Inductive sensor
BI10-M30-AD4X

Type code
BI10-M30-AD4X

Ident no.
44170

Rated switching distance Sn
10 mm

Mounting conditions
flush

Assured switching distance
≤ (0.81 x Sn) mm

Correction factors
St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4

Repeatability
≤ ± 2 % of full scale

Temperature drift
≤ ± 10 %

Hysteresis
1…15 %

Ambient temperature
-25…+70 °C

Operating voltage
10…65VDC

Residual ripple
≤ 10 % Uss

DC rated operational current
≤ 100 mA

Residual current
≤ 0.6 mA

Rated insulation voltage
≤ 0.5 kV

Short-circuit protection
yes/ cyclic

Voltage drop at Ie
≤ 5 V

Smallest operating current Im
≥ 3 mA

Switching frequency
0.5 kHz

Construction
Threaded barrel, M30 x 1.5

Dimensions
64 mm

Housing material
Metal, CuZn, chrome-plated

Active area material
Plastic, PA

End cap
Plastic, EPTR

Max. tightening torque housing nut
75 Nm

Connection
cable

Cable quality
5.2 mm, LifYY, PVC, 2m

Cable cross section
2 x 0.34 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

BN + (-)

BU - (+)

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.
### Inductive sensor
**BI10-M30-AD4X**

<table>
<thead>
<tr>
<th>Distance</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>2 x B</td>
</tr>
<tr>
<td>W</td>
<td>3 x Sn</td>
</tr>
<tr>
<td>T</td>
<td>3 x B</td>
</tr>
<tr>
<td>S</td>
<td>1.5 x B</td>
</tr>
<tr>
<td>G</td>
<td>6 x Sn</td>
</tr>
</tbody>
</table>

**Diameter of the active area B**

\[ \Phi \text{ 30 mm} \]
## Accessories

<table>
<thead>
<tr>
<th>Type code</th>
<th>Ident no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST-30B</td>
<td>6947216</td>
<td>Fixing clamp for threaded barrel devices, with dead-stop; material: PA6</td>
</tr>
<tr>
<td>QM-30</td>
<td>6945103</td>
<td>Quick-mount bracket 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-mount brackets.</td>
</tr>
<tr>
<td>MW-30</td>
<td>6945005</td>
<td>Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)</td>
</tr>
<tr>
<td>BSS-30</td>
<td>6901319</td>
<td>Mounting bracket for smooth and threaded barrel devices; material: Polypropylene</td>
</tr>
</tbody>
</table>