# IMT 12

Inductive sensor M12 / increased switching distance / analogue output



## PRODUCT-HIGHLIGHTS

- Long sensing range
- Outstanding accuracy and temperature stability
- Resolution in µm range
- Analogue output 0 … 10 V or 4 … 20 mA

| Sensor data | |
|---|---|
| Operating range | 0 ... 6 mm |
| Resolution static | ≤ 0.18 µm |
| Resolution dynamic | ≤ 0.9 µm |
| Repeatability | ± 0.32 mm |
| Temperature drift | ≤ 5 % (0 … +70 °C)<br>≤ 10 % (-25 … 0 °C) |
| Correction factor steel FE 360 | 1 |
| Correction factor V2A | 0.8 |
| Correction factor CuZn | 0.43 |
| Correction factor Al | 0.33 |
| Correction factor Cu | 0.28 |

| Electrical data | |
|---|---|
| Operating voltage, $+U_B$ | 15 … 30 V DC |
| Residual ripple | ≤ 20 % $U_B$ |
| No-load current, $I_0$ | ≤ 10 mA |
| Protective circuits | Reverse-polarity protection, $U_B$ /<br>short-circuit protection (Q) |
| Load current at voltage output | ≤ 15 mA |
| Power-on delay | ≤ 20 ms |
| Max. load at current output | 400 Ω ($U_B$ = 15 V) /<br>1 kΩ ($U_B$ = 30 V) |
| Bandwidth | 1 kHz |

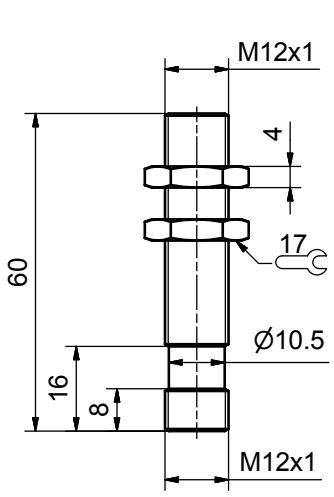
| Mechanical data | |
|---|---|
| Dimensions | M12 x 60 mm |
| Mounting | Quasi-flush |
| Enclosure rating | IP 67[1] |
| Material housing | Brass, chrome-plated |
| Material active surface | PBTP |
| Type of connection | Metal plug, M12x1, 4-pin |
| Ambient temperature: operation | -25 … +70 °C |
| Ambient temperature: storage | -25 … +70 °C |
| Weight | 27 g |
| Vibration and impact resistance | EN IEC 60947-5-2 |
| Tightening torque | 10 Nm |
| Standard target FE 360 | 18 mm x 18 mm x 1 mm |

[1] With connected IP 67 plug

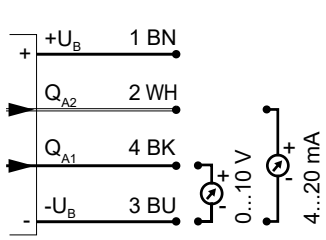
All data measured according to standard EN IEC 60947-5-2 with $U_B$ = 20 ... 30 V DC, $T_A$ = 23 °C ± 5 °C
The switching distance of the sensor must be multiplied by the correction factor of the material. The switching distance on aluminium is thus $S_{n\,AL} = S_n \times CF_{AL}$.
For flush mounting the distance is multiplied by the additional correction factor of the backing material, $S_n$ Al= $S_n \times CF_{AL} \times CF_{\text{mounting material}}$

| Operating range | Analogue output | Type of connection | Part number | Article number |
|---|---|---|---|---|
| 0 ... 6 mm | 0 … 10 V / 4 … 20 mA | Metal plug M12x1, 4-pin | IMT 12-A-QB3-PS-L4M | 996-01034 |

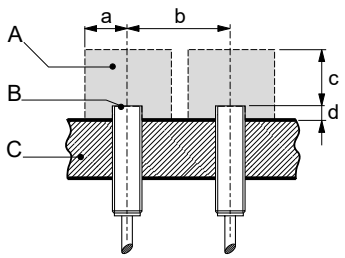
## Plug connection




## Connection, 4-pin




## Mounting




| | |
|---|---|
| A: Metal-free zone | a: 12 mm |
| B: Active surface | b: 14 mm |
| C: Backing material | c: 18 mm |
| | d: 2 mm |

## Signal process

