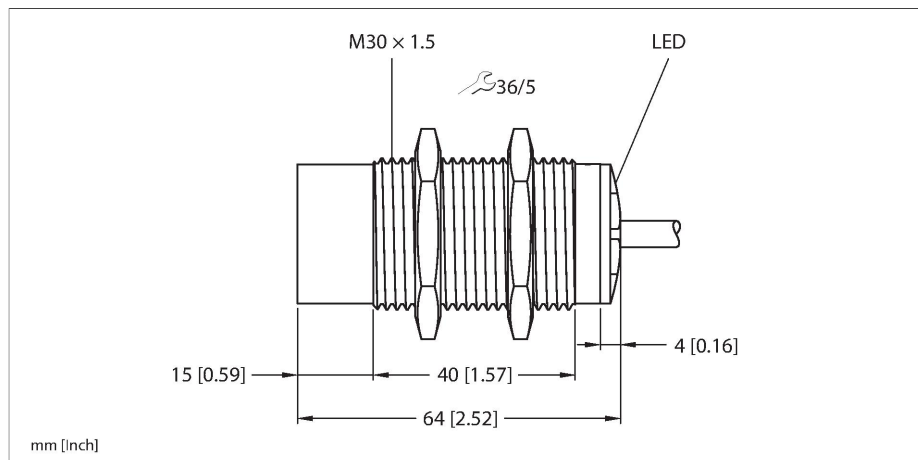


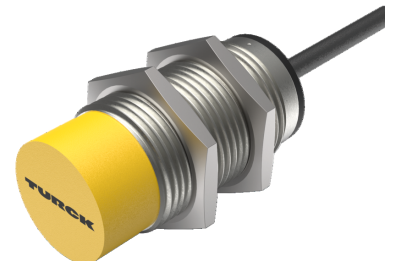
# NI20-M30-AD6X

## Inductive Sensor



### Technical data

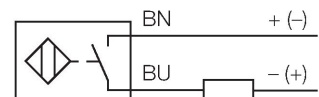
|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | NI20-M30-AD6X                                       |
| ID                                     | 100018024                                           |
| General data                           |                                                     |
| Rated switching distance               | 20 mm                                               |
| Mounting conditions                    | Non-flush                                           |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm                         |
| Correction factors                     | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeat accuracy                        | $\leq 2$ % of full scale                            |
| Temperature drift                      | $\leq \pm 10$ %                                     |
| Hysteresis                             | 1...15 %                                            |
| Electrical data                        |                                                     |
| Operating voltage $U_B$                | 10...30 VDC                                         |
| Ripple $U_{ss}$                        | $\leq 10$ % $U_{Bmax}$                              |
| DC rated operating current $I_o$       | $\leq 100$ mA                                       |
| Residual current                       | $\leq 0.6$ mA                                       |
| Isolation test voltage                 | 0.5 kV                                              |
| Short-circuit protection               | yes/Cyclic                                          |
| Voltage drop at $I_o$                  | $\leq 5$ V                                          |
| Wire break/reverse polarity protection | Complete                                            |
| Output function                        | NO contact, 2-wire                                  |
| Smallest operating current             | $\geq 3$ mA                                         |
| Switching frequency                    | 0.2 kHz                                             |
| Mechanical data                        |                                                     |
| Design                                 | Threaded barrel, M30 x 1.5                          |
| Dimensions                             | 64 mm                                               |
| Housing material                       | Metal, CuZn, Chrome-plated                          |



### Features

- M30 x 1.5 threaded tube
- Chrome-plated brass
- DC 2-wire, 10...30 VDC
- NO contact
- Cable connection

### Wiring diagram



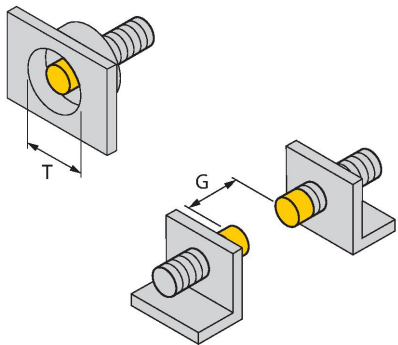
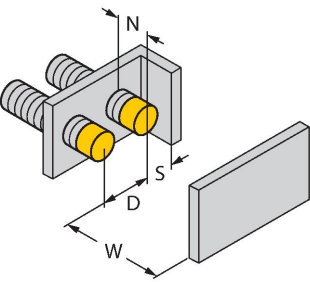
### Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

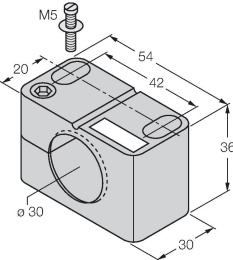
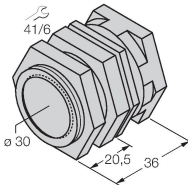
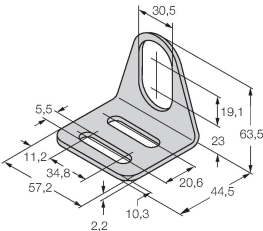
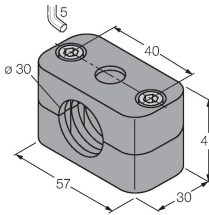
Technical data

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| Active area material                  | Plastic, PA12-GF30                         |
| End cap                               | Plastic, EPTR                              |
| Max. tightening torque of housing nut | 75 Nm                                      |
| Electrical connection                 | Cable                                      |
| Cable quality                         | Ø 5.2 mm, LifYY, PVC, 2 m                  |
| Core cross-section                    | 2 x 0.34 mm <sup>2</sup>                   |
| Environmental conditions              |                                            |
| Ambient temperature                   | -25...+70 °C                               |
| Vibration resistance                  | 55 Hz (1 mm)                               |
| Shock resistance                      | 30 g (11 ms)                               |
| Protection class                      | IP67                                       |
| MTTF                                  | 2283 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             | 1.5 x B |
|                                                                                     | Distance G             | 6 x Sn  |
|                                                                                     | Distance N             | 20 mm   |
|                                                                                     | Diameter active area B | Ø 30 mm |

Accessories

|                                                                                   |         |                                                                                              |                                                                                    |         |                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BST-30B                                                                           | 6947216 | Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6                    | QM-30                                                                              | 6945103 | Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets. |
|  |         |                                                                                              |  |         |                                                                                                                                                                                              |
| MW30                                                                              | 6945005 | Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304) | BSS-30                                                                             | 6901319 | Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene                                                                                                               |
|  |         |                                                                                              |  |         |                                                                                                                                                                                              |