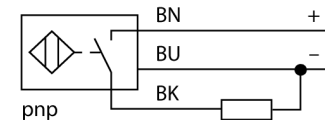


- Threaded barrel, M18 x 1
- Plastic, PBT-GF20-V0
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- Auto-compensation protects against pre-attenuation
- 3-wire DC, 10...30 VDC
- NO contact, PNP output
- Cable connection

|   |   |
|---|---|
| <b>Type code</b>                            | NI12U-S18-AP6X                            |
| Ident no.                                   | 1645500                                   |
| <b>Rated operating distance Sn</b>          | 12 mm                                     |
| Mounting condition                          | non-flush, partially embeddable           |
| Assured sensing range                       | ≤ (0,81 x Sn) mm                          |
| Repeatability                               | ≤ 2 % of full scale                       |
| Temperature drift                           | 10 %                                      |
|   | ≤ ± 20 %, ≤ -25 °C v ≥ +70 °C             |
| Hysteresis                                  | 3...15 %                                  |
| Ambient temperature                         | -30...+85 °C                              |
| <b>Operating voltage</b>                    | 10...30VDC                                |
| Residual ripple                             | ≤ 10 % U <sub>ss</sub>                    |
| DC rated operational current                | ≤ 200 mA                                  |
| No-load current I <sub>0</sub>              | ≤ 15 mA                                   |
| Residual current                            | ≤ 0.1 mA                                  |
| Rated insulation voltage                    | ≤ 0.5 kV                                  |
| Short-circuit protection                    | yes/ cyclic                               |
| Voltage drop at I <sub>0</sub>              | ≤ 1.8 V                                   |
| Wire breakage / Reverse polarity protection | yes/ complete                             |
| Output function                             | 3-wire, NO contact, PNP                   |
| Protection class                            | ☐   |
| Switching frequency                         | 2 kHz                                     |
| <b>Design</b>                               | threaded barrel, M18 x 1                  |
| Dimensions                                  | 64 mm                                     |
| Housing material                            | plastic, PBT                              |
| Material active area                        | Plastic, PBT                              |
| End cap                                     | Plastic, EPTR                             |
| Max. tightening torque housing nut          | 2 Nm                                      |
| Connection                                  | cable                                     |
| Cable quality                               | 5.2 mm, LifYY, PVC, 2 m                   |
| Cable cross section                         | 3 x 0.34 mm <sup>2</sup>                  |
| 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 |
| <b>Switching state</b>                      | LED yellow                                |

**Wiring diagram**



**Functional principle**

Inductive sensors detect metal objects contactless and wear-free. Due to the patented multicoil system, uprox®+ sensors have distinct advantages over conventional sensors. They detect all metals at the same large switching distance and are resistant to magnetic fields.

|                               |         |
|-------------------------------|---------|
| Distance D                    | 3 x B   |
| Distance W                    | 3 x Sn  |
| Distance T                    | 65 mm   |
| Distance S                    | 0.5 x B |
| Distance G                    | 6 x Sn  |
| Distance N                    | 2 x Sn  |
| Diameter of the active area B | Ø 18 mm |



**Accessories**

| Type code | Ident no. | Description  | Dimension drawing |
|-----------|-----------|--|-------------------|
| QM-18     | 6945102   | Quick-mount bracket with dead-stop; material: Chrome-plated brass Male thread M24 x 1.5. Note: The switching distance of proximity switches can be reduced by the use of quick-mount brackets. |                   |
| BST-18B   | 6947214   | Fixing clamp for threaded barrel devices, with dead-stop; material: PA6  |                   |
| MW-18     | 6945004   | Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)   |                   |
| BSS-18    | 6901320   | Mounting bracket for smooth and threaded barrel devices; material: Polypropylene   |                   |