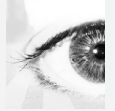




Vision Sensor

PHA650-F200A-R2



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

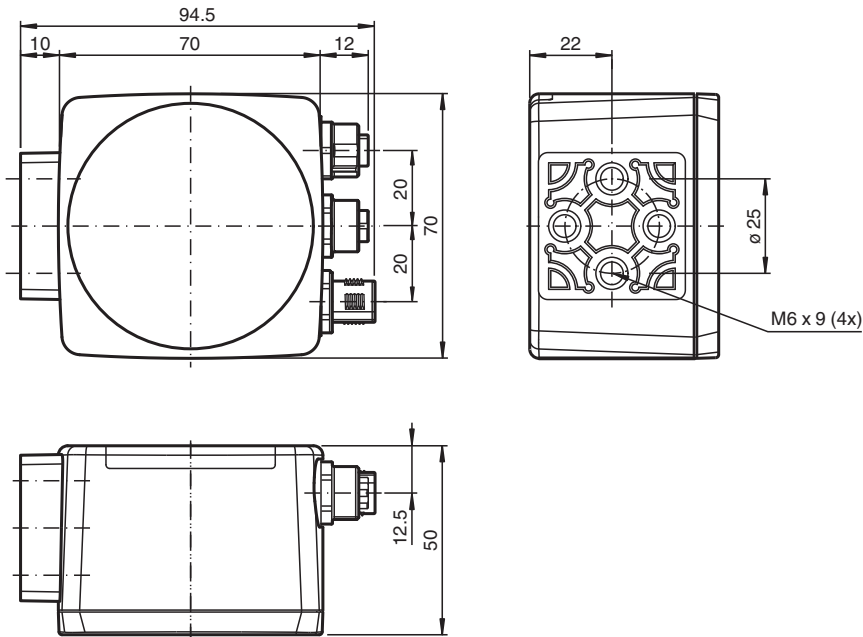
Precision positioning on hole in the 70 mm x 70 mm housing



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 |
| Read distance | 650 mm |

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pf PEPPERL+FUCHS

Technical Data

| | | |
|---|----------------|---|
| Depth of focus | | ± 50 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 | | 65 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 |
| Conformity | | |
| 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 EN 62471:2008 |
| Approvals and certificates | | |
| CE conformity | | CE |
| 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 |
| Ambient conditions | | |
| Operating temperature | | 0 ... 60 °C (32 ... 140 °F) , -20 ... 60 °C (-4 ... 140 °F) (noncondensing; prevent icing on the lens!) |

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PEPPERL+FUCHS

Technical Data

| | |
|----------------------------------|---|
| 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 | |
| Housing width | 70 mm |
| Housing height | 70 mm |
| Housing depth | 50 mm |
| 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 |

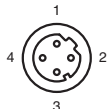
Connection

RS 232



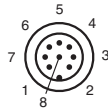
| Pin | Signal |
|-----|----------|
| 1 | +UB |
| 2 | TX RS232 |
| 3 | GND |
| 4 | RX RS232 |
| 5 | NC |

LAN



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

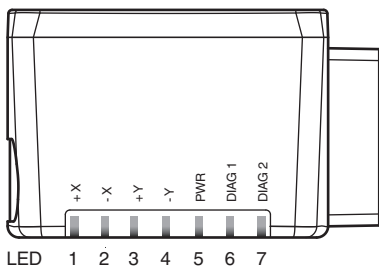
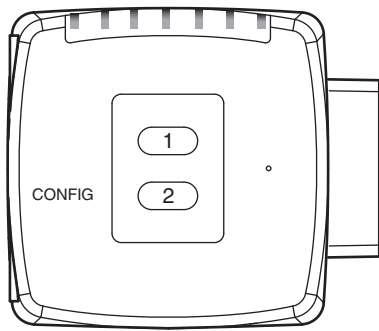
24 V DC+IO



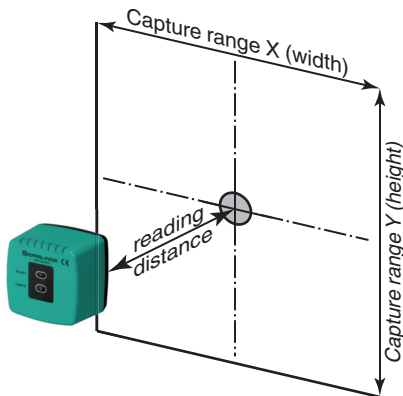
| Pin | Signal |
|-----|--------|
| 1 | OUT +X |
| 2 | +UB |
| 3 | OUT -Y |
| 4 | OUT +Y |
| 5 | OUT -X |
| 6 | IN 1 |
| 7 | GND |
| 8 | IN 2 |

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Assembly



Characteristic Curve



Accessories

| | | |
|---|---------------------------------|---|
|  | V19-G-5M-PUR-ABG | Female cordset single-ended M12 straight A-coded, 8-pin, PUR cable grey, shielded |
|  | V15S-G-5M-PUR-ABG | Male cordset single-ended M12 straight A-coded, 5-pin, PUR cable grey, shielded |
|  | 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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