



# Vision Sensor

## PHA350-F200-R2



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

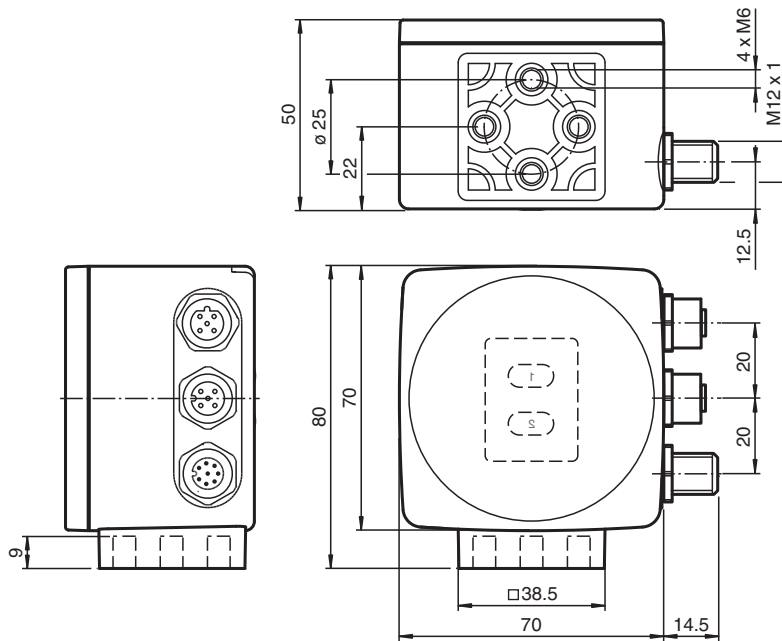
Precision positioning on hole in the 70 mm x 70 mm housing



### 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
Read distance	350 mm

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 256960\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PF** PEPPERL+FUCHS

## Technical Data

Depth of focus		± 50 mm
Capture range		max. 110 mm x 110 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>		65 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
Control elements		none
<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 232
Transfer rate		max. 115.2 kBit/s
Cable length		max. 30 m
<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>Conformity</b>		
Shock resistance		EN 60068-2-27:2009
Vibration resistance		EN 60068-2-6:2008
Emitted interference		EN 61000-6-4:2007+A1:2011
Noise immunity		EN 61326-1:2013
Photobiological safety		exempt group according to EN 62471:2008
<b>Approvals and certificates</b>		
CE conformity		CE
CCC approval		CCC approval / marking not required for products rated ≤36 V
<b>Ambient conditions</b>		
Operating temperature		0 ... 60 °C (32 ... 140 °F) , -20 ... 60 °C (-4 ... 140 °F) (noncondensing; prevent icing on the lens!)
Storage temperature		-20 ... 85 °C (-4 ... 185 °F)

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 256960\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.comUSA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.comGermany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PEPPERL+FUCHS**

**Technical Data**

Relative humidity	90 % , noncondensing
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) , 5-pin, M12x1 socket, standard (RS 232) , 4-pin, M12x1 socket, standard (LAN)
Material	
Housing	PC/ABS
Optical face	Plastic pane
Installation	4 x M6 threading
Mass	approx. 160 g
Dimensions	
Height	70 mm
Width	70 mm
Depth	50 mm

**Connection**

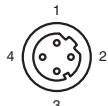
**RS 232**



Pin	Signal
-----	--------

- 1 +UB
- 2 TX RS232
- 3 GND
- 4 RX RS232
- 5 NC

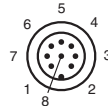
**LAN**



Pin	Signal
-----	--------

- 1 TX+ Ethernet
- 2 RX+ Ethernet
- 3 TX- Ethernet
- 4 RX- Ethernet

**24 V DC+IO**

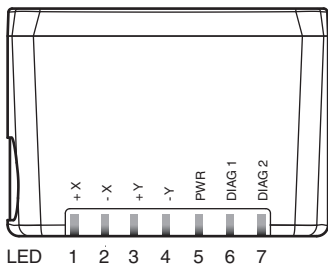
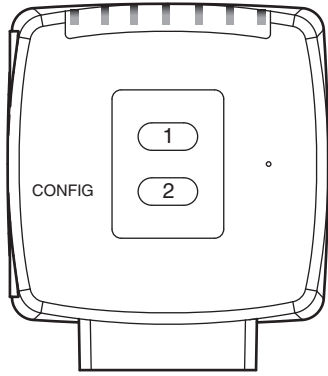


Pin	Signal
-----	--------

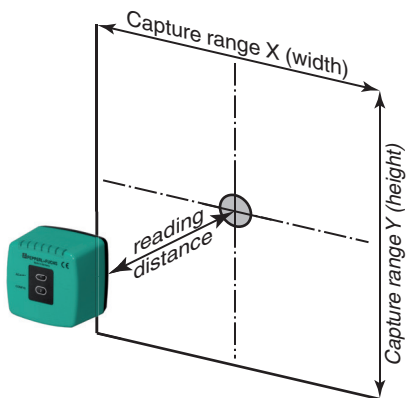
- 1 OUT +X
- 2 +UB
- 3 OUT -Y
- 4 OUT +Y
- 5 OUT -X
- 6 IN 1
- 7 GND
- 8 IN 2

Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 256960\_eng.pdf

**Assembly**



**Characteristic Curve**



Release date: 2024-02-07 Date of issue: 2024-02-07 Filename: 256960\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com