



Retroreflective sensor OBR1000-R3-E0-P



- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Integrated polarization filter allows the detection of reflective objects
- Extremely long detection range paves the way for new applications

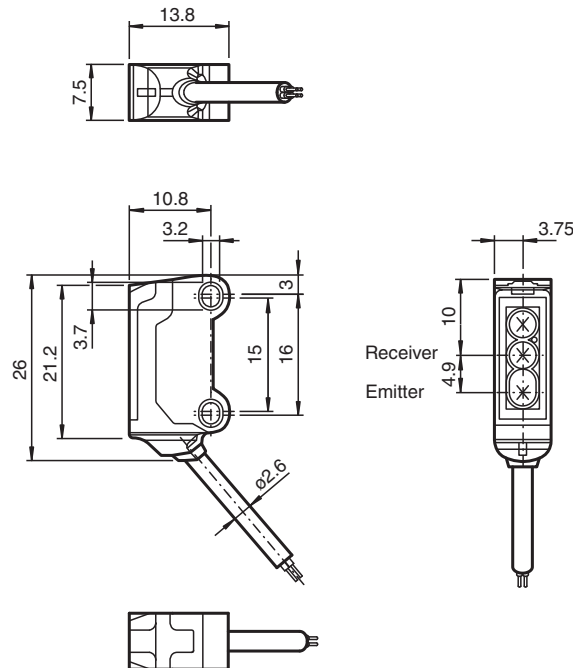
Retroreflective sensor for standard applications, miniature design, polarization filter, 1000 mm detection range, red light, dark on, NPN output, 2 m fixed cable



Function

The nano sensor has been developed for a broad range of applications. It offers excellent durability and is exceptionally easy to install. The housing is compact and, with its 45° cable outlet, can be installed in the smallest spaces. New functional principles and functionality open up a range of new options.

Dimensions



Technical Data

General specifications

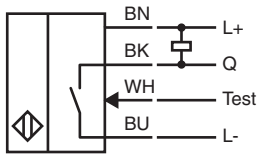
| | |
|---------------------------|----------------|
| Effective detection range | 0 ... 1 m |
| Reflector distance | 40 ... 1000 mm |
| Threshold detection range | 1.4 m |
| Reference target | H40 reflector |

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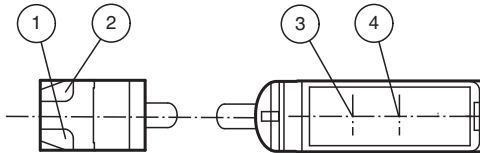
Technical Data

| | | |
|---|---|--------------------------|
| Light source | LED | |
| Light type | modulated visible red light , 630 nm | |
| Polarization filter | yes | |
| Angle deviation | approx. 2 ° | |
| Diameter of the light spot | approx. 60 mm at a distance of 800 mm | |
| Opening angle | approx. 2 ° | |
| Optical face | frontal | |
| Ambient light limit | EN 60947-5-2 : 30000 Lux | |
| Functional safety related parameters | | |
| MTTF _d | 800 a | |
| Mission Time (T _M) | 20 a | |
| Diagnostic Coverage (DC) | 0 % | |
| Indicators/operating means | | |
| Operation indicator | LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz) | |
| Function indicator | LED yellow: lights up when receiving the light beam ; flashes when falling short of the operating reserve; OFF when light beam is interrupted | |
| Electrical specifications | | |
| Operating voltage | U _B | 10 ... 30 V DC , class 2 |
| No-load supply current | I ₀ | < 10 mA |
| Input | | |
| Test input | Test of switching function at 0 V | |
| Output | | |
| Switching type | NO contact / dark-on | |
| Signal output | 1 NPN 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 _d | ≤ 1.5 V DC |
| Switching frequency | f | approx. 800 Hz |
| Response time | 600 μs | |
| Conformity | | |
| Product standard | EN 60947-5-2 | |
| Approvals and certificates | | |
| UL approval | cULus Recognized, Class 2 Power Source | |
| CCC approval | CCC approval / marking not required for products rated ≤36 V | |
| Ambient conditions | | |
| Ambient temperature | -25 ... 60 °C (-13 ... 140 °F) | |
| Storage temperature | -30 ... 70 °C (-22 ... 158 °F) | |
| Mechanical specifications | | |
| Housing width | 7.5 mm | |
| Housing height | 26 mm | |
| Housing depth | 13.8 mm | |
| Degree of protection | IP67 | |
| Connection | 2 m fixed cable | |
| Material | | |
| Housing | PC/ABS and TPU | |
| Optical face | PMMA | |
| Cable | PUR | |
| Mass | approx. 20 g | |
| Cable length | 2 m | |

Connection

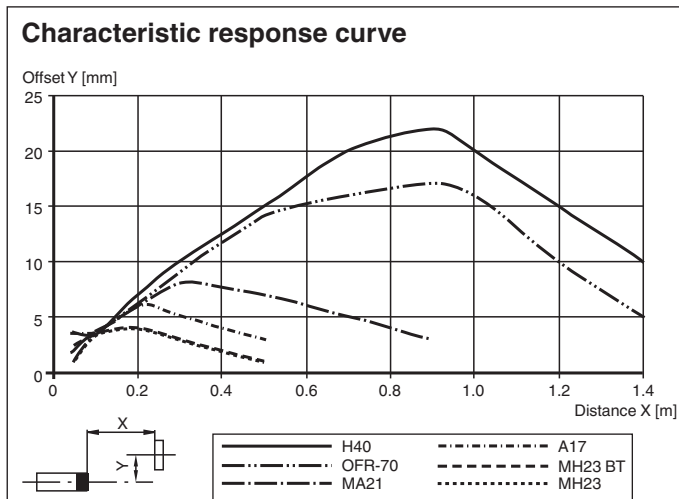


Assembly



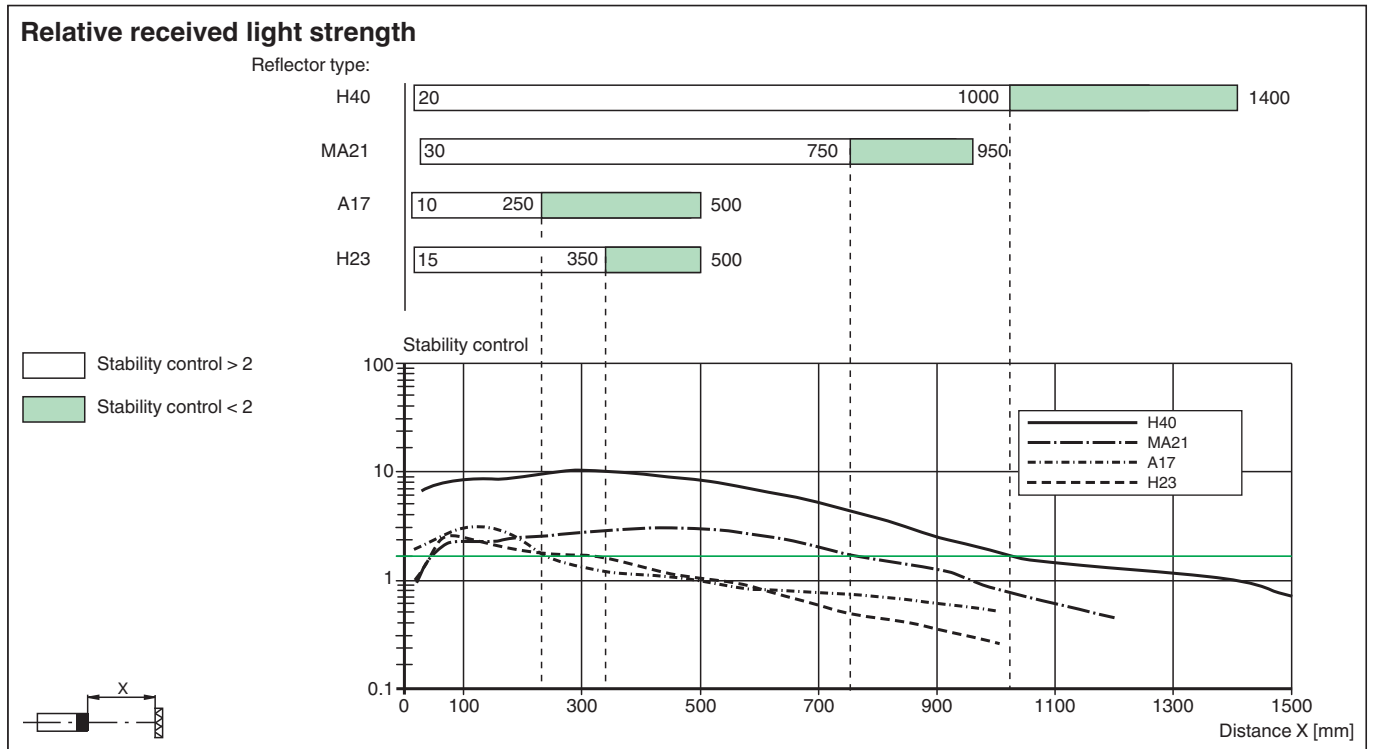
| | | |
|---|-------------------|--------|
| 1 | Operating display | green |
| 2 | Signal display | yellow |
| 3 | Emitter | |
| 4 | Receiver | |

Characteristic Curve



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Characteristic Curve



Accessories

| | | |
|--|-----------------|---|
| | MH-R3-01 | Mounting aid for sensors from the R3 series, mounting bracket |
| | MH-R3-02 | Mounting aid for sensors from the R3 series, mounting bracket |
| | MH-R3-03 | Mounting aid for sensors from the R3 series, mounting bracket |
| | MH-R3-04 | Mounting aid for sensors from the R3 series, mounting bracket |