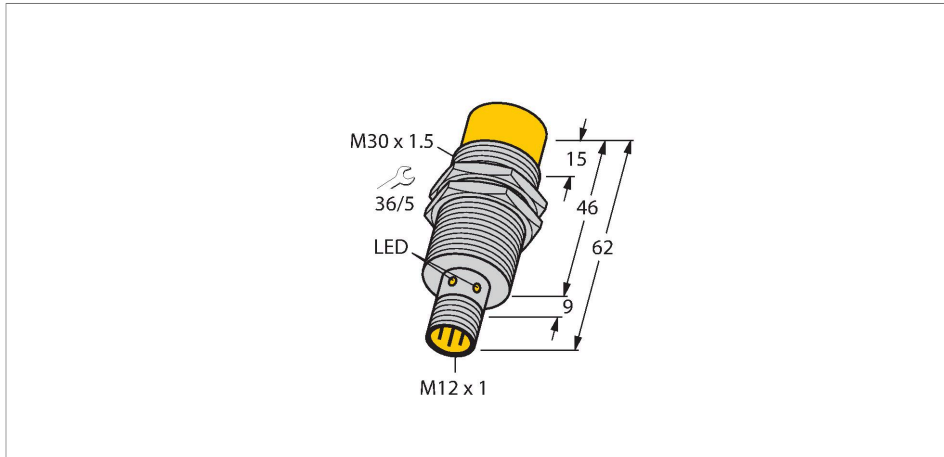


NI20U-EM30-AP6X-H1141

Inductive Sensor



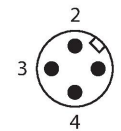
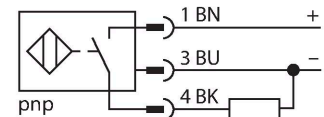
Features

- M30 × 1.5 threaded tube
- Stainless steel, 1.4301
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- Auto-compensation protects against pre-damping
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

Technical data

| | |
|-------------------------------------------|---------------------------------|
| Type | NI20U-EM30-AP6X-H1141 |
| ID | 1646340 |
| General data | |
| Rated switching distance | 20 mm |
| Mounting conditions | Non-flush, partially embeddable |
| Secured operating distance | ≤ (0.81 × S _n) mm |
| Repeat accuracy | ≤ 2 % of full scale |
| Temperature drift | ≤ ±10 % |
| | ≤ ± 20 %, ≤ -25 °C v ≥ +70 °C |
| Hysteresis | 3...15 % |
| Electrical data | |
| Operating voltage | 10...30 VDC |
| Residual ripple | ≤ 10 % U _{ss} |
| DC rated operational current | ≤ 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 _o | ≤ 1.8 V |
| Wire breakage/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 | □ |

Wiring diagram



Functional principle

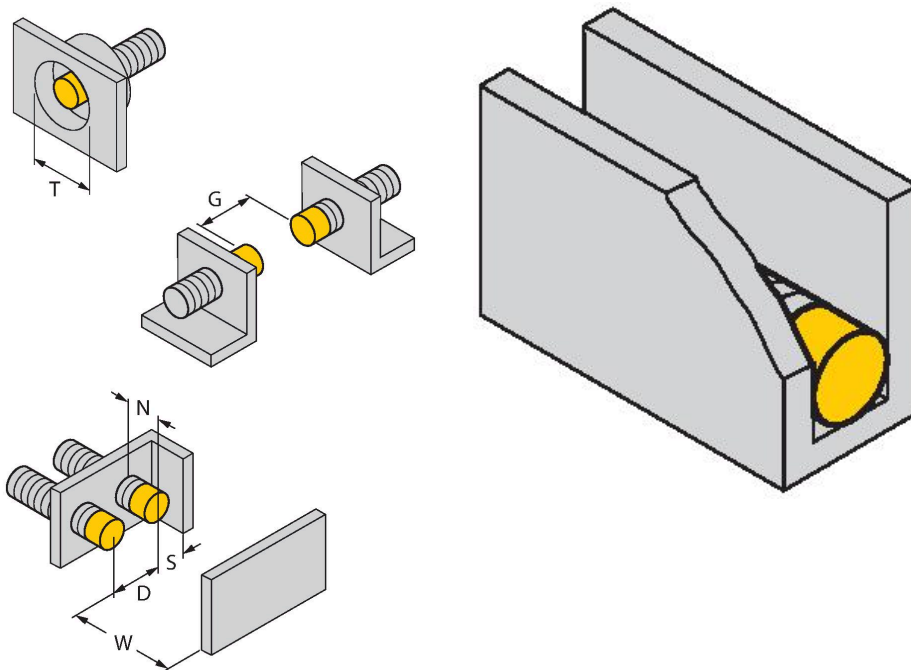
Inductive sensors are designed for wear-free and contactless detection of metal objects. approx Factor 1 sensors have significant advantages due to their patented ferrite-coreless multi-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

Technical data

| | |
|---------------------------------------|-------------------------------------------|
| Switching frequency | 1 kHz |
| Mechanical data | |
| Design | Threaded barrel, M30 × 1.5 |
| Dimensions | 62 mm |
| Housing material | Stainless steel, 1.4301 (AISI 304) |
| Active area material | Plastic, PBT |
| Max. tightening torque of housing nut | 75 Nm |
| Electrical connection | Connector, M12 × 1 |
| 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

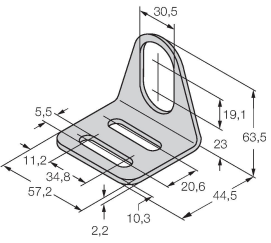
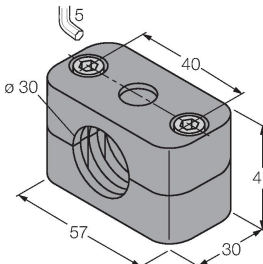
Mounting instructions/Description



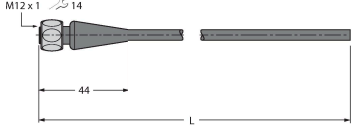
| | |
|------------------------|---------|
| Distance D | 3 x B |
| Distance W | 3 x Sn |
| Distance T | 3 x B |
| Distance S | 0.5 x B |
| Distance G | 6 x Sn |
| Distance N | 2 x Sn |
| Diameter active area B | Ø 30 mm |

up to 3-side flush mounting possible
 1-side flush mounting: Sr = 15 mm
 2-side flush mounting: Sr = 12 mm
 3-side flush mounting: Sr = 11 mm

Accessories

| | | | |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <p>MW-30</p>  | <p>6945005</p> <p>Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)</p> | <p>BSS-30</p>  | <p>6901319</p> <p>Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene</p> |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|

Wiring accessories

| Dimension drawing | Type | ID | |
|-------------------------------------------------------------------------------------|-------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>RKH4-2/TFE</p> | <p>6935482</p> | <p>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 www.turck.com</p> |
|  | <p>RKH4-2/TFG</p> | <p>6934384</p> | <p>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 www.turck.com</p> |