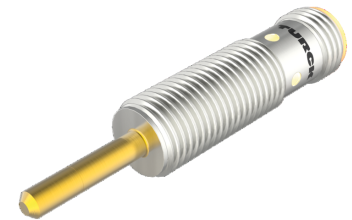
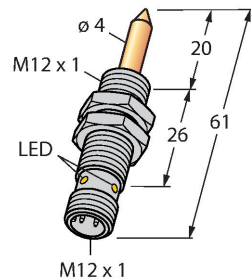


NIMFE-EM12/4.0L61-UP6X-H1141/S1182

Magnetic Field Sensor – With TIN Coating

For Detection of Ferromagnetic Parts



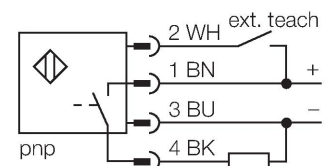
Technical data

Type	NIMFE-EM12/4.0L61-UP6X-H1141/S1182
ID	1600621
Remark to product	Optimized for the detection of weld nuts of the size of M5 to M10
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	61 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

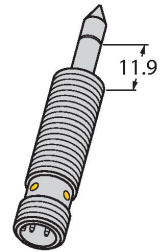
The weld sensors are available in different versions, with different signal intensities and diameters. Ferromagnetic parts which differ strongly in their material properties and diameters can thus be detected. A component to be detected must be located within the so-called optimal sensitive area in order to be detected.

This optimal sensitive area has a width of 0.5 mm and is laser-engraved on the tip of the probe, 11.9 mm above of the M12 thread.

Technical data

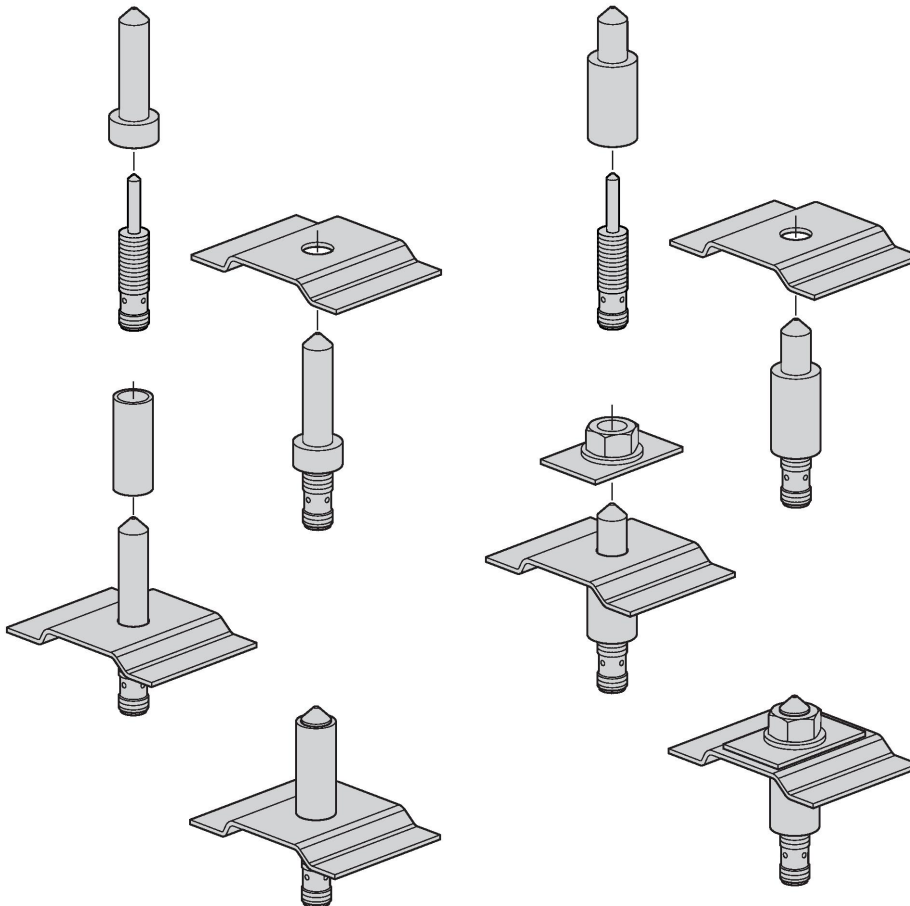
Environmental conditions

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



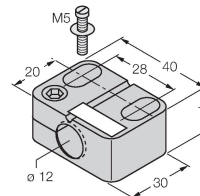
The magnetic field sensor for detection of ferromagnetic spares is especially suited for the detection of welding nuts as well as spacer or reinforcing sleeves. The parts to be detected must always consist of ferromagnetic material, so that a proper function can be guaranteed. Most applications need center bolts to tack the welding nuts and reinforcing sleeves in place and thus provide mechanical protection of the sensors. These bolts must 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.

```

graph TD
    A[„Teach-Adapter“ zwischen Sensor und Sensorleitung stecken] --> B[Schutzkappe aufschrauben  
(optional)]
    B --> C[Versorgungsspannung  
zuschalten]
    C --> D{für Ausgang  
NC}
    C --> E{für Ausgang  
NO}
    D --> F[Bauteil aufstecken  
(z.B. Mutter)]
    E --> G[Bauteil entfernen]
    F --> H[Taste des Teach-Adapters drücken  
bis grüne LED blinkt]
    G --> H
    H --> I[Warten bis gelbe LED leuchtet]
    I --> J{für Ausgang  
NC}
    I --> K{für Ausgang  
NO}
    I --> L{max. 20 s}
    J --> M[Bauteil entfernen]
    K --> N[Bauteil aufstecken  
(z.B. Mutter)]
    L --> N
    M --> O[Taste des Teach-Adapters drücken  
bis gelbe LED blinkt]
    N --> O
    O --> P[Warten bis Kalibrierung und  
Fehlerprüfung beendet]
    P --> Q{kein Fehler}
    P --> R{Messwertfehler}
    P --> S{Zeitüberschreitung}
    Q --> T[Kalibrierung  
erfolgreich  
(gelbe LED leuchtet)]
    R --> U[Messwertfehler oder  
Zeitüberschreitung  
(grüne/gelbe LED  
blinken schnell)]
    S --> U
  
```

The tips of the stainless steel sensors have a coating of titanium nitride (TiN). The ceramic material, which has exceptional hardness and corrosion resistance, makes the devices more resistant to scratches and provides additional protection against wear. It also protects the sensors from weld spatter. The chemically resistant tips of the TiN-coated sensors can withstand high temperatures and feature good non-stick properties.

VB2-SP1	A3501-29	BST-12B	6947212
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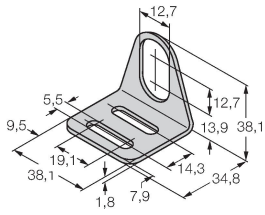


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MW12

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

