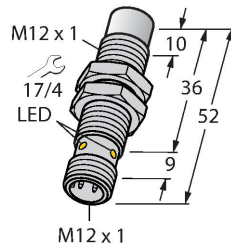


# NI10U-EM12WD-AP6X-H1141

## Inductive Sensor – For the food industry



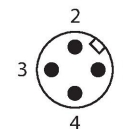
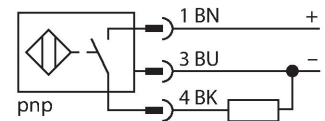
### Features

- 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 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

### Technical data

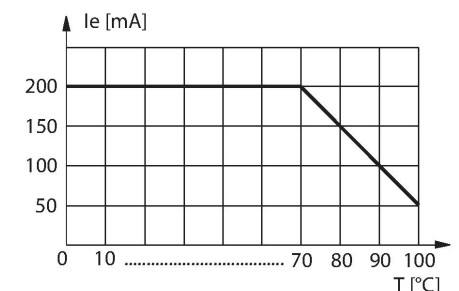
|                                        |                                               |
|----------------------------------------|-----------------------------------------------|
| Type                                   | NI10U-EM12WD-AP6X-H1141                       |
| ID                                     | 1634814                                       |
| General data                           |                                               |
| Rated switching distance               | 10 mm                                         |
| Mounting conditions                    | Non-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 %                                      |
| Electrical data                        |                                               |
| 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, PNP                       |
| DC field stability                     | 300 mT                                        |
| AC field stability                     | 300 mT <sub>ss</sub>                          |
| Insulation class                       | □                                             |
| Switching frequency                    | 1 kHz                                         |
| Mechanical data                        |                                               |
| Design                                 | Threaded barrel, M12 x 1                      |

### Wiring diagram



### Functional principle

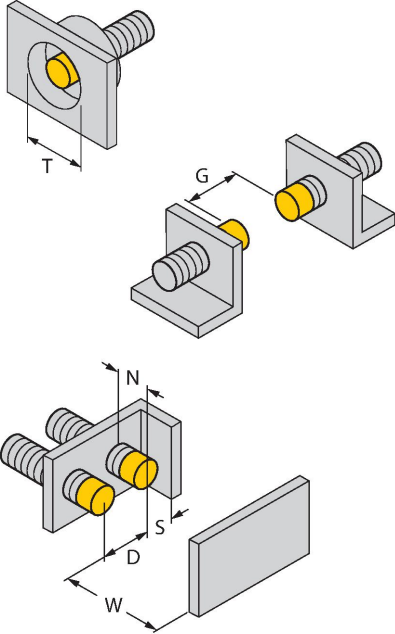
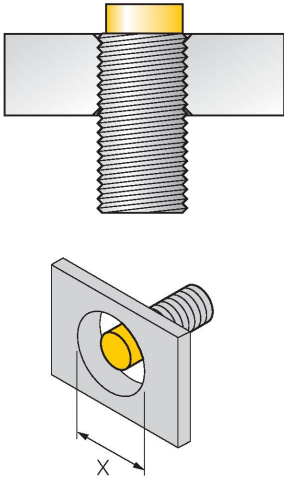
The inductive sensors for the food industry are absolutely tight and resistant to cleaning agents and disinfectants. The requirements of the protection classes IP68 and IP69K are well exceeded by our uprox®+ sensors. The sensors are entirely protected by the LCP front cap and the stainless steel housing.



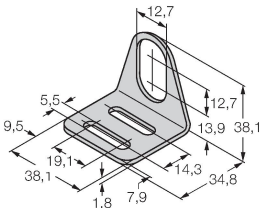
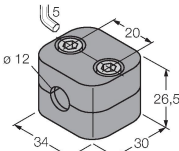
Technical data

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

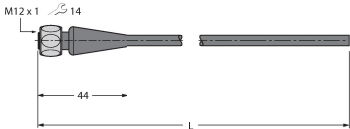
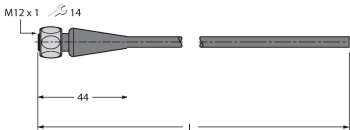
Mounting instructions

| Mounting instructions/Description                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                     |            |       |            |       |            |       |            |       |            |       |            |       |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------------------|
|                                                                                                                                                                                                                |                                                                                                                                                                                                                                                  |            |       |            |       |            |       |            |       |            |       |            |       |                        |
|                                                                                                                                                                                                                                                                                                   | <table><tr><td>Distance D</td><td>48 mm</td></tr><tr><td>Distance W</td><td>30 mm</td></tr><tr><td>Distance T</td><td>48 mm</td></tr><tr><td>Distance S</td><td>18 mm</td></tr><tr><td>Distance G</td><td>60 mm</td></tr><tr><td>Distance N</td><td>16 mm</td></tr><tr><td>Diameter active area B</td><td>Ø 12 mm</td></tr></table> | Distance D | 48 mm | Distance W | 30 mm | Distance T | 48 mm | Distance S | 18 mm | Distance G | 60 mm | Distance N | 16 mm | Diameter active area B |
| Distance D                                                                                                                                                                                                                                                                                        | 48 mm                                                                                                                                                                                                                                                                                                                               |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance W                                                                                                                                                                                                                                                                                        | 30 mm                                                                                                                                                                                                                                                                                                                               |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance T                                                                                                                                                                                                                                                                                        | 48 mm                                                                                                                                                                                                                                                                                                                               |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance S                                                                                                                                                                                                                                                                                        | 18 mm                                                                                                                                                                                                                                                                                                                               |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance G                                                                                                                                                                                                                                                                                        | 60 mm                                                                                                                                                                                                                                                                                                                               |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Distance N                                                                                                                                                                                                                                                                                        | 16 mm                                                                                                                                                                                                                                                                                                                               |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| Diameter active area B                                                                                                                                                                                                                                                                            | Ø 12 mm                                                                                                                                                                                                                                                                                                                             |            |       |            |       |            |       |            |       |            |       |            |       |                        |
| <p>All non-flush mountable aprox®+ threaded barrel sensors can be screwed to the upper edge of the barrel. In this mounting position, the sensor operates safely with a 20 % reduced switching distance.</p> <p>When installed in an aperture plate a distance of X = 50 mm must be observed.</p> |                                                                                                                                                                                                                                                                                                                                     |            |       |            |       |            |       |            |       |            |       |            |       |                        |

Accessories

|                                                                                   |                                                                                              |                                                                                    |                                                                                |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| MW12                                                                              | 6945003                                                                                      | BSS-12                                                                             | 6901321                                                                        |
|  | Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304) |  | Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene |

Accessories

| Dimension drawing                                                                   | Type       | ID      |                                                                                                                                                                        |
|-------------------------------------------------------------------------------------|------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | RKH4-2/TFE | 6935482 | Connection cable, M12 female connector, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, gray; temperature range: -25...+80 °C  |
|  | RKH4-2/TFG | 6934384 | Connection cable, M12 female connector, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: TPE, gray; temperature range: -40...+105 °C |