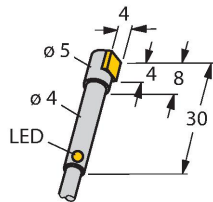


# BI1-HS540-AN6X

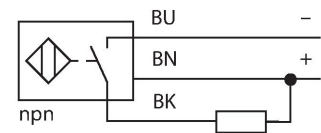
## Inductive Sensor



### Features

- Smooth barrel, Ø 4 mm
- Active face, lateral
- Stainless steel, 1.4427 SO
- DC 3-wire, 10...30 VDC
- NO contact, NPN output
- 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

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | BI1-HS540-AN6X                                      |
| ID                                     | 4604101                                             |
| General data                           |                                                     |
| Rated switching distance               | 1 mm                                                |
| Mounting conditions                    | 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                             | 3...15 %                                            |
| Electrical data                        |                                                     |
| Operating voltage $U_B$                | 10...30 VDC                                         |
| Ripple $U_{rs}$                        | $\leq 10$ % $U_{Bmax}$                              |
| DC rated operating current $I_o$       | $\leq 100$ mA                                       |
| No-load current                        | $\leq 15$ mA                                        |
| Residual current                       | $\leq 0.1$ mA                                       |
| Isolation test voltage                 | 0.5 kV                                              |
| Short-circuit protection               | yes/Cyclic                                          |
| Voltage drop at $I_o$                  | $\leq 1.8$ V                                        |
| Wire break/reverse polarity protection | yes/Complete                                        |
| Output function                        | 3-wire, NO contact, NPN                             |
| Switching frequency                    | 3 kHz                                               |

## Technical data

| Mechanical data          |                                                                     |
|--------------------------|---------------------------------------------------------------------|
| Design                   | Smooth barrel, 4 mm                                                 |
| Dimensions               | 30 mm                                                               |
| Housing material         | Stainless steel, 1.4427 SO                                          |
| Active area material     | Plastic, PA12-GF30                                                  |
| Electrical connection    | Cable                                                               |
| Cable quality            | Ø 3 mm, Gray, Lif9Y-11Y, PUR, 2 m                                   |
|                          | Suited for E-ChainSystems® acc. to manufacturers declaration H1063M |
| Core cross-section       | 3 x 0.14 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             |
|                                   | 2 x B                  |
|                                   | Distance W             |
|                                   | 3 x Sn                 |
|                                   | Distance T             |
|                                   | 3 x B                  |
|                                   | Distance S             |
|                                   | 1.5 x B                |
|                                   | Distance G             |
|                                   | 6 x Sn                 |
|                                   | Diameter active area B |
|                                   | Ø 4 mm                 |

Sensors of the HS540 series should only be mounted with the mounting clips BS540 (Id.-No. 69475), MBS40 (Id.-No. 69477) or with similar wide area mounting aids.

## Accessories

MBS40

69477

Fixing clamp; material mounting  
block: Anodized aluminium

