



Model Number

PHA150-F200A-R2

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

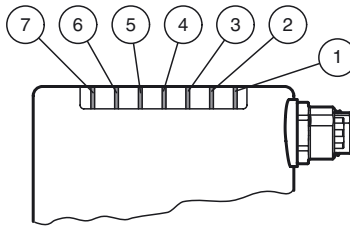
Features

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

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.

Indicating / Operating means



1	LED +X Position	yellow
2	LED -X Position	yellow
3	LED +Y Position	yellow
4	LED -Y Position	yellow
5	LED POWER	green
6	LED DIAG 1	red/yellow
7	LED DIAG 2	red/yellow

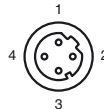
Electrical connection

RS 232



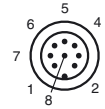
Pin	Signal
1	+UB
2	TX RS232
3	GND
4	RX RS232
5	NC

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

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Technical data**General specifications**

Light source	LED
Light type	Integrated LED lightning (infrared)
Approvals	CE
Object size	Hole diameter 13 mm
Response delay	100 ms
Read distance	150 mm
Depth of focus	± 50 mm
Capture range	90 mm x 90 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

Operating display	LED green: Ready for operation
Function display	4 x LED yellow: +X, -X, +Y, -Y
Controls	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

Ambient conditions

Ambient temperature	0 ... 45 °C (32 ... 113 °F)
Storage temperature	-20 ... 60 °C (-4 ... 140 °F)
Relative humidity	80 % , noncondensing
Shock resistance	< 50 g
Vibration resistance	< 3 G , 11 ... 200 Hz

Mechanical specifications

Protection degree	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

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
Emitted interference	EN 61000-6-4
Protection degree	EN 60529

Accessories**V19-G-5M-PUR-ABG**

Cable socket, 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

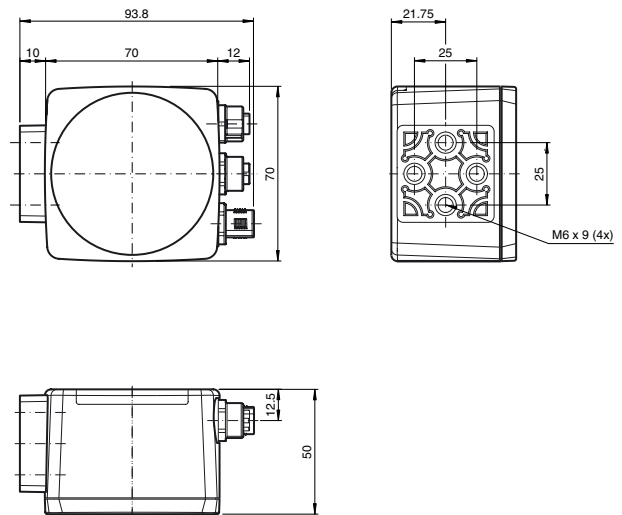
V1SD-G-2M-PUR-ABG-V45X-G

Connection cable, M12 to RJ-45, PUR cable 4-pin, CAT5e

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



Dimensions



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