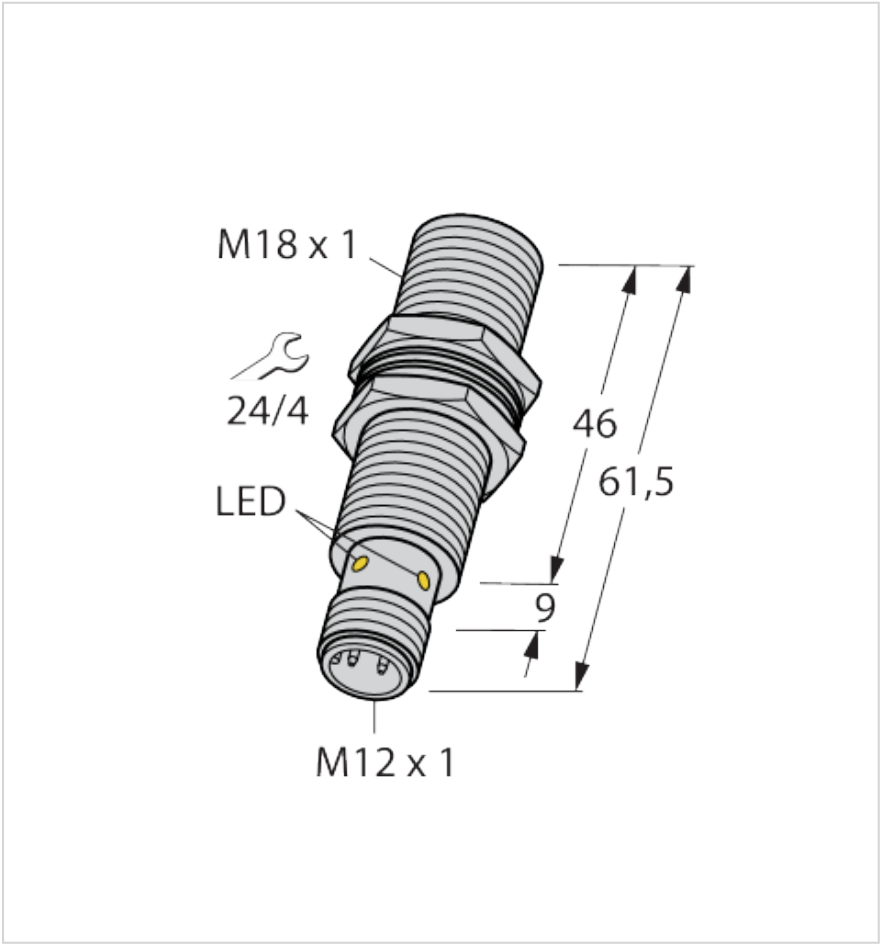
**BI8U-EM18MWD-VP6X-H1141**

# Inductive Sensor
## For the food industry




| Type designation | BI8U-EM18MWD-VP6X-H1141 |
|---|---|
| Ident-No. | 100000635 |

## Technical data

| | |
|---|---|
| **Application area** | |
| Magnetic field immune | Immune to magnetic AC and DC fields |
| **Detection area/measuring range** | |
| Rated switching distance | 8 mm |
| Secured operating distance | ≤ (0.81 × Sn) mm |
| **Power supply** | |
| Operating voltage $U_B$ | 10...30 VDC |

## Features

- M18 × 1 threaded barrel
- Stainless steel, 1.4404
  - Front cap made of liquid crystal polymer
  - Factor 1 for all metals
  - Resistant to magnetic fields
  - For temperatures of -40 °C…+100 °C
  - High protection class IP69K for harsh environments
  - Special double-lip seal
  - Protection against all common acidic and alkaline cleaning agents
  - Laser engraved label, permanently legible
  - DC 4-wire, 10…30 VDC

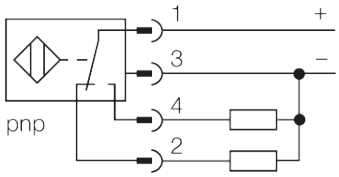
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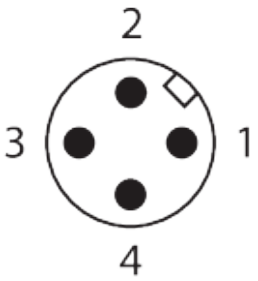
## Technical data

| | |
|---|---|
| Voltage drop at $I_e$ | ≤ 1,8 V |
| **Electrical data** | |
| AC field stability | 300 $mT_{SS}$ |
| No-load current | 25 mA |
| Output function | 4-wire, Complementary contact, PNP |
| Short-circuit protection | yes/Cyclic |
| Wire break/reverse polarity protection | yes/Complete |
| DC field stability | 300 mT |
| DC rated operational current | ≤ 200 mA |
| Isolation test voltage | ≤ 0,5 kV |
| Residual current | ≤ 0,1 mA |
| Residual ripple | ≤ 10 % $U_{ss}$ |
| Switching frequency | 1,5 kHz |
| **Accuracy/deviation** | |
| Hysteresis | 3 % v. E...15 % v. E. |
| Temperature drift | 10 % |
| Repeat accuracy | ≤ 2 % v. E. |
| | ≤ ± 20 %, ≤ -25 °C , ≥ +70 °C |
| **Mechanical data** | |
| Design | Threaded barrel, M18 x 1 |
| Construction type designation | EM18MWD |
| | ⌀ 18 mm |
| Housing material | Stainless steel, 1.4404 (AISI 316L) |
| Active area material | Plastic, LCP |
| Connector housing | plastic, PP |
| Admissible pressure on front cap | ≤ 15 bar |
| Max. tightening torque of housing nut | 25 Nm |
| Electrical connection | Connector, M12 x 1 |
| Number of pins | 4 |
| Pressure resistant | no |
| Thread length | 46 mm |
| Thread size | M18 × 1 |
| Mounting conditions | Flush |
| **Ambient conditions** | |
| Ambient temperature | -40...+100 °C |
| Pollution degree | 3 |
| Shock resistance | 30 g (11 ms) |

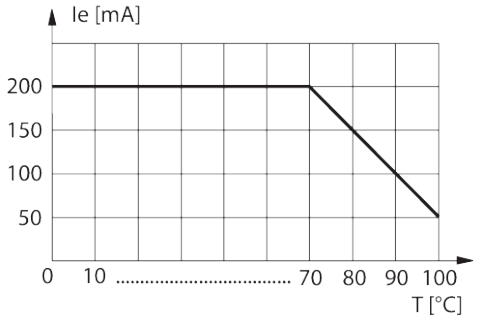
- Complementary contact, PNP output
- Connector, M12 × 1

## Wiring Diagram




## Derating Curve




## Functional principle

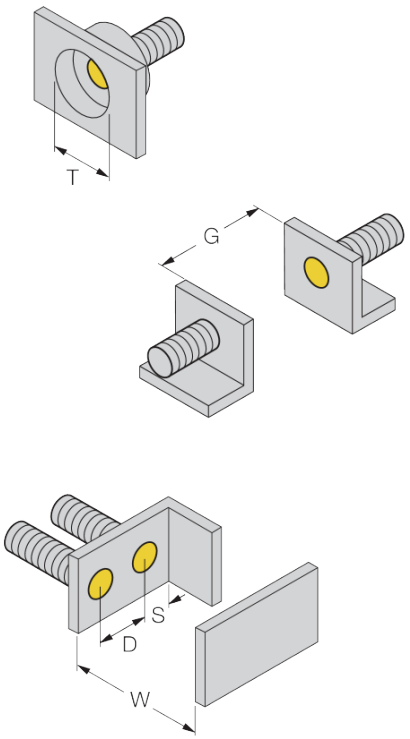
The inductive sensors for the food industry are absolutely tight and resistant to cleaning agents and disinfectants. The requirements of the protection classes IP68 and IP69K are far exceeded by the uprox®+ sensors. They are safely protected and robustly designed with LCP front cap and stainless steel housing.

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## Technical data

| | |
|---|---|
| Vibration resistance | 55 Hz (1 mm) |
| Protection class | IP68 IP69K |
| **Tests/approvals** | |
| MTTF | 874 Years acc. to SN 29500 (Ed. 99) 40 °C |
| **Displays/controls** | |
| Switching state | LED, Yellow |

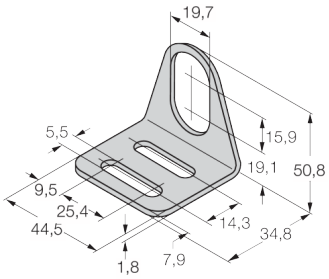
## Assembly instructions

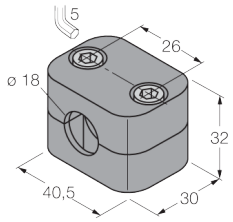


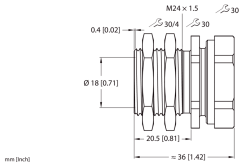

Distance D: 36 mm
Distance W: 3 x Sn
Distance T: 3 x B
Distance S: 1.5 x B
Distance G: 6 x Sn
Diameter active area B: 18 mm
Installation information:
All flush-mountable uprox+ threaded barrel types can also be mounted recessed. Safe operation is ensured if it is mounted recessed by half a screw turn.

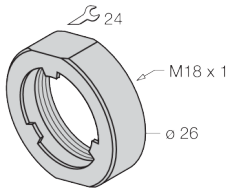
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## Mounting accessories

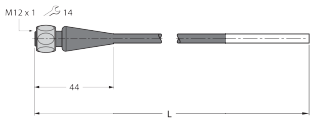
| MW18 | 6945004 |
|---|---|
|  | Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304) |

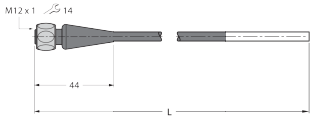
| BSS-18 | 6901320 |
|---|---|
|  | Mounting bracket for smooth and threaded barrel sensors; material: Polypropylene |

| QM-18 | 6945102 |
|---|---|
|  | Quick-mount bracket with dead-stop; material: chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets. |

| PN-M18 | 6905310 |
|---|---|
|  | Impact protection nut for M18 × 1 threaded barrel devices; material: Stainless steel A2 1.4305 (AISI 303) |

## Connection accessories

| RKH4.4-2/TFE | 6934473 |
|---|---|
|  | Connection cable, M12 female connector, straight, 4-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, gray; temperature range: -25…+80 °C |

| RKH4.4-2/TFG | 6933086 |
|---|---|
|  | Connection cable, M12 female connector, straight, 4-pin, stainless steel coupling nut, cable length: 2 m, jacket material: TPE, gray; temperature range: -40…+105 °C |

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