



# VSPI-2F111

Inspector

2D MACHINE VISION

**SICK**  
Sensor Intelligence.



Ordering information

Type	part no.
VSPI-2F111	1046732

Other models and accessories → [www.sick.com/Inspector](http://www.sick.com/Inspector)

Detailed technical data

Features

Technology	2D snapshot
Configurable	✓
Toolkit	Object Locator Contour Pixel Counter Edge Pixel Counter
Image sensor	CMOS monochrome
Optical focus	Adjustable focus (manually)
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	S-mount
Optical format	1/3"
Focal length	6 mm
Task	Detecting - Standard objects Measuring - Dimension, contour and volume Measuring - Number Identifying - OCR Identifying - Pattern Determining position - 2D position determination

## Mechanics/electronics

<b>Connection type</b>	M12, 12-pin male connector M12, 4-pin female connector
<b>Supply voltage</b>	24 V DC, $\pm 20\%$
<b>Ripple</b>	$< 5\text{ V}_{\text{pp}}$
<b>Current consumption</b>	$< 450\text{ mA}$ , without output load
<b>Enclosure rating</b>	IP67 <sup>1)</sup>
<b>Housing material</b>	Aluminum
<b>Window material</b>	PMMA
<b>Weight</b>	350 g
<b>Dimensions (L x W x H)</b>	100 mm x 53 mm x 38 mm

<sup>1)</sup> With front window mounted.

## Performance

<b>Sensor properties</b>	
Sensor resolution	384 px x 384 px
<b>Scan/frame rate</b>	40 fps <sup>1)</sup>
<b>Number of inspections</b>	32
<b>Reference images</b>	16 objects

<sup>1)</sup> Max. 250 fps.

## Interfaces

<b>Ethernet</b>	✓, TCP/IP
Data transmission rate	100 Mbit/s
<b>Operator interfaces</b>	Inspector Viewer
<b>Configuration software</b>	SOPAS ET
<b>Data storage and retrieval</b>	Log for 30 images, record images on PC
<b>Digital input</b>	4 inputs (24 V)
<b>Configurable inputs</b>	External trigger, encoder input, External teach, reference object selection
<b>Digital output</b>	3 digital outputs, 24 V (B-type)
<b>Configurable outputs</b>	Output by logical expressions
<b>Output current</b>	$\leq 100\text{ mA}$
<b>Standard outputs</b>	No object detected, Everything OK, Detail error
<b>Maximum encoder frequency</b>	Max. 40 kHz
<b>External illumination</b>	5 V TTL
<b>I/O box extension</b>	4 inputs for object selection, 16 outputs

## Ambient data

<b>Shock load</b>	EN 60068-2-27
<b>Vibration load</b>	IEC 60068-2-6
<b>Ambient operating temperature</b>	0 °C ... +45 °C <sup>1)</sup>
<b>Storage temperature</b>	-20 °C ... +70 °C <sup>1)</sup>

<sup>1)</sup> Relative humidity: 35% ... 85%, 95% in storage.

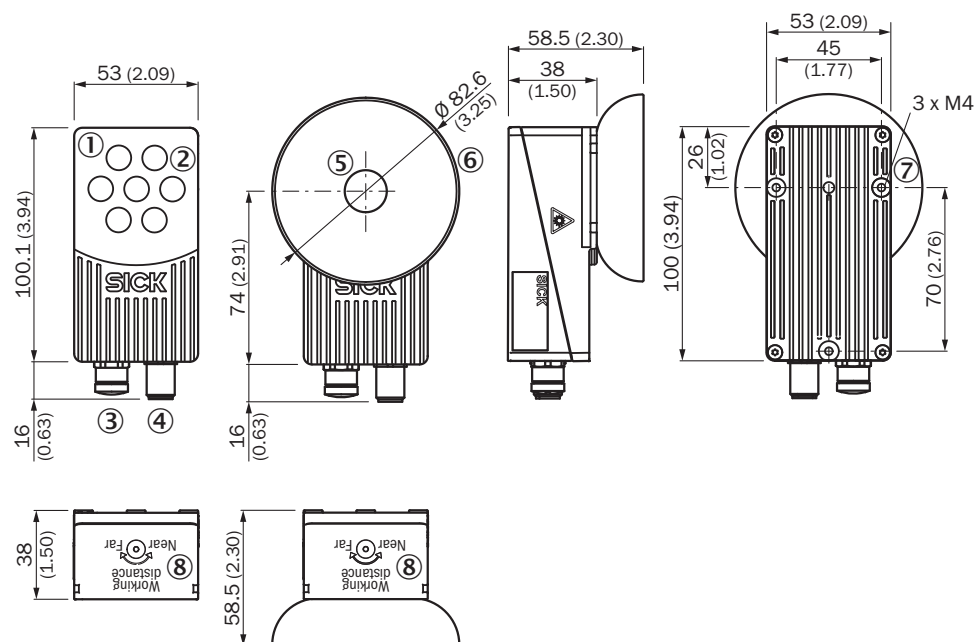
Certificates

<b>EU declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

Classifications

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

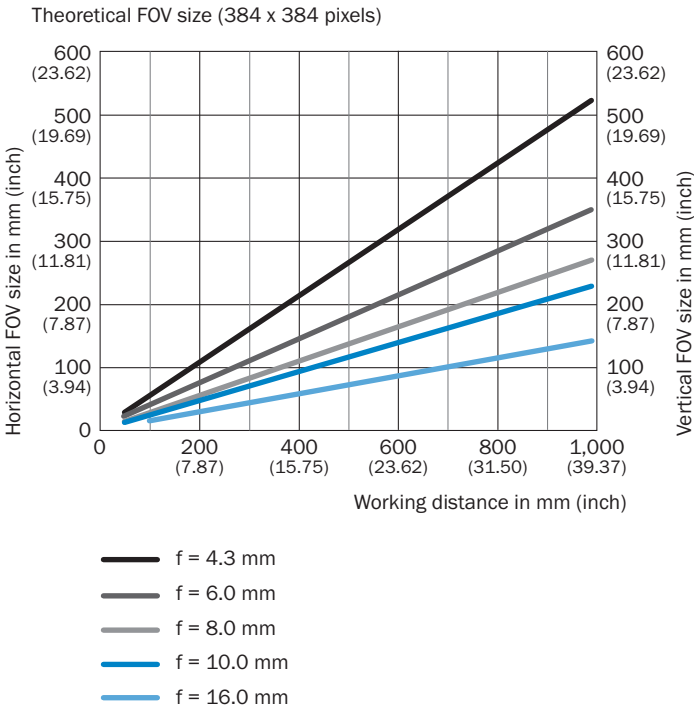
## Dimensional drawing Standard



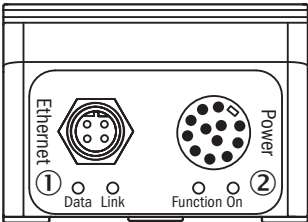
Dimensions in mm (inch)

- 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

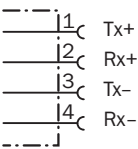


Connection type

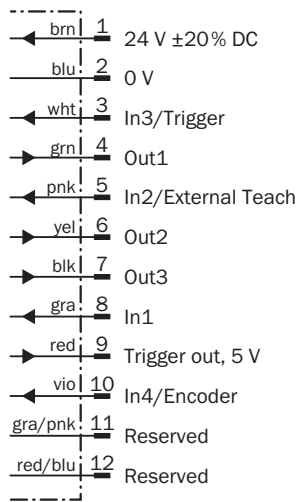


- ① Ethernet connection M12, 4-pin, female
- ② Power connection M12, 12-pin, male

Ethernet connection diagram










## M12 connection diagram, 12-pin



## Recommended accessories

Other models and accessories → [www.sick.com/Inspector](http://www.sick.com/Inspector)

	Brief description	Type	part no.
reflectors and optics			
	<ul style="list-style-type: none"> <li><b>Description:</b> Color filter blue (468 nm ± 62 nm) for variants with exchangeable lens and front window, PMMA</li> </ul>	Inspector Flex blue color filter	2050676
	<ul style="list-style-type: none"> <li><b>Description:</b> Color filter green (544 nm ± 53 nm) for variants with exchangeable lens and front window, PMMA</li> </ul>	Inspector Flex green color filter	2050677
	<ul style="list-style-type: none"> <li><b>Description:</b> Exchangeable lens, focal length 16 mm, including spacer ring</li> </ul>	OBJ-B16018BA	2049418
	<ul style="list-style-type: none"> <li><b>Description:</b> Color filter red for variants with exchangeable lens and front window, PMMA</li> </ul>	Inspector Flex red color filter	2050675
	<ul style="list-style-type: none"> <li><b>Description:</b> Replaces the front screen and generates even and uniform illumination, for glossy surfaces</li> </ul>	Inspector Flex Dome	2050678
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shielded, PROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>	YM2D24-020P-N1MRJA4	2106182
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 12-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 12-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A2B-050UD2XLEAX	2130999

## 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](http://www.sick.com)