



Vision Sensor

PHA250-F200A-R2-5667



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

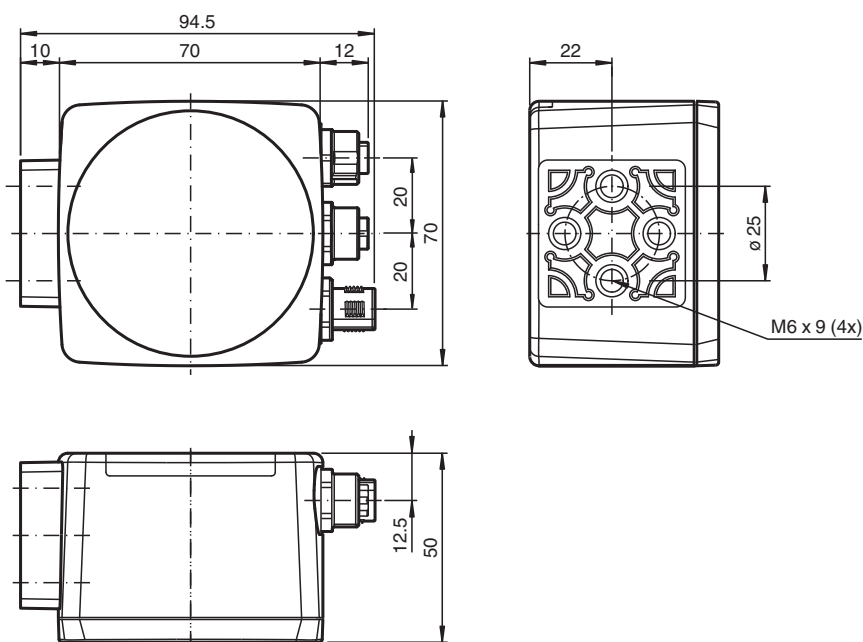
Precision positioning on hole in the 70 mm x 70 mm housing



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	265 mm
Depth of focus	± 50 mm
Relative stroke	-15 mm
Capture range	max. 120 mm x 100 mm
Nominal ratings	
Camera	
Type	CMOS , Global shutter
Number of pixels	752 x 480 pixels
Gray scale	256
Functional safety related parameters	
MTTF _d	70 a
Mission Time (T _M)	10 a
Diagnostic Coverage (DC)	0 %
Indicators/operating means	
Operation indicator	LED green: Ready for operation
Function indicator	4 x LED yellow: +X, -X, +Y, -Y
Control elements	none
Electrical specifications	
Operating voltage	U _B 24 V DC ± 15% , PELV
No-load supply current	I ₀ max. 250 mA
Power consumption	P ₀ 6 W
Interface	
Interface type	serial , RS 232
Transfer rate	max. 115.2 kBit/s
Cable length	max. 30 m
Interface 1	
Interface type	Ethernet
Protocol	TCP/IP
Transfer rate	100 MBit/s
Cable length	max. 30 m
Input	
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
Output	
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
Compliance with standards and directives	
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
Approvals and certificates	
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
Ambient conditions	

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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)
Relative humidity	90 % , noncondensing
Shock resistance	< 50 g
Vibration resistance	< 3 G , 11 ... 200 Hz
Mechanical specifications	
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

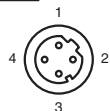
Connection

RS 232



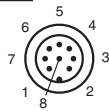
Pin	Signal
1	+UB
2	TX RS232
3	GND
4	RX RS232
5	NC

LAN



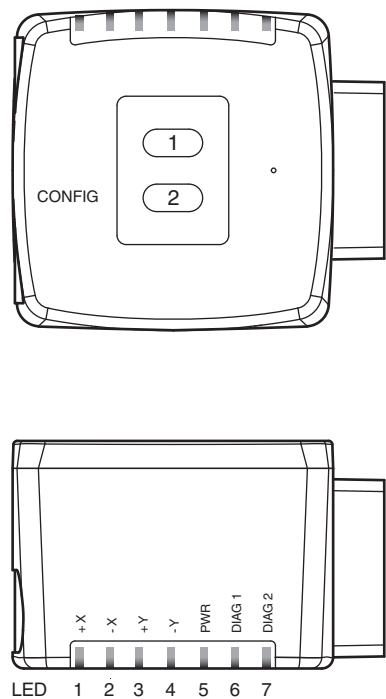
Pin	Signal
1	TX+ Ethernet
2	RX+ Ethernet
3	TX- Ethernet
4	RX- Ethernet

24 V DC+IO

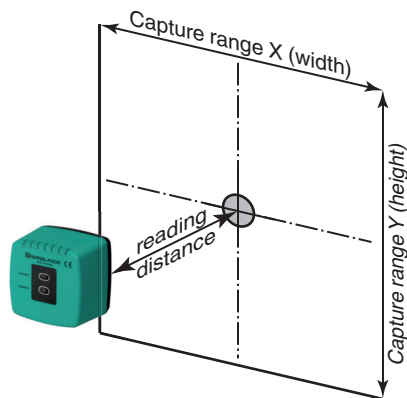


Pin	Signal
1	OUT +X
2	+UB
3	OUT -Y
4	OUT +Y
5	OUT -X
6	IN 1
7	GND
8	IN 2

Assembly



Characteristic Curve



Accessories

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

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Accessories

Other suitable accessories can be found at www.pepperl-fuchs.com

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