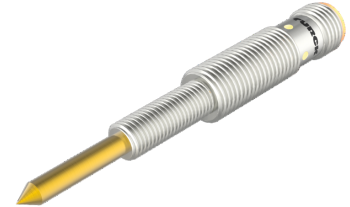
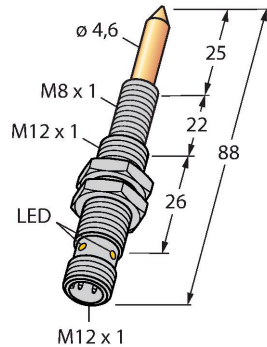


# NIMFE-EM12/4.6L88-UP6X-H1141/S1182 Magnetic Field Sensor – With TIN Coating For Detection of Ferromagnetic Parts



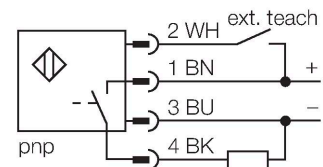
## Technical data

|  |   |
|--|---|
| Type                                   | NIMFE-EM12/4.6L88-UP6X-H1141/S1182              |
| ID                                     | 1600620   |
| Special version                        | S1182 Corresponds to: TIN coating               |
| General data                           |   |
| Electrical data                        |   |
| Operating voltage $U_B$                | 10...30 VDC                                     |
| Ripple $U_{ss}$                        | $\leq 10 \% U_{Bmax}$                           |
| DC rated operating current $I_o$       | $\leq 100 \text{ mA}$                           |
| No-load current                        | $\leq 15 \text{ mA}$                            |
| Residual current                       | $\leq 0.1 \text{ mA}$                           |
| Isolation test voltage                 | 0.5 kV  |
| Short-circuit protection               | yes/Cyclic                                      |
| Voltage drop at $I_o$                  | $\leq 1 \text{ V}$                              |
| Wire break/reverse polarity protection | yes/Complete                                    |
| Output function                        | 3-wire, Connection programmable, PNP            |
| Mechanical data                        |   |
| Design                                 | Threaded barrel, M12 x 1                        |
| Dimensions                             | 88 mm   |
| Housing material                       | Stainless steel, 1.4301 (AISI 304)              |
| Active area material                   | Stainless steel, 1.4301 (AISI 304), TIN coating |
| Max. tightening torque of housing nut  | 10 Nm   |
| Electrical connection                  | Connector, M12 x 1                              |

## Features

- DC 3-wire, 10...30 VDC
- NC/NO parametrizable with teach adapter VB2-SP1
- M12 x 1 male connector

## Wiring diagram



## Functional principle

The weld sensors are available in different versions, with different signal intensities and diameters. Ferromagnetic parts which differ strongly in their material properties and diameters can thus be detected. A target part has to be located within the so called sensitive area in order to be detected. The internal sensor signal reaches the maximum intensity if the sensitive area is completely covered by the target. Partial coverage is also possible.

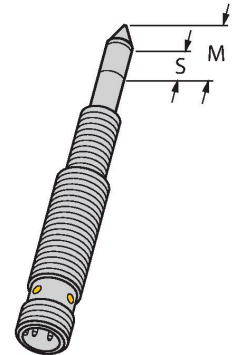
Sensitive area  $S = 9 \text{ mm}$   
Within this area the sensor signal changes when components are connected.

Maximum range  $M = 13 \text{ mm}$   
In case of complete coverage of the sensitive area the maximum signal intensity is achieved.



## Technical data

| Environmental conditions |   |
|--------------------------|---|
| Ambient temperature      | -25...+70 °C                              |
| Vibration resistance     | 55 Hz (1 mm)                              |
| Shock resistance         | 30 g (11 ms)                              |
| Protection class         | IP67                                      |
| MTTF                     | 874 years acc. to SN 29500 (Ed. 99) 40 °C |
| Power-on indication      | LED, Green                                |
| Switching state          | LED, Yellow                               |



## Mounting instructions

| Mounting instructions/Description |  |
|-----------------------------------|--|
|                                   |  |
|                                   |  |
|                                   |  |
|                                   |  |

The magnetic field sensor is especially suited for the detection of welding nuts as well as spacer or reinforcing sleeves. The parts to be detected must always consist of ferromagnetic material, so that a proper function can be guaranteed. Most applications need center bolts to tack the welding nuts and reinforcing sleeves in place and thus provide mechanical protection of the sensors. These bolts have to be made of non-ferromagnetic material, like stainless steel for example. Center bolts are not available at Turck, as these have to be individually produced for and adjusted to the correspondent application.

The welding nut sensor detects ferritic targets with diameters between 6 mm and 12 mm.

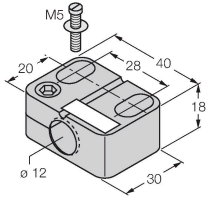


## Accessories

BST-12B

6947212

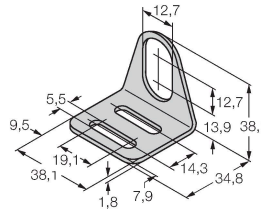
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



MW12

6945003

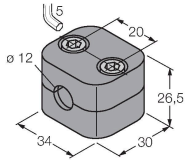
Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)



BSS-12

6901321

Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene



VB2-SP1

A3501-29

Teach adapter

