Inductive sensor
BI1-EG05-AP6X

Type
BI1-EG05-AP6X

Ident-No.
4609740

Rated operating distance Sn
1 mm

Mounting condition
flush

Assured sensing range
≤ (0.81 x Sn) mm

Correction factors
St37 = 1, V2A ~ 0.7, Ms ~ 0.4, Al ~ 0.3

Repeatability
≤ 2 %

Temperature drift
10 %

Hysteresis
3…15 %

Ambient temperature
-25…+70 °C

Operating voltage
10…30VDC

Residual ripple
≤ 10 % Uss

No-load current I0
≤ 15 mA

Residual current
≤ 0.1 mA

Rated insulation voltage
≤ 0.5 kV

Short-circuit protection
yes/ cyclic

Voltage drop at I0
≤ 1.8 V

Wire breakage / Reverse polarity protection
yes/ complete

Output function
3-wire, NO contact, PNP

Switching frequency
3 kHz

Design
Threaded barrel, M5 x 0.5

Dimensions
30 mm

Housing material
Metal, V4A (1.4404)

Material active face
Plastic, PBT-GF20

Max. tightening torque housing nut
5 Nm

Connection
Cable

Cable quality
3 mm, LifYY-11Y, PUR, 2 m

Cable cross section
3 x 0.14 mm²

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

Wiring diagram

Functional principle
Inductive sensors detect metal objects contactless and wear-free. For this purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit.
**Inductive sensor**

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<th>Mounting instructions</th>
<th>minimum distances</th>
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<tbody>
<tr>
<td>Distance D</td>
<td>2 x B</td>
</tr>
<tr>
<td>Distance W</td>
<td>3 x Sn</td>
</tr>
<tr>
<td>Distance T</td>
<td>3 x B</td>
</tr>
<tr>
<td>Distance S</td>
<td>1.5 x B</td>
</tr>
<tr>
<td>Distance G</td>
<td>6 x Sn</td>
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</tbody>
</table>

| Diameter of the active area B | Ø 5 mm |

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![Diagram of sensor mountings and distances](image-url)