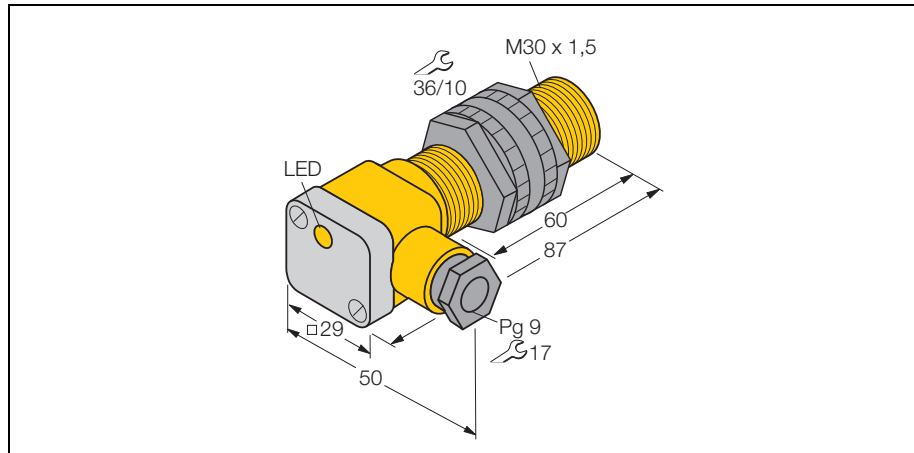
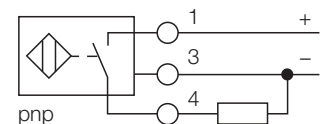




- threaded barrel, M30 x 1.5
- plastic, PA12-GF30
- Factor 1 for all metals
- Degree of protection IP68
- Magnetic field immune
- Extended temperature range
- High switching frequency
- Predamping protection through self-compensation
- 3-wire DC, 10...30 VDC
- normally open, pnp output
- Terminal chamber

#### Wiring diagram



#### Functional principle

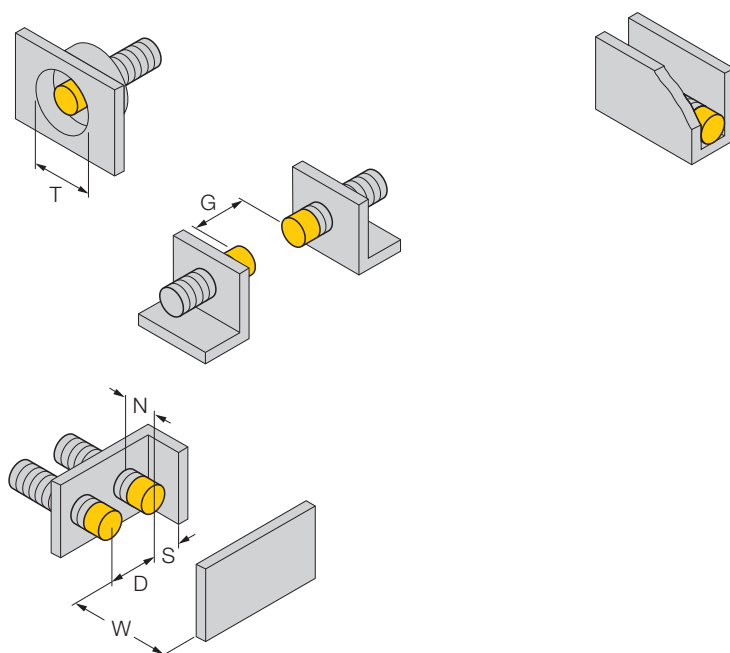
Inductive sensors are designed for wear-free and non-contact detection of metal objects. Due to a ferrite-less 3-coil system, uprox factor 1 sensors have distinct advantages. They detect all metals at the same switching distance, are magnetic field immune and feature large switching distances.

|                                                  |                                                                     |
|--------------------------------------------------|---------------------------------------------------------------------|
| <b>Type</b>                                      | NI20U-P30SK-AP6X                                                    |
| Ident-No.                                        | 1646700                                                             |
| <b>Rated operating distance <math>S_n</math></b> | 20 mm                                                               |
| Mounting condition                               | non-flush, partial embedding possible                               |
| Assured sensing range                            | $\leq (0,81 \times S_n)$ mm                                         |
| Repeatability                                    | $\leq 2\%$                                                          |
| Temperature drift                                | $\leq \pm 10\%$                                                     |
| Hysteresis                                       | $\leq \pm 20\%, \leq -25^\circ\text{C} \vee \geq +70^\circ\text{C}$ |
| Ambient temperature                              | $-30\ldots +85^\circ\text{C}$                                       |
| <b>Operating voltage</b>                         | 10... 30 VDC                                                        |
| Residual ripple                                  | $\leq 10\% U_{ss}$                                                  |
| DC rated operational current                     | $\leq 200$ mA                                                       |
| No-load current $I_0$                            | $\leq 15$ mA                                                        |
| Residual current                                 | $\leq 0.1$ mA                                                       |
| Rated insulation voltage                         | $\leq 0.5$ kV                                                       |
| Short-circuit protection                         | yes / cyclic                                                        |
| Voltage drop at $I_e$                            | $\leq 1.8$ V                                                        |
| Wire breakage / Reverse polarity protection      | yes / complete                                                      |
| Output function                                  | 3-wire, NO contact, PNP                                             |
| Protection class                                 | □                                                                   |
| Switching frequency                              | $\leq 1.5$ kHz                                                      |
| <b>Housing</b>                                   | threaded barrel, M30 x 1.5                                          |
| Dimensions                                       | 87 mm                                                               |
| Housing material                                 | Plastic, PA12-GF30                                                  |
| Terminal chamber cover material                  | plastic, Ultem                                                      |
| Terminal chamber housing material                | plastic, plastic, PA12-GF20                                         |
| Material active face                             | Plastic, PA12-GF30                                                  |
| Tightening torque of housing nut                 | 5 Nm                                                                |
| Electrical connection                            | Terminal chamber                                                    |
| Clamping ability                                 | $\leq 2.5\text{mm}^2$                                               |
| Cable external diameter                          | 4.5... 8 mm                                                         |
| Vibration resistance                             | 55 Hz (1 mm)                                                        |
| Shock resistance                                 | 30g (11 ms)                                                         |
| Protection class                                 | IP68                                                                |
| <b>Display switch state</b>                      | LED yellow                                                          |
| Included in scope of supply                      | cable gland; 2x plastic seals                                       |

| Mounting instructions | minimum distances |
|-----------------------|-------------------|
| 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            |

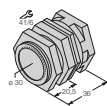
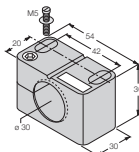
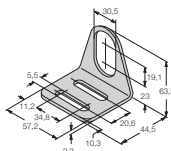
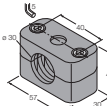
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|                                      |         |
|--------------------------------------|---------|
| <b>Diameter of the active area B</b> | Ø 30 mm |
|--------------------------------------|---------|



up to 3-side flush mounting possible  
 1-side flush mounting:  $S_r = 15 \text{ mm}$   
 2-side flush mounting:  $S_r = 12 \text{ mm}$   
 3-side flush mounting:  $S_r = 11 \text{ mm}$

**Accessories**

| Type code | Ident-No. | Short text                                                                                                                                                                                             | Dimension drawing                                                                    |
|-----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| QM-30     | 6945103   | Quick-mount fixing clamp with dead-stop; material: Chrome-plated brass Male thread M36 x 1.5. Note: The switching distance of proximity switches can be reduced by the use of quick mounting brackets. |   |
| BST-30B   | 6947216   | Fixing clamp with dead-stop; material: PA6                                                                                                                                                             |   |
| MW-30     | 6945005   | Mounting bracket; material: Stainless steel A2 1.4301 (AISI 304)                                                                                                                                       |   |
| BSS-30    | 6901319   | Fixing clamp; material: Polypropylene                                                                                                                                                                  |  |