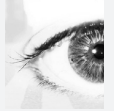




## Vision Sensor PHA200-F200-R3



- Large capture range
- High operating range
- Integrated contrast compensation
- Compact design
- Integrated illumination
- Detects the position of an index hole

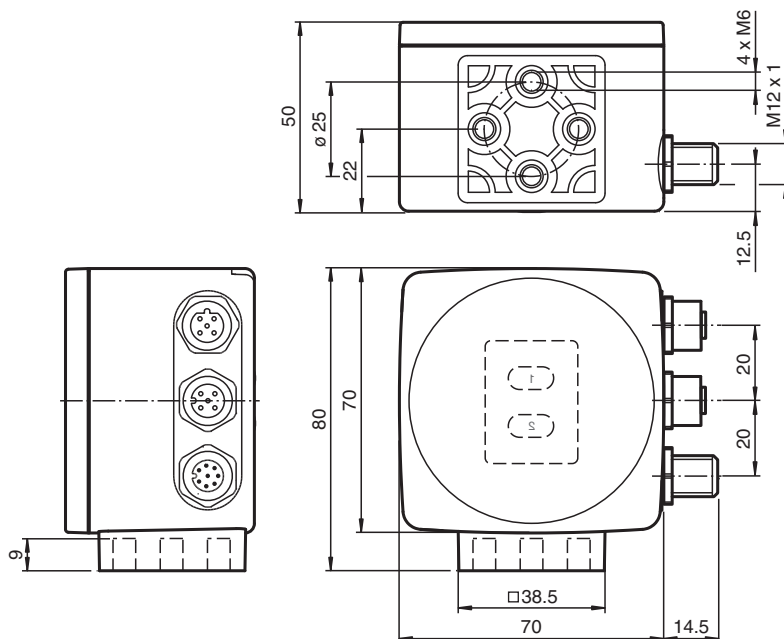
Precision positioning on hole in the 70 mm x 70 mm housing



### Function

The sensor has been developed for the precision positioning of high-bay racking operating equipment. It detects circular holes in the racking structure and their positional deviation from the nominal position. The sensor operates in two dimensions.

### Dimensions



### Technical Data

#### General specifications

|                |                                     |
|----------------|-------------------------------------|
| Light source   | LED                                 |
| Light type     | Integrated LED lightning (infrared) |
| Object size    | Hole diameter 13 mm                 |
| Response delay | 100 ms                              |

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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## Technical Data

|                                                 |                                                                           |
|-------------------------------------------------|---------------------------------------------------------------------------|
| Read distance                                   | 200 mm                                                                    |
| Depth of focus                                  | ± 50 mm                                                                   |
| Capture range                                   | max. 120 mm x 100 mm                                                      |
| <b>Nominal ratings</b>                          |                                                                           |
| Camera                                          |                                                                           |
| Type                                            | CMOS , Global shutter                                                     |
| Number of pixels                                | 752 x 480 pixels                                                          |
| Gray scale                                      | 256                                                                       |
| <b>Functional safety related parameters</b>     |                                                                           |
| MTTF <sub>d</sub>                               | 70 a                                                                      |
| Mission Time (T <sub>M</sub> )                  | 10 a                                                                      |
| Diagnostic Coverage (DC)                        | 0 %                                                                       |
| <b>Indicators/operating means</b>               |                                                                           |
| Operation indicator                             | LED green: Ready for operation                                            |
| Function indicator                              | 4 x LED yellow: +X, -X, +Y, -Y                                            |
| <b>Electrical specifications</b>                |                                                                           |
| Operating voltage                               | U <sub>B</sub> 24 V DC ± 15% , PELV                                       |
| No-load supply current                          | I <sub>0</sub> max. 250 mA                                                |
| Power consumption                               | P <sub>0</sub> 6 W                                                        |
| <b>Interface</b>                                |                                                                           |
| Interface type                                  | serial RS-422                                                             |
| Transfer rate                                   | 9600 ... 230400 Bit/s                                                     |
| <b>Interface 1</b>                              |                                                                           |
| Interface type                                  | Ethernet                                                                  |
| Protocol                                        | TCP/IP                                                                    |
| Transfer rate                                   | 100 MBit/s                                                                |
| Cable length                                    | max. 30 m                                                                 |
| <b>Input</b>                                    |                                                                           |
| Input voltage                                   | to be applied externally 24 V ± 15% PELV                                  |
| Number/Type                                     | Cycle stop, relative stroke                                               |
| Input current                                   | 1.6 mA at 24 V                                                            |
| Switching threshold                             | low: < 10 V, high: > 15 V                                                 |
| Cable length                                    | max. 30 m                                                                 |
| <b>Output</b>                                   |                                                                           |
| Switching type                                  | PNP , short-circuit/overload protected                                    |
| Signal output                                   | +X, -X, +Y, -Y                                                            |
| Switching voltage                               | 24 V                                                                      |
| Switching current                               | max. 100 mA each output                                                   |
| Cable length                                    | max. 30 m                                                                 |
| <b>Compliance with standards and directives</b> |                                                                           |
| Directive conformity                            |                                                                           |
| EMC Directive 2004/108/EC                       | EN 61326-1 , EN 61000-6-4                                                 |
| Standard conformity                             |                                                                           |
| Noise immunity                                  | EN 61326-1:2006                                                           |
| Emitted interference                            | EN 61000-6-4:2007/A1:2011                                                 |
| <b>Approvals and certificates</b>               |                                                                           |
| UL approval                                     | cULus Listed, General Purpose, Class 2 Power Source, Type 1 enclosure     |
| CCC approval                                    | CCC approval / marking not required for products rated ≤36 V              |
| Approvals                                       | CE                                                                        |
| <b>Ambient conditions</b>                       |                                                                           |
| Operating temperature                           | 0 ... 60 °C (32 ... 140 °F) , (noncondensing; prevent icing on the lens!) |
| Storage temperature                             | -20 ... 85 °C (-4 ... 185 °F)                                             |
| Relative humidity                               | 90 % , noncondensing                                                      |

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Technical Data

|                                  |                                                                                                                                 |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Shock resistance                 | < 50 g                                                                                                                          |
| Vibration resistance             | < 3 G , 11 ... 200 Hz                                                                                                           |
| <b>Mechanical specifications</b> |                                                                                                                                 |
| Degree of protection             | IP67                                                                                                                            |
| Connection                       | 8-pin, M12x1 connector, standard (supply+IO) ,<br>5-pin, M12x1 socket, A-coded ( RS-422 ) , 4-pin, M12x1 socket, standard (LAN) |
| <b>Material</b>                  |                                                                                                                                 |
| Housing                          | PC/ABS                                                                                                                          |
| Optical face                     | Plastic pane                                                                                                                    |
| Installation                     | 4 x M6 threading                                                                                                                |
| Mass                             | approx. 160 g                                                                                                                   |

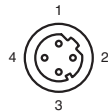
Connection

RS-422



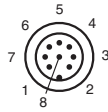
| Pin | Signal |
|-----|--------|
| 1   | RX+    |
| 2   | TX-    |
| 3   | RX-    |
| 4   | TX+    |
| 5   | NC     |

LAN



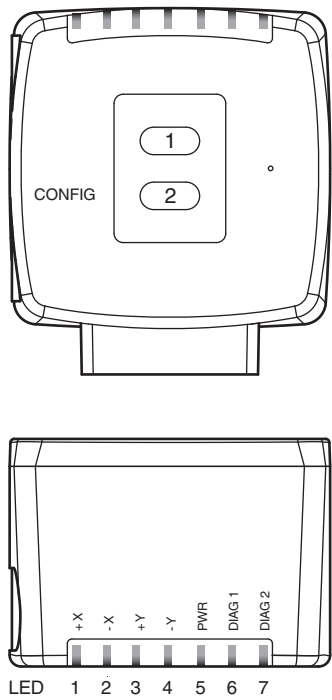
| Pin | Signal       |
|-----|--------------|
| 1   | TX+ Ethernet |
| 2   | RX+ Ethernet |
| 3   | TX- Ethernet |
| 4   | RX- Ethernet |

24 V DC+IO

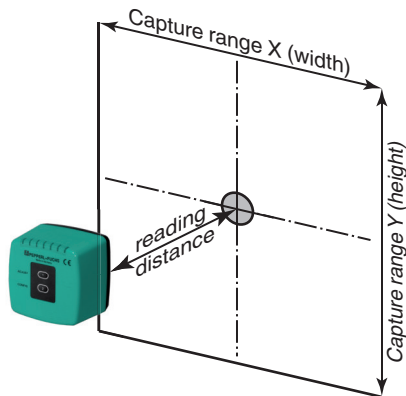


| Pin | Signal |
|-----|--------|
| 1   | OUT +X |
| 2   | +UB    |
| 3   | OUT -Y |
| 4   | OUT +Y |
| 5   | OUT -X |
| 6   | IN 1   |
| 7   | GND    |
| 8   | IN 2   |

Assembly



Characteristic Curve



Accessories

|                                                                                     |                                 |                                                        |
|-------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------|
|  | <b>V19-G-5M-PUR-ABG</b>         | Female cordset, M12, 8-pin, shielded, PUR cable        |
|  | <b>V15S-G-5M-PUR-ABG</b>        | Male cordset, M12, 5-pin, shielded, PUR cable          |
|  | <b>V1SD-G-2M-PUR-ABG-V45-G</b>  | Connection cable, M12 to RJ-45, PUR cable 4-pin, CAT5e |
|  | <b>V1SD-G-2M-PUR-ABG-V45X-G</b> | Connection cable, M12 to RJ-45, PUR cable 4-pin, CAT5e |
|  | <b>PCV-MB1</b>                  | Mounting bracket for PCV* read head                    |

## Accessories

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

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