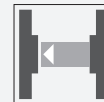




## Thru-beam sensor (pair) OBE500-R2F-SE2-0,2M-V31

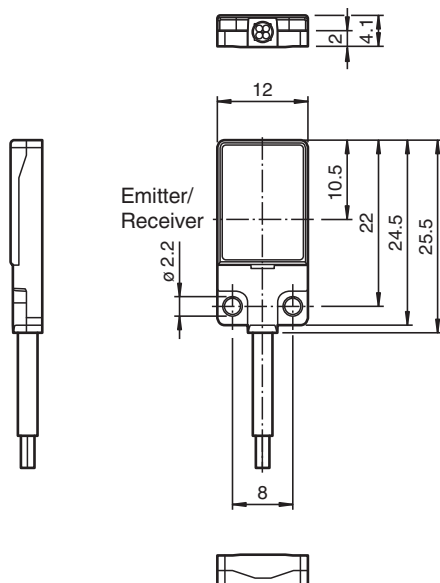


- Very flat design for direct mounting without mounting bracket
- Very bright, highly visible light spot

Thru-beam sensor, flat design, space-saving M2 mounting, 500 mm detection range, red light, dark on, PNP output, with 0.2 m fixed cable and M8 plug, 4-pin



### Dimensions



### Technical Data

#### System components

|          |                        |
|----------|------------------------|
| Emitter  | OBE500-R2F-S-0,2M-V31  |
| Receiver | OBE500-R2F-E2-0,2M-V31 |

#### General specifications

|                           |                                      |
|---------------------------|--------------------------------------|
| Effective detection range | 0 ... 500 mm                         |
| Threshold detection range | 700 mm                               |
| Light source              | LED                                  |
| Light type                | modulated visible red light , 630 nm |

Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 263381\_eng.pdf

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

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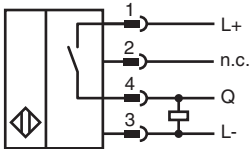
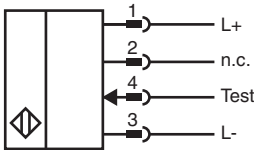
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**PEPPERL+FUCHS**

## Technical Data

|                                             |                |                                                                                                                                                   |
|---------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| LED risk group labelling                    |                | exempt group                                                                                                                                      |
| Angle deviation                             |                | approx. 2 °                                                                                                                                       |
| Object size                                 |                | typ. starts from 1.5 mm                                                                                                                           |
| Diameter of the light spot                  |                | approx. 90 mm at a distance of 500 mm                                                                                                             |
| Opening angle                               |                | approx. 5 °                                                                                                                                       |
| Optical face                                |                | frontal                                                                                                                                           |
| Ambient light limit                         |                | EN 60947-5-2 : 25000 Lux                                                                                                                          |
| <b>Functional safety related parameters</b> |                |                                                                                                                                                   |
| MTTF <sub>d</sub>                           |                | 806 a                                                                                                                                             |
| Mission Time (T <sub>M</sub> )              |                | 20 a                                                                                                                                              |
| Diagnostic Coverage (DC)                    |                | 0 %                                                                                                                                               |
| <b>Indicators/operating means</b>           |                |                                                                                                                                                   |
| Operation indicator                         |                | LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)                                                            |
| Function indicator                          |                | Receiver: LED yellow, lights up when light beam is free, flashes when falling short of the stability control ; OFF when light beam is interrupted |
| <b>Electrical specifications</b>            |                |                                                                                                                                                   |
| Operating voltage                           | U <sub>B</sub> | 10 ... 30 V DC                                                                                                                                    |
| No-load supply current                      | I <sub>0</sub> | Emitter: ≤ 11 mA<br>Receiver: ≤ 8 mA                                                                                                              |
| Protection class                            |                | III                                                                                                                                               |
| <b>Input</b>                                |                |                                                                                                                                                   |
| Test input                                  |                | Test of switching function at 0 V                                                                                                                 |
| <b>Output</b>                               |                |                                                                                                                                                   |
| Switching type                              |                | NO contact / dark-on                                                                                                                              |
| Signal output                               |                | 1 PNP output, short-circuit protected, reverse polarity protected, open collector                                                                 |
| Switching voltage                           |                | max. 30 V DC                                                                                                                                      |
| Switching current                           |                | max. 50 mA , resistive load                                                                                                                       |
| Voltage drop                                | U <sub>d</sub> | ≤ 1.5 V DC                                                                                                                                        |
| Switching frequency                         | f              | approx. 1 kHz                                                                                                                                     |
| Response time                               |                | 500 μs                                                                                                                                            |
| <b>Conformity</b>                           |                |                                                                                                                                                   |
| Product standard                            |                | EN 60947-5-2                                                                                                                                      |
| <b>Approvals and certificates</b>           |                |                                                                                                                                                   |
| EAC conformity                              |                | TR CU 020/2011                                                                                                                                    |
| UL approval                                 |                | E87056 , cULus Recognized, Class 2 Power Source                                                                                                   |
| CCC approval                                |                | CCC approval / marking not required for products rated ≤36 V                                                                                      |
| <b>Ambient conditions</b>                   |                |                                                                                                                                                   |
| Ambient temperature                         |                | -20 ... 60 °C (-4 ... 140 °F)                                                                                                                     |
| Storage temperature                         |                | -20 ... 70 °C (-4 ... 158 °F)                                                                                                                     |
| <b>Mechanical specifications</b>            |                |                                                                                                                                                   |
| Housing width                               |                | 12 mm                                                                                                                                             |
| Housing height                              |                | 25.5 mm                                                                                                                                           |
| Housing depth                               |                | 4.1 mm                                                                                                                                            |
| Degree of protection                        |                | IP67                                                                                                                                              |
| Connection                                  |                | 200 mm fixed cable with 4-pin, M8x1 connector                                                                                                     |
| Material                                    |                |                                                                                                                                                   |
| Housing                                     |                | PC (Polycarbonate) and Stainless steel                                                                                                            |
| Optical face                                |                | PMMA                                                                                                                                              |
| Cable                                       |                | PUR                                                                                                                                               |
| Mass                                        |                | approx. 10 g per sensor                                                                                                                           |
| Tightening torque, fastening screws         |                | 0.25 Nm                                                                                                                                           |
| Cable length                                |                | 200 mm                                                                                                                                            |

Connection



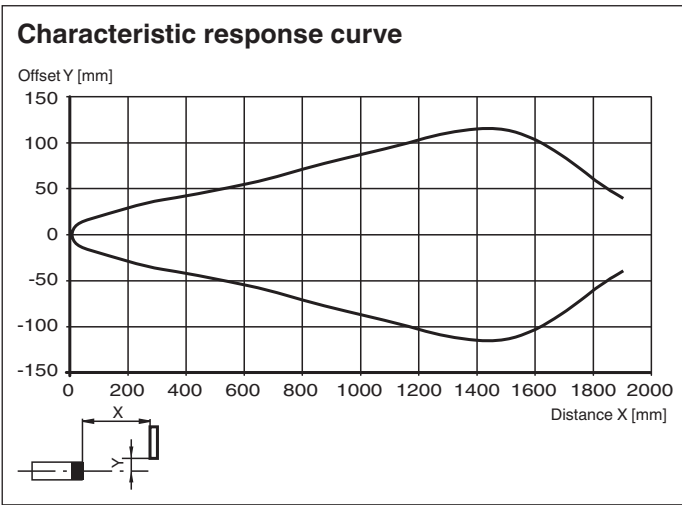
Connection Assignment



Wire colors in accordance with EN 60947-5-2

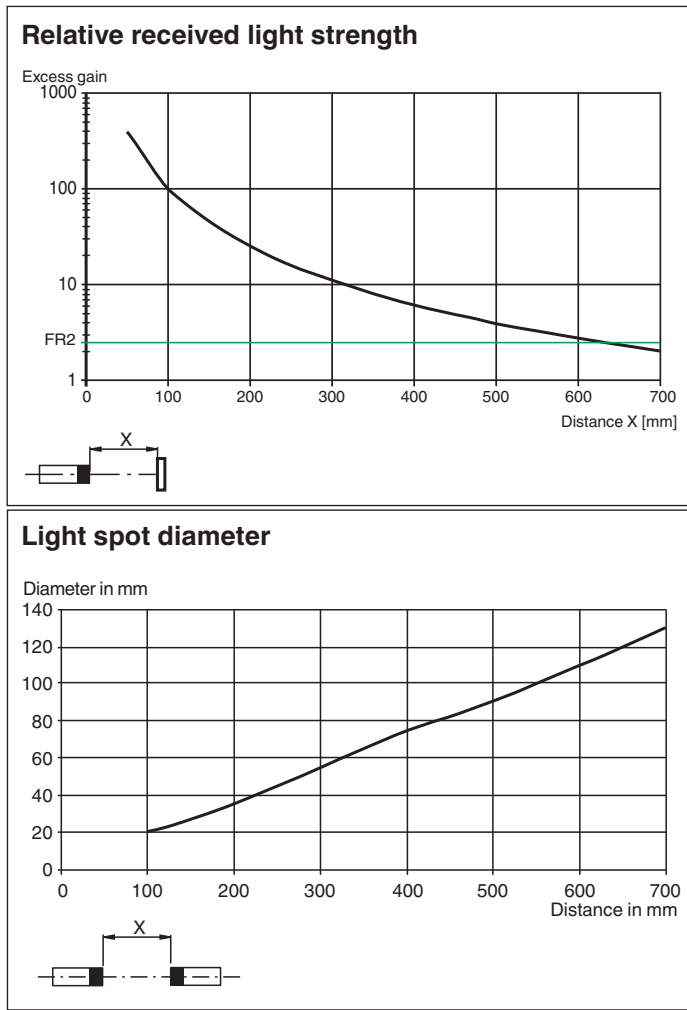
|   |    |         |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |

Characteristic Curve



Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 263381\_eng.pdf

Characteristic Curve



Accessories

|                                                                                     |                      |                                                                        |
|-------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------|
|  | <b>V31-GM-2M-PUR</b> | Female cordset single-ended M8 straight A-coded, 4-pin, PUR cable grey |
|  | <b>V31-WM-2M-PUR</b> | Female cordset single-ended M8 angled A-coded, 4-pin, PUR cable grey   |

Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 263381\_eng.pdf