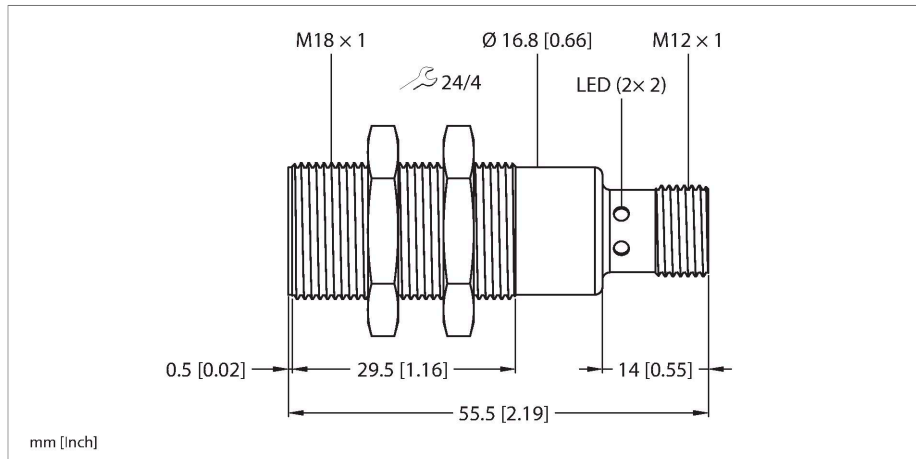


RU80D-M18M-UPN8X2-H1141

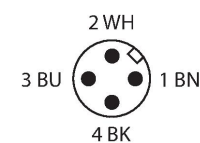
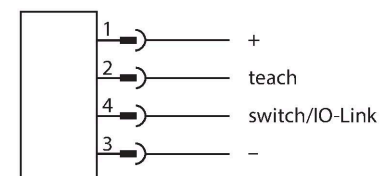
Ultrasonic Sensor – Diffuse Mode Sensor



Features

- Smooth sonic transducer face
- M18 cylindrical design, potted
- Connection via M12 × 1 male connector
- Measuring range adjustable via teach-in
- Temperature compensation
- Blind zone: 8 cm
- Range: 80 cm
- Resolution: 1 mm
- Adjustable switching hysteresis
- Narrow sonic cone
- Switching output, push-pull (PNP/NPN)
- NO/NC programmable
- IO-Link

Wiring diagram



Functional principle

Ultrasonic sensors detect a multitude of objects contactlessly and wear free with

Technical data

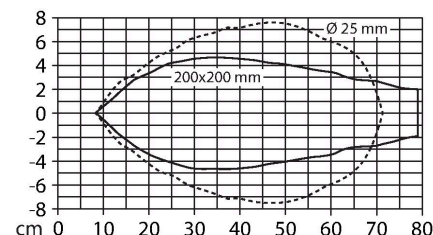
| | |
|--------------------------------------|----------------------------------|
| Type | RU80D-M18M-UPN8X2-H1141 |
| ID | 100039008 |
| Ultrasonic data | |
| Function | Proximity |
| Range | 80...800 mm |
| Resolution | 1 mm |
| Minimum switching range | 10 mm |
| Ultrasound frequency | 400 kHz |
| Repeat accuracy | ≤ 0.15 % of full scale |
| Temperature drift | ± 1.5 % of full scale |
| Linearity error | ≤ ± 0.5 % |
| Edge lengths of the nominal actuator | 200 mm |
| Electrical data | |
| Operating voltage U_b | 18...30 VDC |
| Residual ripple | 10 % U_{ss} |
| DC rated operating current I_o | ≤ 150 mA |
| No-load current | ≤ 40 mA |
| Load resistance | ≤ 1000 Ω |
| Residual current | ≤ 0.1 mA |
| Readiness delay | ≤ 300 ms |
| Communication protocol | IO-Link |
| Output function | NO/NC, PNP/NPN |
| Output 1 | Switching output or IO-Link mode |

Technical data

| | |
|---------------------------------------|---|
| Switching frequency | ≤ 5 Hz |
| Hysteresis | ≤ 2 mm |
| Voltage drop at I _o | ≤ 2.5 V |
| Short-circuit protection | yes/Cyclic |
| Reverse polarity protection | yes |
| Wire breakage protection | yes |
| Setting option | Remote Teach IO-Link |
| IO-Link | |
| IO-Link specification | V 1.1 |
| IO-Link port type | Class A |
| Communication mode | COM 2 (38.4 kBaud) |
| Process data width | 16 bit |
| Measured value information | 15 bit |
| Switchpoint information | 1 bit |
| Frame type | 2.2 |
| Minimum cycle time | 2 ms |
| Function pin 4 | IO-Link |
| Function Pin 2 | DI |
| Maximum cable length | 20 m |
| Profile support | Smart Sensor Profile |
| Mechanical data | |
| Design | Threaded barrel, M18 |
| Radiation direction | straight |
| Dimensions | Ø 18 x 55.5 mm |
| Housing material | Metal, CuZn, Nickel Plated |
| Max. tightening torque of housing nut | 20 Nm |
| Transducer material | Plastic, Epoxyd resin and PU foam |
| Electrical connection | Connector, M12 × 1, 4-wire |
| Ambient temperature | -25...+70 °C |
| Storage temperature | -40...+80 °C |
| Pressure resistance | 0.5...5 bar |
| Protection class | IP67 |
| Power-on indication | LED, Green |
| Switching state | LED, Yellow |
| Object detected | LED, Yellow |
| Tests/approvals | |
| MTTF | 677 years acc. to SN 29500 (Ed. 99) 40 °C |

ultrasonic waves. It does not matter whether the object is transparent or opaque, metallic or non-metallic, firm, liquid or powdery. Even environmental conditions such as spray, dust or rain hardly affect their function.

Sonic Cone

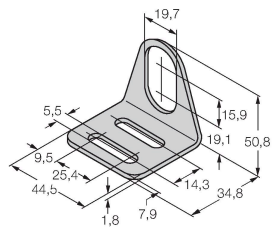


Technical data

| | |
|--------------------------------------|--------------|
| Declaration of conformity EN ISO/IEC | EN 60947-5-2 |
| Approvals | CE cULus |

Accessories

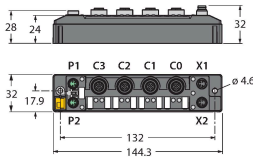
| | |
|------|---------|
| MW18 | 6945004 |
|------|---------|



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

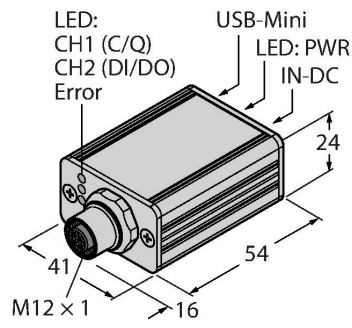
Accessories

| Dimension drawing | Type | ID | |
|-------------------|------|----|--|
|-------------------|------|----|--|



| | | |
|--------------|---------|--|
| TBEN-S2-4IOL | 6814024 | Compact multiprotocol I/O module, 4 IO-Link Master 1.1 Class A, 4 universal PNP digital channels 0.5 A |
|--------------|---------|--|

| | | |
|----------------|---------|---|
| USB-2-IOL-0002 | 6825482 | IO-Link Master with integrated USB port |
|----------------|---------|---|



RU80D-M18M-UPN8X2-H1141| 03/05/2025 13-57 | technical changes reserved

| Dimension drawing | Type | ID | |
|-------------------|---------|----------|---------------|
| | VB2-SP1 | A3501-29 | Teach adapter |

