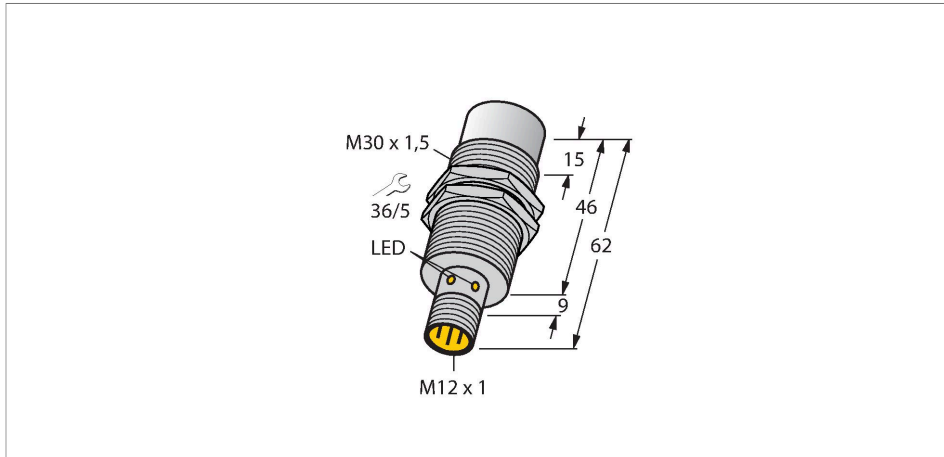


# NI30U-EM30WD-AP6X-H1141/3GD

## Inductive Sensor – For the Food Industry



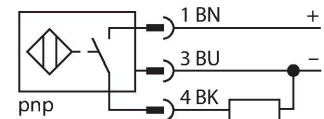
### Features

- Threaded barrel, M30 x 1.5
- 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
- ATEX category II 3 G, Ex zone 2
- ATEX category II 3 D, Ex zone 22

### Technical data

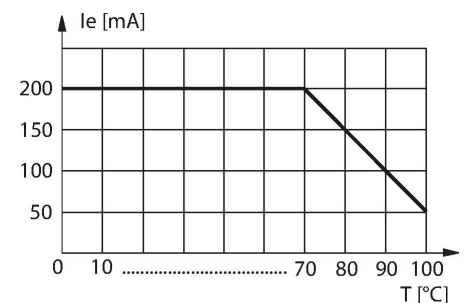
|   |   |
|---|---|
| Type                                      | NI30U-EM30WD-AP6X-H1141/3GD                           |
| Ident. no.                                | 1634861   |
| Rated switching distance                  | 30 mm   |
| Mounting conditions                       | Non-flush   |
| Secured operating distance                | ≤ (0.81 × S <sub>n</sub> ) mm                         |
| Repeat accuracy                           | ≤ 2 % of full scale                                   |
| Temperature drift                         | ≤ ± 10 %  |
|   | ≤ ± 20 %, ≤ -25 °C, ≥ +70 °C                          |
| Hysteresis                                | 3...15 %  |
| Ambient temperature                       | -40...+100 °C   |
|   | For explosion hazardous areas see instruction leaflet |
| Operating voltage                         | 10...30 VDC   |
| Residual ripple                           | ≤ 10 % U <sub>ss</sub>                                |
| DC rated operational current              | ≤ 200 mA  |
| No-load current                           | ≤ 20 mA   |
| Residual current                          | ≤ 0.1 mA  |
| Isolation test voltage                    | ≤ 0.5 kV  |
| Short-circuit protection                  | yes / Cyclic  |
| Voltage drop at I <sub>e</sub>            | ≤ 1.8 V   |
| Wire breakage/Reverse polarity protection | yes / Complete  |
| Output function                           | 3-wire, NO contact, PNP                               |
| Insulation class                          | □   |
| Switching frequency                       | 0.5 kHz   |
| Approval acc. to                          | ATEX test certificate TURCK Ex-10002M X               |

### 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.



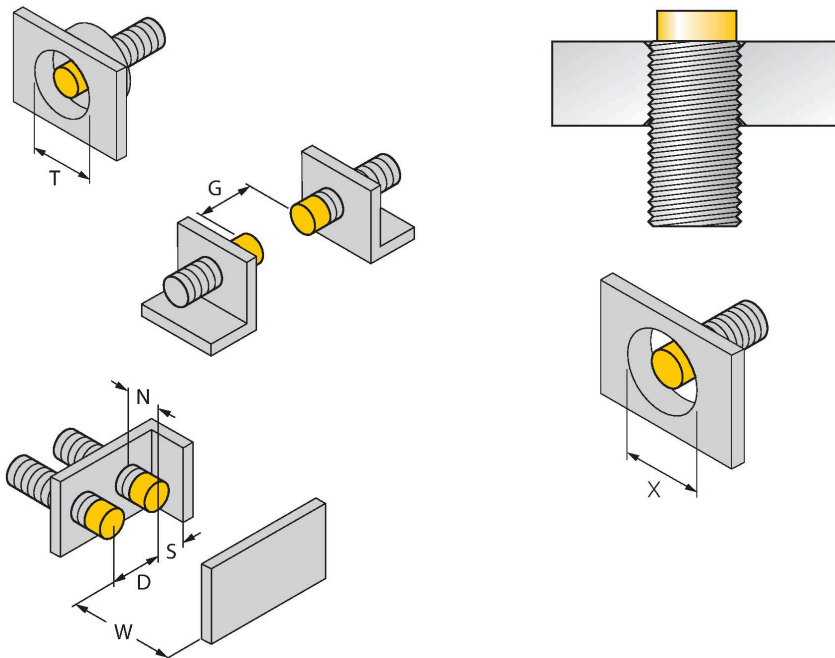
## Technical data

Device marking ⊕ II 3 G Ex nA IIC T4 Gc/II 3 D Ex tc IIIC T1 10°C  
Dc

|                                    |   |
|------------------------------------|---|
| Design                             | Threaded barrel, M30 × 1.5                |
| Dimensions                         | 62 mm                                     |
| Housing material                   | Stainless steel, V4A (1.4404)             |
| Active area material               | Plastic, LCP                              |
| Connector housing                  | plastic, PP                               |
| Admissible pressure on front cap   | ≤ 10 bar                                  |
| Max. tightening torque housing nut | 75 Nm                                     |
| Electrical connection              | Connector, M12 × 1                        |
| Vibration resistance               | 55 Hz (1 mm)                              |
| Shock resistance                   | 30 g (11 ms)                              |
| Protection class                   | IP68 / IP69K                              |
| MTTF                               | 874 years acc. to SN 29500 (Ed. 99) 40 °C |
| Switching state                    | LED, Yellow                               |
| Included in delivery               | SC-M12/3GD                                |

## Mounting instructions

### Mounting instructions/Description



Distance D 135 mm

Distance W 3 x Sn

Distance T 3 x B

Distance S 1.5 x B

Distance G 6 x Sn

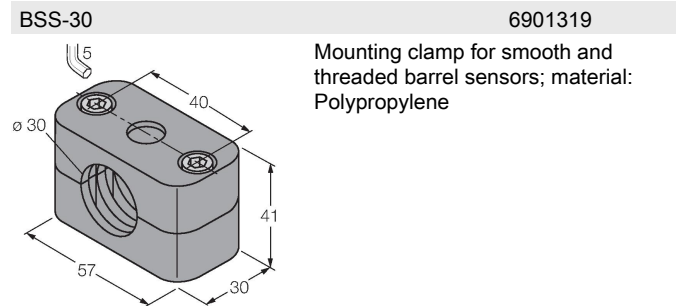
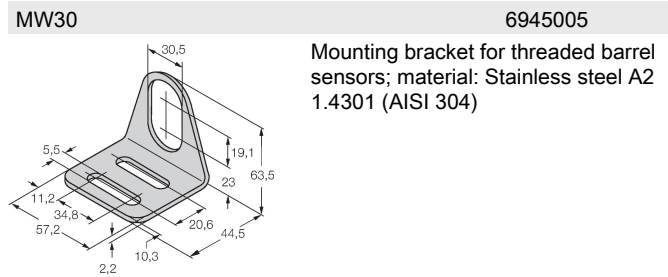
Distance N 2 x Sn

Diameter active area Ø 30 mm  
B

All non-flush mountable *uprox*<sup>®</sup>+ threaded barrel sensors can be screwed to the upper edge of the barrel. Thus safe operation is guaranteed with a reduced switching distance of max. 20 %.

When installed in an aperture plate a distance of X = 140 mm must be observed.

## Accessories



## Wiring accessories

| Dimension drawing | Type       | Ident. no. |   |
|-------------------|------------|------------|---|
|                   | RKH4-2/TFE | 6935482    | Connection cable, M12 female, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, gray temperature range -25...+80 °C; other cable lengths and designs available, see <a href="http://www.turck.com">www.turck.com</a>  |
|                   | RKH4-2/TFG | 6934384    | Connection cable, M12 female, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: TPE, gray temperature range -40...+105 °C; other cable lengths and designs available, see <a href="http://www.turck.com">www.turck.com</a> |

## Operating Instructions

### Intended use

This device fulfills the directive 2014/34/EU and is suited for use in explosion hazardous areas acc. to EN 60079-0:2012/A11:2013, EN 60079-15:2010 and EN 60079-31:2014. In order to ensure correct operation to the intended purpose it is required to observe the national regulations and directives.

### For use in explosion hazardous areas conform to classification

II 3 G and II 3 D (Group II, Category 3 G, electrical equipment for gaseous atmospheres and category 3 D, electrical equipment for dust atmospheres).

### Marking (see device or technical data sheet)

⊕ II 3 G Ex nA IIC T4 Gc according to EN 60079-0:2012/A11:2013 and EN 60079-15:2010 and ⊕ II 3 D Ex tc IIIC T110 °C Dc acc. to EN 60079-0:2012/A11:2013 and EN 60079-31:2014

### Local admissible ambient temperature

-25...+70 °C

### Installation/Commissioning

These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas. Please verify that the classification and the marking on the device comply with the actual application conditions.

### Installation and mounting instructions

Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device. The devices must be protected against strong magnetic fields. The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet. In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.

### Special conditions for safe operation

For devices with M12 connectors please use the supplied safety clip SC-M12/3GD. Do not disconnect the plug-in connection or cable under voltage. Please attach a warning label permanently in an appropriate fashion in close proximity to the plug-in connection with the following inscription: Nicht unter Spannung trennen / Do not separate when energized. The device must be protected against any kind of mechanical damage and degrading UV-radiation. The IP protection rating of the connectors is given only in combination with a suitable O-ring. Load voltage and operating voltage of this equipment must be supplied from power supplies with safe isolation (IEC 30 364/UL508), to ensure that the rated voltage of the equipment (24 VDC +20% = 28.8 VDC) is never exceeded by more than 40%.

### Service/Maintenance

Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.