SICK.COM




DATA SHEET

# VSPI-1R111

Inspector
2D machine vision

SICK Sensor Intelligence




## 2D MACHINE VISION

# VSPI-1R111

### ORDERING INFORMATION

| Type | part no. |
|---|---|
| VSPI-1R111 | 1042779 |

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

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Technology | 2D snapshot |
| Configurable | ✓ |
| Toolkit | Object Locator<br>Contour<br>Pixel Counter<br>Edge Pixel Counter |
| Image sensor | CMOS monochrome |
| Working range | ≥ 50 mm |
| Operating distance with internal illumination | 50 mm ... 200 mm |
| Field of view of internal illumination | 20 mm x 20 mm ... 72 mm x 72 mm |
| Illumination | Integrated |
| Illumination color | White |
| LED class | Risk group 1 (low risk, IEC62471 : 2006) |
| Spectral range | Approx. 400 nm ... 750 nm |
| Offline support | Emulator |
| Lens | |
| Optical format | 1/3" |
| Focal length | 6 mm |
| Task | Detecting - Standard objects<br>Measuring - Dimension, contour and volume<br>Measuring - Number<br>Identifying - OCR<br>Identifying - Pattern<br>Determining position - 2D position determination |

## MECHANICS/ELECTRONICS

| | |
|---|---|
| Supply voltage | 24 V DC, ± 20 % |
| Ripple | < 5 $V_{pp}$ |
| Current consumption | ≤ < 450 mA<br>Without output load |
| Enclosure rating | IP67 [1] |
| Housing material | Aluminum |
| Window material | PMMA |
| Weight | 350 g |
| Dimensions (L x W x H) | 100 mm x 53 mm x 38 mm |

[1] With front window mounted.

## PERFORMANCE

| | |
|---|---|
| Sensor properties | |
| Sensor resolution | 384 px x 384 px (0.15 MP) |
| Scan/frame rate | 40 fps [1] |
| Number of inspections | 32 |
| Reference images | 16 objects |

[1] Max. 250 fps.

## INTERFACES

| | |
|---|---|
| Ethernet | ✓ , TCP/IP |
| Data transmission rate | 100 Mbit/s |
| Operator interfaces | Inspector Viewer |
| Configuration software | SOPAS ET |
| Data storage and retrieval | Log for 30 images, record images on PC |
| Digital input | 4 inputs (24 V) |
| Configurable inputs | External trigger, encoder input, External teach, reference object selection |
| Digital output | 3 digital outputs, 24 V (B-type) |
| Output current | ≤ 100 mA |
| Standard outputs | No object detected, Everything OK, Detail error |
| Maximum encoder frequency | Max. 40 kHz |
| External illumination | 5 V TTL |

## AMBIENT DATA

| | |
|---|---|
| Shock load | EN 60068-2-27 |
| Vibration load | IEC 60068-2-6 |
| Ambient operating temperature | 0 °C ... +45 °C [1] |
| Storage temperature | –20 °C ... +70 °C [1] |

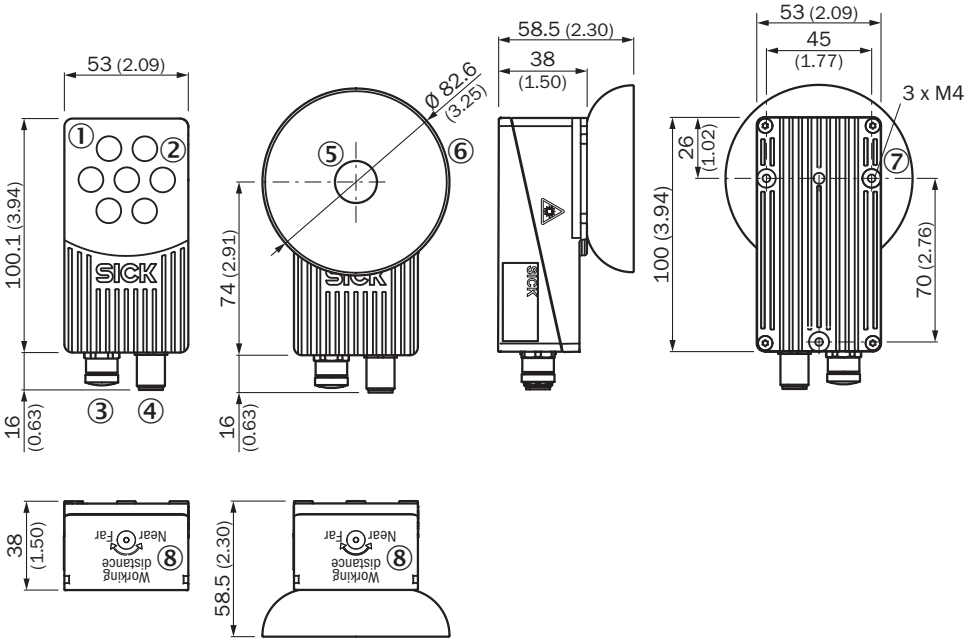
[1] Relative humidity: 35% ... 85%, 95% in storage.

## CERTIFICATES

| | |
|---|---|
| EU declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |

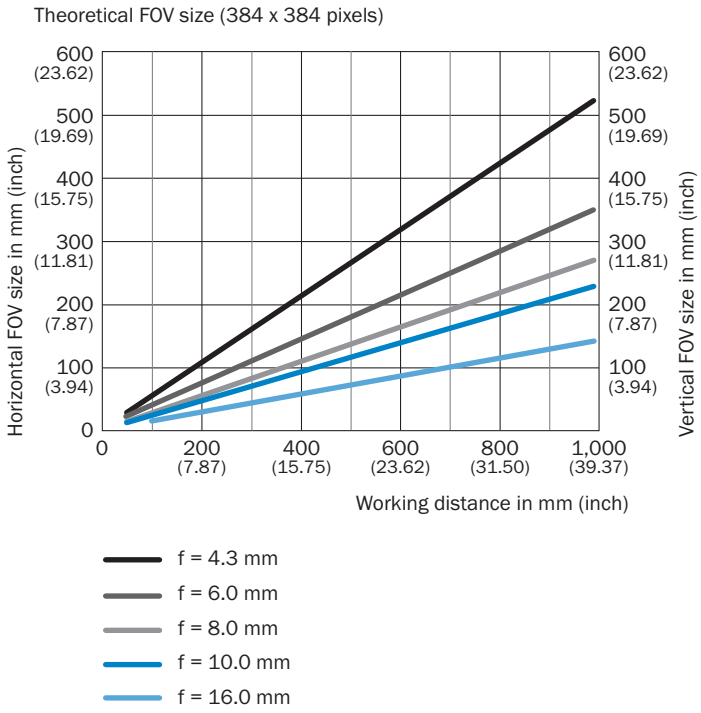
| | |
|---|---|
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

**DIMENSIONAL DRAWING STANDARD**

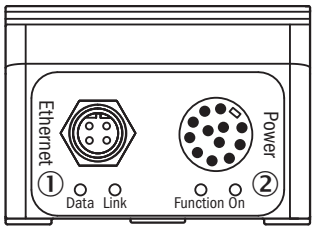



Dimensions in mm (inch)
① Front screen: standard, flex
② ring lighting
③ Ethernet connection M12, 4-pin, female
④ Power connection M12, 12-pin, male
⑤ Front screen: dome
⑥ dome light
⑦ Mounting hole M4
⑧ focus

## FIELD OF VIEW

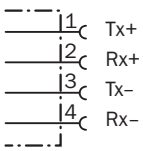



## CONNECTION TYPE

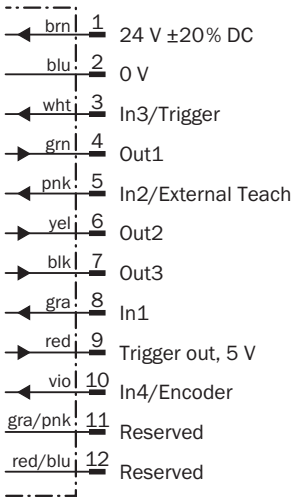



① Ethernet connection M12, 4-pin, female
② Power connection M12, 12-pin, male

## ETHERNET CONNECTION DIAGRAM



**M12 CONNECTION DIAGRAM, 12-PIN**




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/1042779

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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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