

# BI4U-EM12WD-VP6X-H1141

## Inductive Sensor – For the Food Industry



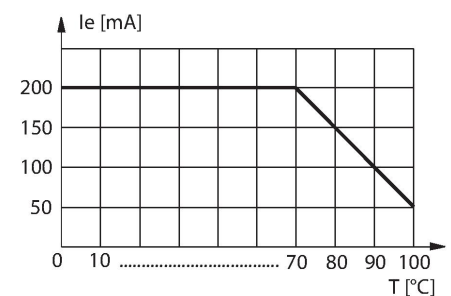
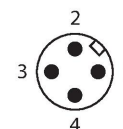
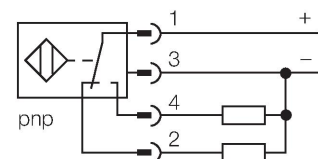
### Features

- Threaded barrel, M12 x 1
- 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
- Changeover contact, PNP output
- M12 x 1 male connector

### Technical data

|                                        |                                               |
|----------------------------------------|-----------------------------------------------|
| Type                                   | BI4U-EM12WD-VP6X-H1141                        |
| ID                                     | 1635001                                       |
| <b>General data</b>                    |                                               |
| Rated switching distance               | 4 mm                                          |
| Mounting conditions                    | Flush                                         |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm                   |
| Repeat accuracy                        | $\leq 2$ % of full scale                      |
| Temperature drift                      | $\leq \pm 10$ %                               |
|                                        | $\leq \pm 20$ %, $\leq -25$ °C, $\geq +70$ °C |
| Hysteresis                             | 3...15 %                                      |
| <b>Electrical data</b>                 |                                               |
| Operating voltage $U_B$                | 10...30 VDC                                   |
| Ripple $U_{ss}$                        | $\leq 10$ % $U_{Bmax}$                        |
| DC rated operating current $I_o$       | $\leq 200$ mA                                 |
| No-load current                        | $\leq 25$ mA                                  |
| Residual current                       | $\leq 0.1$ mA                                 |
| Isolation test voltage                 | 0.5 kV                                        |
| Short-circuit protection               | yes/Cyclic                                    |
| Voltage drop at $I_o$                  | $\leq 1.8$ V                                  |
| Wire break/reverse polarity protection | yes/Complete                                  |
| Output function                        | 4-wire, Complementary contact, PNP            |
| DC field stability                     | 300 mT                                        |
| AC field stability                     | 300 mT <sub>ss</sub>                          |
| Insulation class                       | □                                             |
| Switching frequency                    | 3 kHz                                         |
| <b>Mechanical data</b>                 |                                               |
| Design                                 | Threaded barrel, M12 x 1                      |

### Wiring diagram



Technical data

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| Dimensions                            | 52 mm                                     |
| Housing material                      | Stainless steel, 1.4404 (AISI 316L)       |
| Active area material                  | Plastic, LCP                              |
| Connector housing                     | plastic, PP                               |
| Admissible pressure on front cap      | ≤ 20 bar                                  |
| Max. tightening torque of housing nut | 10 Nm                                     |
| Electrical connection                 | Connector, M12 × 1                        |
| Environmental conditions              |                                           |
| Ambient temperature                   | -40...+100 °C                             |
| Vibration resistance                  | 55 Hz (1 mm)                              |
| Shock resistance                      | 30 g (11 ms)                              |
| Protection class                      | IP68<br>IP69K                             |
| MTTF                                  | 874 years acc. to SN 29500 (Ed. 99) 40 °C |
| Switching state                       | LED, Yellow                               |

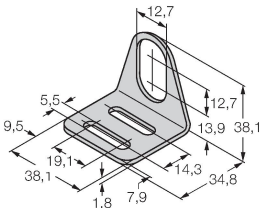
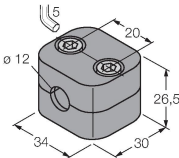
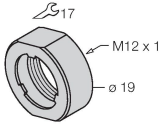
Mounting instructions

Mounting instructions/Description

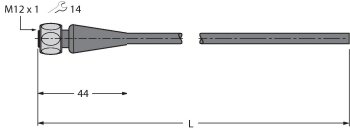
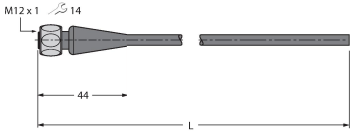
|                        |         |
|------------------------|---------|
| Distance D             | 24 mm   |
| Distance W             | 3 x Sn  |
| Distance T             | 3 x B   |
| Distance S             | 1.5 x B |
| Distance G             | 6 x Sn  |
| Diameter active area B | Ø 12 mm |

All flush mountable uprox+ threaded barrel types are also recessed mountable. Safe operation is ensured if the sensor is screwed in by half a turn.

Accessories

|                                                                                   |         |                                                                                                         |                                                                                    |         |                                                                                |
|-----------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------|
| MW12                                                                              | 6945003 | Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)            | BSS-12                                                                             | 6901321 | Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene |
|  |         |                                                                                                         |  |         |                                                                                |
| PN-M12                                                                            | 6905309 | Impact protection nut for M12x1 threaded barrel devices; material: Stainless steel A2 1.4305 (AISI 303) |                                                                                    |         |                                                                                |
|  |         |                                                                                                         |                                                                                    |         |                                                                                |

Accessories

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