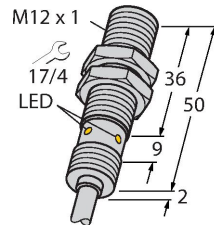


# BI4U-EM12WD-AN6X

## Inductive Sensor – For the Food Industry



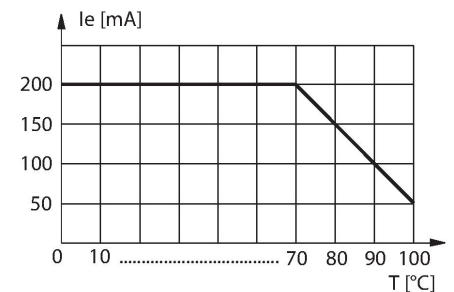
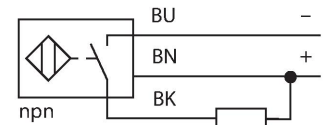
### Features

- 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 3-wire, 10...30 VDC
- NO contact, NPN output
- Cable connection

### Technical data

|                                        |                                               |
|----------------------------------------|-----------------------------------------------|
| Type                                   | BI4U-EM12WD-AN6X                              |
| ID                                     | 1634842                                       |
| <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                        | 3-wire, NO contact, NPN                       |
| 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                      |

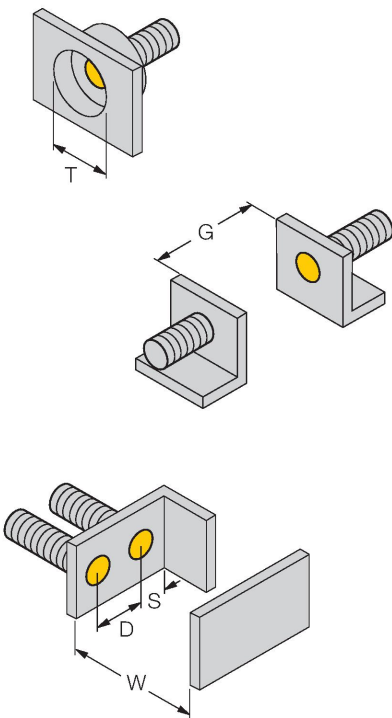
### Wiring diagram



Technical data

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| Dimensions                            | 52 mm                                     |
| Housing material                      | Stainless steel, 1.4404 (AISI 316L)       |
| Active area material                  | Plastic, LCP                              |
| End cap                               | Plastic, PP, transparent                  |
| Connector housing                     | PP                                        |
| Admissible pressure on front cap      | ≤ 20 bar                                  |
| Max. tightening torque of housing nut | 10 Nm                                     |
| Electrical connection                 | Cable                                     |
| Cable quality                         | Ø 5.2 mm, White, D12YSL9Y-OB, PP,<br>2 m  |
|                                       | halogen-free                              |
| Core cross-section                    | 3 x 0.34 mm <sup>2</sup>                  |
| 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                               |

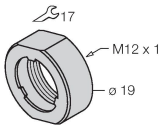
Mounting instructions

| Mounting instructions/Description                                                  |                        |
|------------------------------------------------------------------------------------|------------------------|
|  | Distance D             |
|                                                                                    | 2 x B                  |
|                                                                                    | 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                |

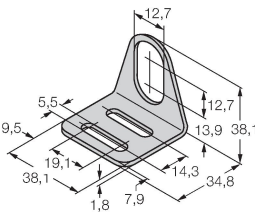
All flush mountable uprox+ threaded barrel types are also recessed mountable. Safe operation is ensured if the sensor is screwed in by half a turn.

Accessories

|                                                                                                         |         |
|---------------------------------------------------------------------------------------------------------|---------|
| PN-M12                                                                                                  | 6905309 |
| Impact protection nut for M12x1 threaded barrel devices; material: Stainless steel A2 1.4305 (AISI 303) |         |



|                                                                                              |         |
|----------------------------------------------------------------------------------------------|---------|
| 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 |         |

