IMT 12

Inductive sensor M12 / standard switching distance



PRODUCT-HIGHLIGHTS

- Various parameterization options
- IO-Link 1.1

Sensor data	
Rated operating distance S_n	4 mm[1] / 8 mm[2]
Ensured operating distance S_a	≤ 3.24 mm[1] / ≤ 6.48 mm[2]
Hysteresis	≤ 20 % S_r typ.[3]
Repeatability	≤ 0.2 mm[1] / ≤ 0.4 mm[2]
Temperature drift	≤ 10 % S_r
Correction factor steel FE 360	1
Correction factor V2A	0.8[1] / 0.75[2]
Correction factor CuZn	0.54[1] / 0.55[2]
Correction factor Al	0.44[1] / 0.7[2]
Correction factor Cu	0.4[1] / 0.45[2]

Functions	
Indicator LED yellow	Switching output indicator
Adjustment possibilities	N.O. / N.C. Wide variety of adjustment possibilities via IO-Link
Default settings	N.O.

Electrical data	
Operating voltage, $+U_B$	10 … 30 V DC
Residual ripple	≤ 20 % U_B
No-load current, I_0	≤ 10 mA
Output current, Ie	≤ 200 mA
Protective circuits	Induction protection / reverse-polarity protection, U_B / short-circuit protection (Q)
Residual current	≤ 0.1 mA
Voltage drop, U_D	≤ 2.0 V DC at 200 mA
Switching output, Q	PNP
Output function	N.O./N.C.[4]
Power-on delay	≤ 60 ms[1] / ≤ 50 ms[2]
Switching frequency f (ti/tp 1:1)	≤ 2.5 kHz[1] / ≤ 1.4 kHz[2]

Mechanical data	
Dimensions	M12 x 60 mm
Mounting	Flush / non-flush (see selection table)
Enclosure rating	IP 67[5]
Material housing	Brass, nickel-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	25 g[1] / 29 g[2]
Vibration and impact resistance	EN IEC 60947-5-2
Tightening torque	10 Nm
Standard target FE 360	12 mm x 12 mm x 1 mm[1] / 24 mm x 24 mm x 1 mm[2]

IO-Link	
Communication mode	COM 2
Min. cycletime	10.4 ms
SIO mode	Compatible
Length process data	2 Bit
Specification	1.1
ISDU	Not compatible

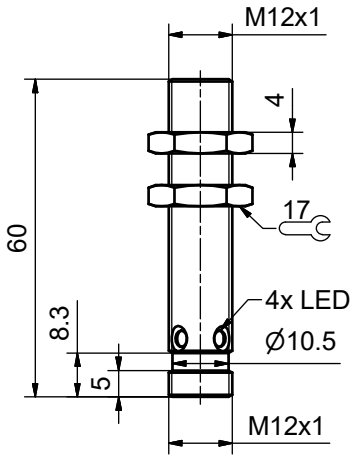
[1] Flush devices [2] Non-flush devices [3] S_r (Effective switching distance) = ± 10 % of S_n [4] Adjustable / parameterisable via IO-Link [5] With connected IP 67 plug

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= $S_n \times CF_{AL} \times CF_{\text{mounting material}}$

Switching distance	Mounting	Switching output	Type of connection	Part number	Article number
4 mm	Flush	PNP	Metal plug, M12x1, 4-pin, IO-Link	IMT 12-S-B2-PSL-L4M	996-01008
8 mm	Non-flush	PNP	Metal plug, M12x1, 4-pin, IO-Link	IMT 12-S-NB2-PSL-L4M	996-01009

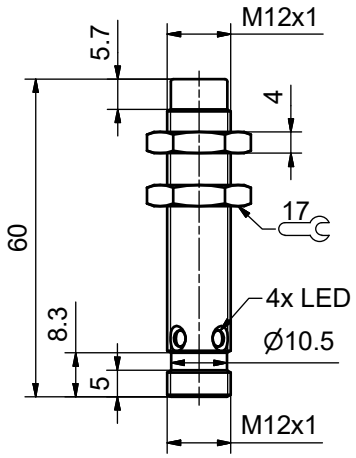
Plug connection[1]

153-13611



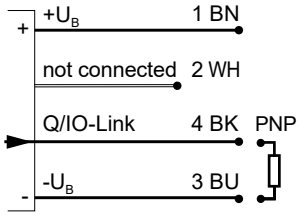
Plug connection[2]

153-13612



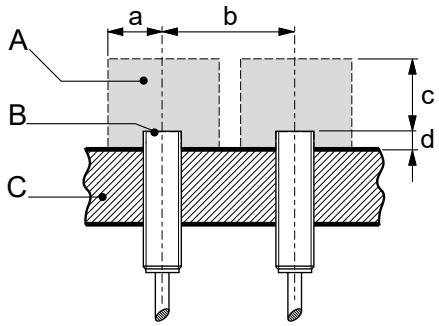
Connection, 4-pin, IO-Link

154-00586



Mounting

155-03390



A: Metal-free zone	a: 10 mm[1] / 20 mm[2]
B: Active surface	b: 24 mm[1] / 45 mm[2]
C: Backing material	c: 12 mm[1] / 24 mm[2]
	d: -[1] / 9 mm[2]

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