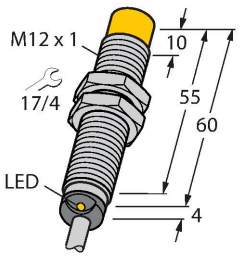
# NI8U-M12E-AP6X F2
# Inductive Sensor



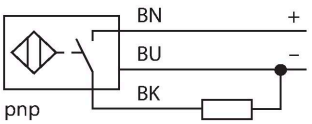

## Technical data

| Type | NI8U-M12E-AP6X F2 |
|---|---|
| ID | 1644104 |
| **General data** | |
| Rated switching distance | 8 mm |
| Mounting conditions | Non-flush |
| Secured operating distance | ≤ (0.81 × Sn) mm |
| Repeat accuracy | ≤ 2 % of full scale |
| | ≤ ± 15 %, ≤ -25 °C v ≥ +70 °C |
| Hysteresis | 3…15 % |
| **Electrical data** | |
| Operating voltage $U_B$ | 10…30 VDC |
| Ripple $U_{ss}$ | ≤ 10 % $U_{Bmax}$ |
| DC rated operating current $I_e$ | ≤ 200 mA |
| No-load current | ≤ 25 mA |
| Residual current | ≤ 0.1 mA |
| Isolation test voltage | 0.5 kV |
| Short-circuit protection | yes/Cyclic |
| Voltage drop at $I_e$ | ≤ 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 $mT_{ss}$ |
| Insulation class | ⧈ |
| Switching frequency | 2 kHz |

## Features

- M12 × 1 threaded barrel
- Long version
- Chrome-plated brass
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- Shifted oscillator frequency F2
- DC 3-wire, 10…30 VDC
- NO contact, PNP output
- Cable connection

## Wiring diagram




## Functional principle

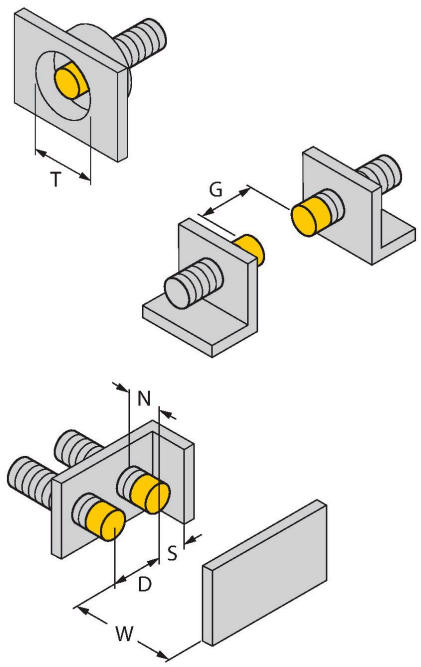
Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox Factor 1 sensors have significant advantages due to their patented ferrite-coreless multi-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

## Technical data

| Mechanical data | |
|---|---|
| Design | Threaded barrel, M12 x 1 |
| Dimensions | 64 mm |
| Housing material | Metal, CuZn, Chrome-plated |
| Active area material | Plastic, PBT |
| End cap | Plastic, EPTR |
| Max. tightening torque of housing nut | 10 Nm |
| Electrical connection | Cable |
| Cable quality | Ø 5.2 mm, LifYY, PVC, 2 m |
| Core cross-section | 3 x 0.34 $mm^2$ |
| **Environmental conditions** | |
| Ambient temperature | -30…+85 °C |
| Vibration resistance | 55 Hz (1 mm) |
| Shock resistance | 30 g (11 ms) |
| Protection class | IP68 |
| MTTF | 874 years acc. to SN 29500 (Ed. 99) 40 °C |
| Switching state | LED, Yellow |

## Mounting instructions

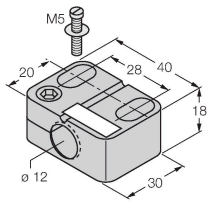
Mounting instructions/Description




| | |
|---|---|
| Distance D | 4 x B |
| Distance W | 3 x Sn |
| Distance T | 4 x B |
| Distance S | 1.5 x B |
| Distance G | 6 x Sn |
| Distance N | 2 x Sn |
| Diameter active area B | Ø 12 mm |

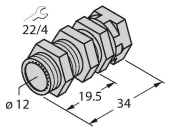
## Accessories

| BST-12B | 6947212 |
|---|---|



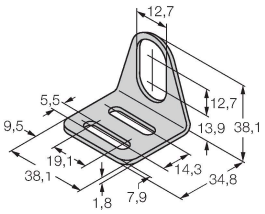

Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

| QM-12 | 6945101 |
|---|---|



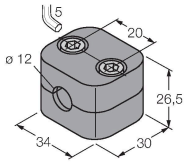

Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

| 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