



2D vision  
Inspector, Inspector PI-series, Inspector PI50

VSPP-5F2113



**Model Name** > [VSPP-5F2113](#)  
**Part No.** > [1056082](#)



**At a glance**

- High-speed positioning and inspection
- Expanded toolbox for locating taught-in and free-form objects
- Multiple, simultaneous inspection of blobs, patterns, edges and pixel counting
- Easy device cloning via the web interface
- Image calibration, including mm output
- Configurable communication through EtherNet/IP, TCP/IP and EtherCAT
- HMI integration via web API
- Simple, out-of-the-box web server

**Your benefits**

- Powerful yet simple tools enable flexibility in various positioning and inspection applications
- Device cloning saves time in deployment using only standard web browser
- Web interface enables import/export of unlimited number of reference objects, increasing production flexibility
- Ethernet communication and web API gives excellent connectivity and freedom to customize user's HMI
- The built-in web server is an easy and cost-efficient way to monitor the production process
- The image calibration ensures reliable inspection results on moving and rotated objects in tilted setups, or when using wide angle lenses
- Result calibration gives easy-to-use mm data, simplifying alignment and gripping



**Features**

|                   |                                                                                         |
|-------------------|-----------------------------------------------------------------------------------------|
| Task:             | Inspection<br>Positioning                                                               |
| Technology:       | 2D<br>Image analysis<br>Snapshot                                                        |
| Toolset:          | Pattern<br>Blob locator<br>Object locator<br>Polygon<br>Edge pixel count<br>Pixel count |
| Focus:            | Adjustable focus (manually)                                                             |
| Sensor:           | CMOS matrix sensor, gray scale values                                                   |
| Sensing distance: | ≥ 50 mm                                                                                 |

|                                         |                                                        |
|-----------------------------------------|--------------------------------------------------------|
| Working distance internal illumination: | 50 mm ... 200 mm                                       |
| Field of view internal illumination:    | 22 mm x 15 mm ... 79 mm x 58 mm                        |
| Spectral range:                         | Ca. 400 nm ... 750 nm                                  |
| LED class:                              | Risk group 1 (low risk, IEC62471 : 2006)               |
| Focal length:                           | 10 mm                                                  |
| Offline support:                        | Emulator                                               |
| Calibration:                            | Perspective and lens distortion correction, mm results |
| Sensor resolution:                      | 640 px x 480 px                                        |
| Internal lighting:                      | White                                                  |
| Robot coordinate alignment:             | -                                                      |

## Performance

---

|                        |            |
|------------------------|------------|
| Maximum performance:   | 200 fps    |
| Typical performance:   | 40 fps     |
| Number of inspections: | 32         |
| Reference images:      | 32 objects |

## Interfaces

---

|                                    |                                                                                   |
|------------------------------------|-----------------------------------------------------------------------------------|
| Operator interfaces:               | Inspector Viewer, Web server                                                      |
| Data store and retrieve:           | Record images on PC<br>Store images to FTP<br>30 images device log                |
| Ethernet communication:            | Web API                                                                           |
| Digital inputs:                    | 4 inputs (24 V)                                                                   |
| Configurable inputs:               | Reference object selection<br>Encoder input<br>External trigger<br>External teach |
| Digital outputs:                   | 3 outputs, 24 V (B-type)                                                          |
| Configurable outputs:              | Output by logical expressions, Store images to FTP overflow                       |
| Output current:                    | 100 mA                                                                            |
| Default outputs:                   | All pass<br>Any fail<br>No object detected                                        |
| Maximum encoder frequency:         | 40 kHz                                                                            |
| Control of external illumination:  | 5 V TTL                                                                           |
| I/O Box extension:                 | 16 outputs<br>5 x inputs for object selection                                     |
| Serial (RS-232, RS-422):           | -                                                                                 |
| Ethernet:                          | ✓                                                                                 |
| Data transmission rate (Ethernet): | 100 Mbit/s                                                                        |
| Protocol (Ethernet):               | TCP/IP, EtherNet/IP                                                               |
| Configuration software:            | SOPAS                                                                             |

## Mechanics/electronics

---

|                         |                                                           |
|-------------------------|-----------------------------------------------------------|
| Connectors:             | M12, 12-pin male connector<br>M12, 4-pin female connector |
| Supply voltage:         | 24 V DC± 20 %                                             |
| Power consumption:      | < 450 mA Without output load                              |
| Ripple:                 | < 5 Vpp                                                   |
| Enclosure rating:       | IP 67                                                     |
| Housing material:       | Aluminum                                                  |
| Window material:        | PMMA                                                      |
| Dimensions (L x W x H): | 100 mm x 53 mm x 38 mm                                    |

Optics:  
Weight:

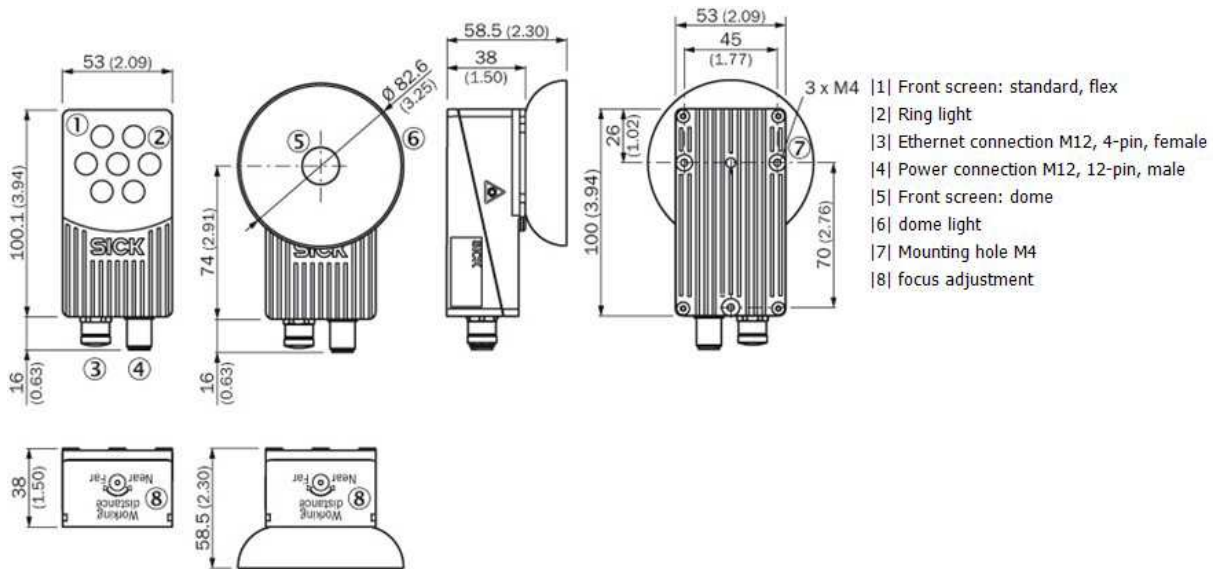
Exchangeable (M12-mount)  
350 g

### Ambient data

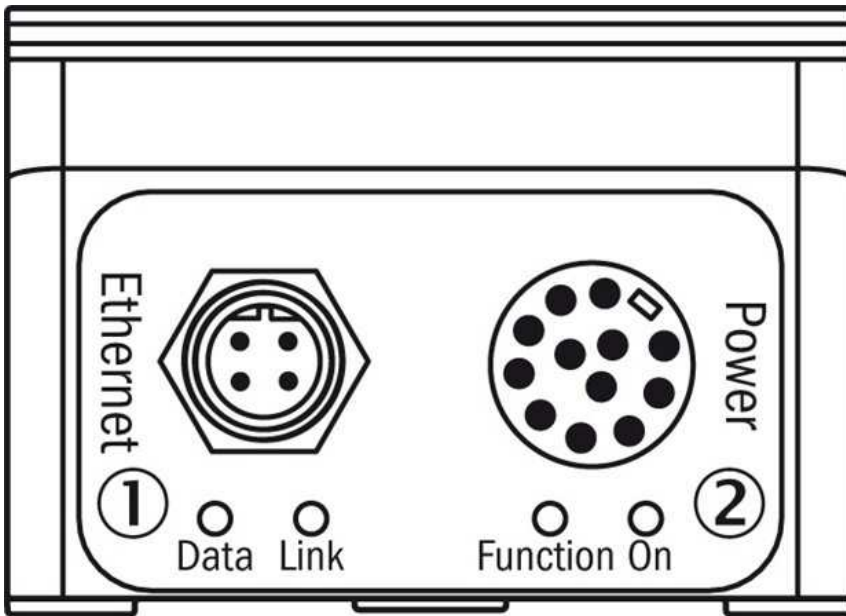
Shock load: EN 60068-2-27  
Vibration load: IEC 60068-2-6  
Ambient operating temperature <sup>1)</sup>: 0 °C ... +45 °C  
Ambient storage temperature <sup>2)</sup>: -20 °C ... +70 °C

1) 2) Relative humidity: 35 % ... 85 %, 95 % at operation

### Dimensional drawing

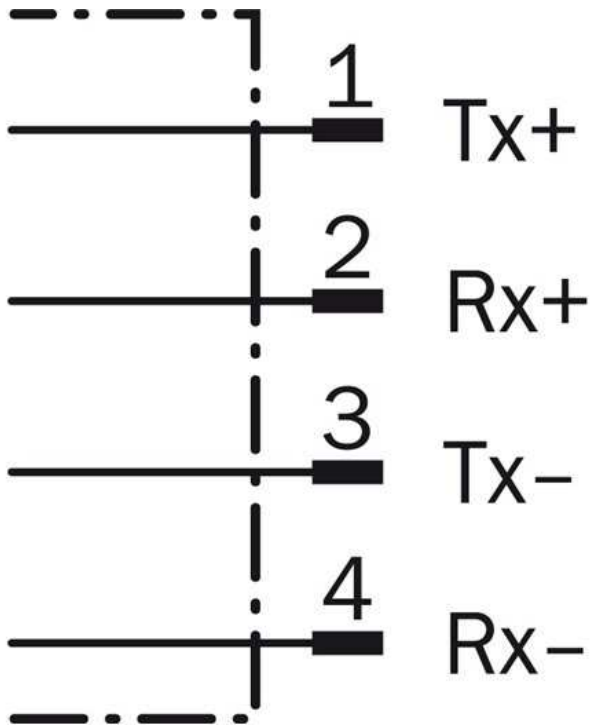


## Connection type



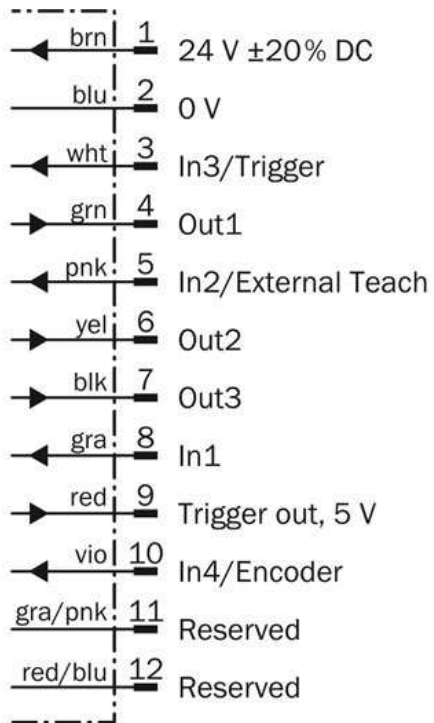
- [1] Ethernet connection M12, 4-pin, female
- [2] Power connection M12, 12-pin, male

## Connection diagram Ethernet



## Connection diagram M12, 12-pin

---



**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)