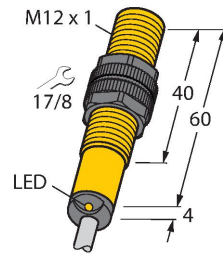


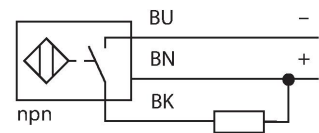
# NI5-S12-AN5X/5 Inductive Sensor



## Features

- Threaded barrel, M12 x 1
- Plastic, PA12-GF30
- DC 3-wire, 4.75...5.25 VDC
- NO contact, NPN output
- TTL compatible
- Cable connection

## Wiring diagram



## Technical data

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | NI5-S12-AN5X/5                                      |
| ID                                     | 1510611                                             |
| <b>General data</b>                    |                                                     |
| Rated switching distance               | 5 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...10 %                                            |
| <b>Electrical data</b>                 |                                                     |
| Operating voltage $U_B$                | 4.75...5.25 VDC                                     |
| Ripple $U_{rs}$                        | $\leq 10$ % $U_{Bmax}$                              |
| DC rated operating current $I_o$       | $\leq 50$ mA                                        |
| No-load current                        | $\leq 6$ mA                                         |
| Residual current                       | $\leq 0.1$ mA                                       |
| Isolation test voltage                 | 0.5 kV                                              |
| Short-circuit protection               | yes/Cyclic                                          |
| Voltage drop at $I_o$                  | $\leq 0.1$ V                                        |
| Wire break/reverse polarity protection | yes                                                 |
| Output function                        | 3-wire, NO contact, NPN                             |
| Switching frequency                    | 1.5 kHz                                             |

## Functional principle

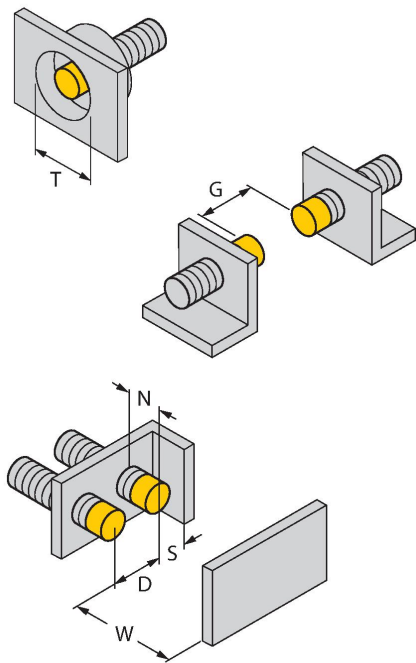
Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

Technical data

| Mechanical data                       |                                            |
|---------------------------------------|--------------------------------------------|
| Design                                | Threaded barrel, M12 x 1                   |
| Dimensions                            | 64 mm                                      |
| Housing material                      | Plastic, PA12-GF30                         |
| Active area material                  | Plastic, PA12-GF30                         |
| End cap                               | Plastic, EPTR                              |
| Max. tightening torque of housing nut | 1 Nm                                       |
| Electrical connection                 | Cable                                      |
| Cable quality                         | Ø 5.2 mm, LifYY, PVC, 2 m                  |
| Core cross-section                    | 3 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             | 2 x Sn  |
| Diameter active area B | Ø 12 mm |

NI5-S12-AN5X/5 | 02/21/2025 13-38 | technical changes reserved

## Accessories

QM-12

6945101

Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



BST-12B

6947212

Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



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

