IMT 8

Inductive sensor M8 / all-metal housing / factor 1



PRODUCT-HIGHLIGHTS

- One-piece full stainless-steel housing
- Long operating range
- Factor 1 sensor on steel and aluminium
- Extremely robust
- Pressure-tight / watertight IP 68 / IP 69K
- IO-Link 1.1

Sensor data	
Rated operating distance S_n	3 mm[1] / 6 mm[2]
Ensured operating distance S_a	≤ 2.43 mm[1] / ≤ 4.86 mm[2]
Hysteresis	3 % S_r ≤ Hyst ≤ 15 % S_r[3]
Repeatability	≤ 0.12 mm[1] / ≤ 0.2 mm[2]
Temperature drift	≤ 10 % S_r

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	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	≤ 10 ms
Switching frequency f (ti/tp 1:1)	1.2 kHz[1] / ≤ 0.7 kHz[2]

Mechanical data	
Dimensions	M8 x 60 mm
Mounting	Flush / non-flush (see selection table)
Enclosure rating	IP 68 (100 bar) [5/6] / IP 69K[6]
Material housing / active surface	Stainless steel, V2A / 1.4305 / AISI 303
Type of connection	Stainless steel plug, V2A, M8x1, 3-pin
Ambient temperature: operation	-25 … +85 °C[7]
Ambient temperature: storage	-25 … +85 °C
Weight	13 g
Vibration and impact resistance	EN IEC 60947-5-2
Tightening torque	8 Nm
Standard target FE 360	9 mm x 9 mm x 1 mm[1] / 18 mm x 18 mm x 1 mm[2]

IO-Link	
Communication mode	COM 2
Min. cycletime	10.4 ms
SIO mode	Compatible
Length process data	7 Bit
Specification	1.1
ISDU	Not compatible

Correction factors	Target	Installation material
Steel FE 360	1[1/2]	0.8[1] / -[2]
V2A 1 / 2 mm	0.4/0.8[1] / 0.3/0.8[2]	0.8[1] / -[2]
CuZn	1.3[1] / 1.35[2]	0.9[1] / -[2]
Al	1[1/2]	1.1[1] / -[2]
Cu	0.9[1] / 0.8[2]	-

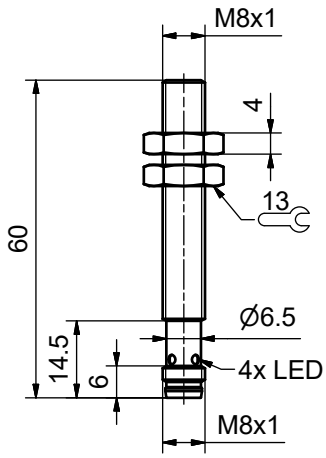
[1] Flush devices [2] Non-flush devices [3] S_r (Effective switching distance) = ± 10 % of S_n [4] Adjustable / parameterisable via IO-Link [5] In zone "P" [6] With connected IP 68 / IP 69K plug
[7] UL: -25 … +70 °C

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
3 mm	Flush	PNP	Stainless steel plug,V2A, M8x1, 3-pin, IO-Link	IMT 8-FM-S-B2-PSL-M3M	996-01025
6 mm	Non-flush	PNP	Stainless steel plug,V2A, M8x1, 3-pin, IO-Link	IMT 8-FM-S-NB2-PSL-M3M	996-01026

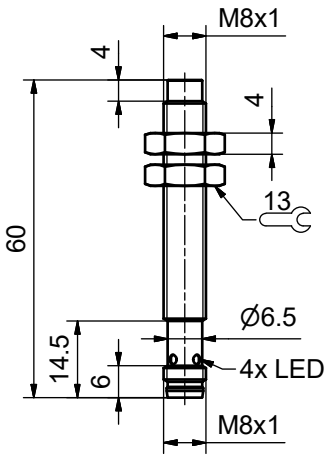
Plug connection[1]

153-13617



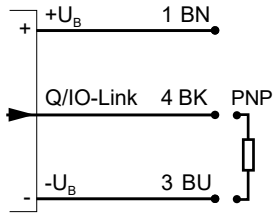
Plug connection[2]

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Connection, 3-pin, IO-Link

154-00583

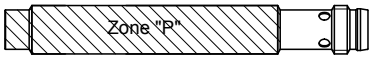


[5] Zone "P"

155-03420

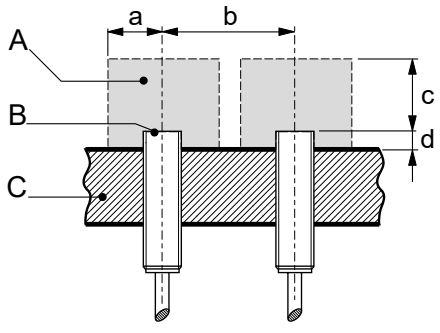


155-03421



Mounting

155-03390



A: Metal-free zone	a: 6 mm[1] / 18 mm[2]
B: Active surface	b: 22 mm[1] / 60 mm[2]
C: Backing material	c: 9 mm[1] / 18 mm[2]
	d: 0 mm[1] / 14 mm[2]