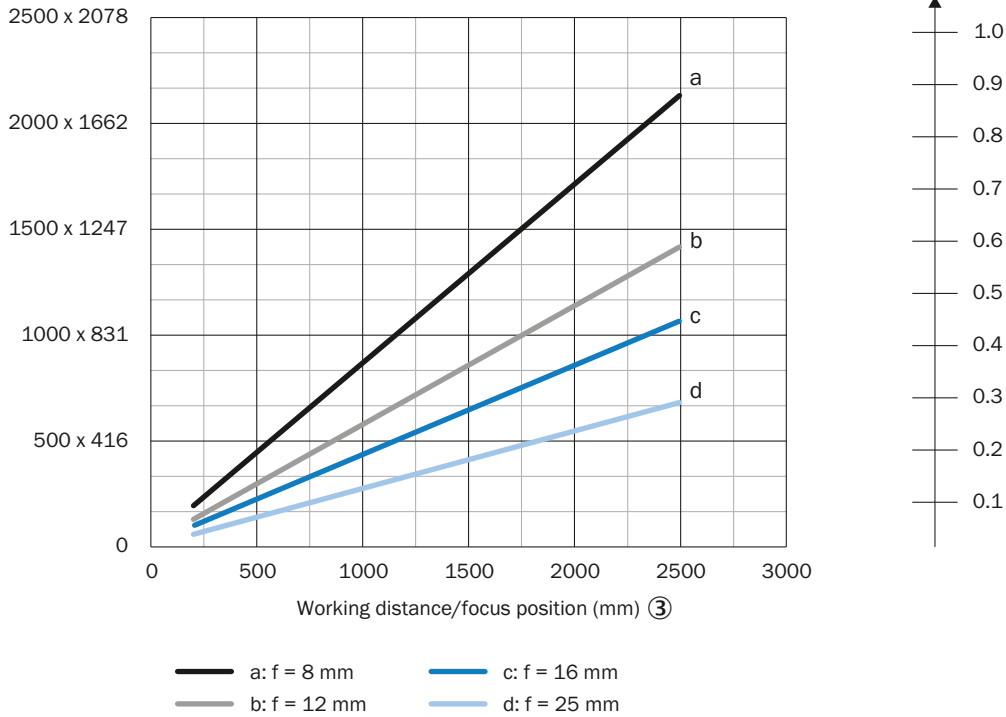| | | |
|---|---|---|
| ━━━ a: f = 8 mm | ━━━ c: f = 16 mm | |
| ━━━ b: f = 12 mm | ━━━ d: f = 25 mm | |

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 V2D8305P

Field of view: H x V (mm) ①

**Inspector83x Flex 5 Mpx**

Approx. resolution (mm/px) ②



— a: f = 8 mm  — c: f = 16 mm
— b: f = 12 mm  — d: f = 25 mm

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

## Recommended accessories

Other models and accessories ➜ www.sick.com/Inspector83x

| Brief description | Type | part no. |
|---|---|---|
| **connectors and cables** | | |
| • **Connection type head A:** Male connector, M12, 8-pin, straight, X-coded<br>• **Connection type head B:** Male connector, RJ45, 8-pin, straight<br>• **Signal type:** Ethernet, Gigabit Ethernet<br>• **Cable:** 5 m, 8-wire, PUR, halogen-free<br>• **Description:** Ethernet, shielded, Gigabit Ethernet<br>• **Application:** Zones with oils and lubricants | YM2X18-050EG1M-RJA8 | 2106259 |
| • **Connection type head A:** Female connector, M12, 17-pin, straight, A-coded<br>• **Connection type head B:** Male connector, M12, 17-pin, straight, A-coded<br>• **Signal type:** Power, serial, CAN, digital I/Os<br>• **Cable:** 3 m, 17-wire<br>• **Description:** Power, suitable for 2 A, shielded, Serial, CAN, Digital I/Os<br>• **Application:** Drag chain operation | YM2A8D-030XXXF2A8D | 6051194 |
| • **Connection type head A:** Male connector, USB-C, 4-pin, straight<br>• **Connection type head B:** Male connector, USB-A, 4-pin, straight<br>• **Cable:** 2 m, PVC | YMUSA4-020VG5MUSC4 | 2119989 |

| Brief description | | Type | part no. |
|---|---|---|---|
| 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."**

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