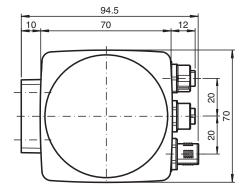


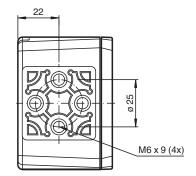
Precision positioning on hole in the 70 mm x 70 mm housing

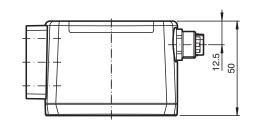
Function

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

5 J.	ntegrated LED lightning (infrared)
Object size	
Object size He	Hole diameter 13 mm
Response delay 10	100 ms
Read distance 50	500 mm

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

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Germany: +49 621 776 1111 fa-info@de.pepperl-fuchs.com Singapore: +65 6779 9091 fa-info@sg.pepperl-fuchs.com



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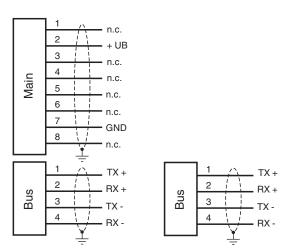
Depth of focus ± 50 mm Capture range max. 90 mm x 90 mm Normial ratings Imax. 90 mm x 90 mm Camera Imax. 90 mm x 90 mm Type OMOS Global shutter Number of pixels 752 x 480 pixels Gray socale 256 Functional safety related parameters Image and the social socic social socic social social social socic social social social	Technical Data		
Nominal ratingsCamoraIIIGamoraIIIITypeOMOS, Global shutterNumber of pixels752 x 480 pixelsGray scale256Functional safety related parametersIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Depth of focus		± 50 mm
Camera CMOS, Global shutter Type CMOS, Global shutter Number of pixels 752 x 480 pixels Gray scale 256 Functional safety related parameters Image: Comparison of the Compariso	Capture range		max. 90 mm x 90 mm
Camera CMOS, Global shutter Type CMOS, Global shutter Number of pixels 752 x 480 pixels Gray scale 256 Functional safety related parameters Image: Comparison of the Compariso	Nominal ratings		
Number of pixels 752 x 480 pixels Gray scale 20 a Functional safety related parameters 20 a Mission Time (T _w) 10 a Diagnostic Coverage (DC) 0% Indicators/Operating means 20 E Control elements EED green: Ready for operation Function indicator 1 LED green: Ready for operation Control elements Button for parameterization Electrical specifications 24 V DC +/- 15 %, PELV Operating voltage U ₈ 24 V DC +/- 15 %, PELV No-load supply current b max. 400 mA Power consumption Po 6 W Interface 100 BASE-TX PROFINET Protocol Protocol PROFINET IO Real-Time (RT) Conformance class A Transfer rate 100 MBit/s 100 MBit/s Standard conformity Noise immunity CCC approval CCC approval Approvals and certificates CCC approval / marking not required for products rated safe V Approvals and certificates	-		
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Functional safety related parameters 20 a MTTF ₀ 20 a Mission Time (T _w) 10 a Diagnostic Coverage (DC) 0 % Indicators/operating means ELED green: Ready for operation Punction indicator LED green: Ready for operation Control elements Button for parameterization Electrical specifications max. 400 mA Power consumption Po Power consumption Po No-load supply current Io No-load supply current Io Power consumption Po Notad supply current Io Power consumption Po Power consumption Po Power consumption Po Power consumption	Number of pixels		752 x 480 pixels
MTTFd20 aMission Time (T_M)10 aDiagnostic Coverage (DC)0 %IndicatorSoperating means0 %Operation indicatorLED green: Ready for operationFunction indicator7 LEDs (communication, alignment aid, status information)Control elementsButton for parameterizationElectrical specificationsElectrical specificationsOperating voltageUg24 V DC +/- 15 %, PELVNo-load supply currentIgmax. 400 mAPower consumptionPo6 WInterface type100 BASE-TX PROFINETProtocolPROFINET ID Real-Time (RT) Conformance class ATransfer rate100 MBit/sStandard conformityEN 61000-6-2:2005Approvals and certificatesCCC approval / marking not required for products rated <36 V	Gray scale		256
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Material PC/ABS Housing PC/ABS Optical face Plastic pane Installation 4 x M6 threading	Mechanical specifications		
Housing PC/ABS Optical face Plastic pane Installation 4 x M6 threading	Degree of protection		IP67
Optical face Plastic pane Installation 4 x M6 threading	Material		
Installation 4 x M6 threading	Housing		PC/ABS
, and the second s	Optical face		Plastic pane
Mass approx. 200 g	Installation		4 x M6 threading
	Mass		approx. 200 g

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

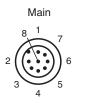
2

Vision Sensor

Connection

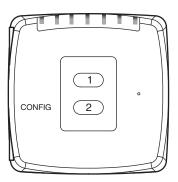


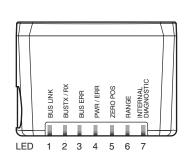
Connection Assignment





Assembly





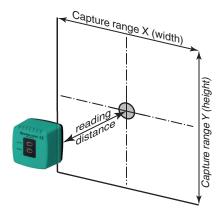
Release date: 2020-03-26 Date of issue: 2020-03-27 Filename: 292696_eng.pdf

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

Pepperl+Fuchs Group www.pepperl-fuchs.com

3

Characteristic Curve



Accessories

	V19-G-5M-PUR-ABG	Female cordset, M12, 8-pin, shielded, PUR cable
2	V1SD-G-2M-PUR-ABG- V1SD-G	Ethernet bus cable, M12 to M12, PUR cable 4-pin, CAT5e
2	V1SD-G-5M-PUR-ABG- V1SD-G	Ethernet bus cable, M12 to M12, PUR cable 4-pin, CAT5e
	PCV-MB1	Mounting bracket for PCV* read head
S.	PCV-SC12A	Grounding clip for PCV system
and a	PCV-SC12	Grounding clip for PCV system
	V19-G-2M-PUR-ABG	Female cordset, M12, 8-pin, shielded, PUR cable

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



Additional Information

General

The PHA... Vision Sensor has been developed for the rack fine positioning of stock feeders. This device detects circular holes in the rack structure and determines the position deviation of these holes in relation to the target position. The Vision Sensor operates in two dimensions.

Mounting and Commissioning

Mount the PHA... Vision Sensor in such a way that the optical surface of the device captures the optimum distance to the carrier/hole (see "Technical Data"). The stability of the Vision Sensor mounting and the manner in which the vehicle is guided must ensure that the device is not operated outside of its depth of focus range.

All Vision Sensors can be adapted to optimally meet specific requirements by means of parameterization.

Indicators and Controls

The PHA... Vision Sensor is equipped with seven indicator LEDs for carrying out visual function checks and rapid diagnostics. The read head is equipped with two buttons at the back for activating the parameterization mode.

LEDs

LED	Color	Labeling	Meaning
1	yellow	BUS LINK	PROFINET communication active
2	yellow	BUS TX / RX	Data transfer
3	red	BUS ERR	PROFINET communication error
4	green/red	PWR/ERR	Fault with power supply/general error
5	yellow	ZERO POS	Zero position reached
6	yellow	RANGE	Within detection/capture range
7	red/green/yell	INTERNAL	Internal diagnostics
	ow	DIAGNOSTIC	

External Parameterization

In order to parameterize the device externally, the parameterization code is required in the form of a data matrix containing the desired parameters. Data matrix code cards detailing the step-by-step process for externally parameterizing the device are printed in the operating instructions for the Vision Sensor.

- The Vision Sensor is switched over from normal operation to parameterization mode using button 2 on the back of the device. To switch the device over, button 2 must be pressed and held for more than two seconds. LED5 then flashes.
 Note: Parameterization mode is exited automatically if the device is inactive for one minute. In this case, the Vision Sensor reverts to normal mode and operates without the settings having been changed.
- Place the parameterization code in the field of vision of the camera module. After the parameterization code is detected, the green LED4 lights up for one second. In the event of an invalid parameterization code, LED4 lights up red for two seconds.
- Briefly pressing button 2 will end parameterization mode. Unsaved changes will be lost.

Accessories

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

