Inductive sensor
With extended temperature range
BI5-M18-AZ3X/S120

Type code
Ident-No.
Ident-No (TUSA)

Rated operating distance Sn
Mounting condition
Assured switching distance
Repeatability
Temperature drift
Hysteresis
Ambient temperature

Operating voltage
AC rated operational current
Frequency
Residual current
Rated insulation voltage
Surge current
Voltage drop at Ie
Output function
Smallest operating current Ie
Switching frequency

Construction
Dimensions
Housing material
Material active area
End cap
Max. tightening torque housing nut
Connection
Cable quality
Cable cross section
Vibration resistance
Shock resistance
Protection class

Switching state

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Threaded barrel, M18 x 1
Chrome-plated brass
Temperatures up to +120 °C
AC 2-wire, 20…250 VDC
NO contact
Cable connection

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.

Special versions are available for ambient temperatures between -60°C and +250°C.

Derating curve
Inductive sensor
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<table>
<thead>
<tr>
<th>Distance</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>2 \times B</td>
</tr>
<tr>
<td>W</td>
<td>3 \times Sn</td>
</tr>
<tr>
<td>T</td>
<td>3 \times B</td>
</tr>
<tr>
<td>S</td>
<td>1.5 \times B</td>
</tr>
<tr>
<td>G</td>
<td>6 \times Sn</td>
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Diameter of the active area B

\[ \varnothing 18 \text{ mm} \]