IMT 30

Inductive sensor M30 / 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 ... 20 mm[1] / 0 ... 40 mm[2]
Resolution static	≤ 0.41 µm[1] / ≤ 1.42 µm[2]
Resolution dynamic	≤ 1.55 µm[1] / ≤ 5.5 µm[2]
Repeatability	± 0.02 mm[1] / ± 0.35 mm[2]
Temperature drift	≤ 5 % (0 … +70 °C) ≤ 10 % (-25 … 0 °C)
Correction factor steel FE 360	1
Correction factor V2A	0.7[1] / 0.76[2]
Correction factor CuZn	0.4[1] / 0.49[2]
Correction factor Al	0.32[1] / 0.44[2]
Correction factor Cu	0.28[1] / 0.4[2]

Electrical data	
Operating voltage, $+U_B$	15 … 30 V DC
Residual ripple	≤ 20 % U_B
No-load current, I_0	≤ 12 mA
Protective circuits	Reverse-polarity protection, U_B / 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) / 1 kΩ (U_B = 30 V)
Bandwidth	0.2 kHz[1] / 0.1 kHz[2]

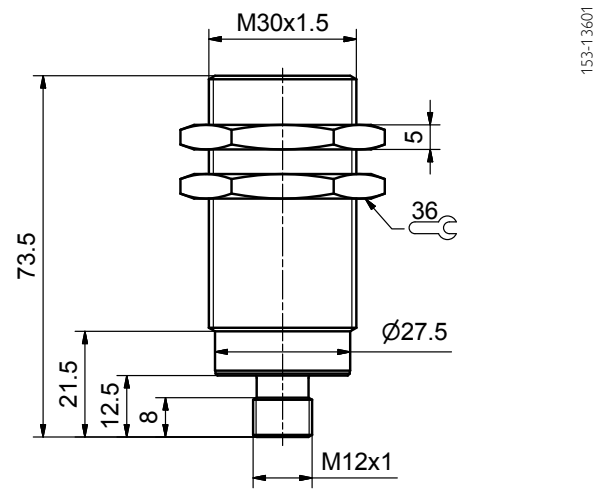
Mechanical data	
Dimensions	M30 x 73.5 mm
Mounting	Quasi-flush / non-flush (see selection table)
Enclosure rating	IP 67[3]
Material housing	Brass, chrome-plated
Material active surface	PBTP
Type of connection	Metal plug, M12x1, 4-pin
Ambient temperature: operation	-25 … +70 °C
Ambient temperature: storage	-25 … +70 °C
Weight	155 g
Vibration and impact resistance	EN IEC 60947-5-2
Tightening torque	70 Nm
Standard target FE 360	60 mm x 60 mm x 1 mm[1] / 120 mm x 120 mm x 1 mm[2]

[1] Quasi-flush devices [2] Non-flush devices [3] With connected IP 67 plug

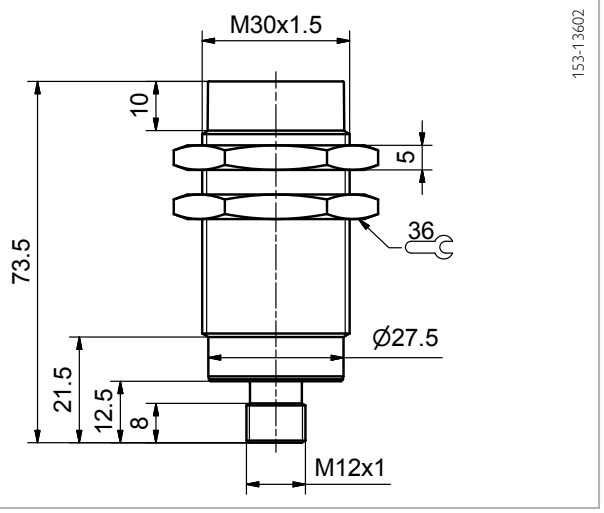
All data measured according to standard EN IEC 60947-5-2 with U_B = 20 ... 30 V DC, T_A = 23 °C ± 5 °C
The switching distance of the sensor must be multiplied by the correction factor of the material. The switching distance on aluminium is thus $S_{n\,AL} = S_n \times CF_{AL}$.
For flush mounting the 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	Mounting	Analogue output	Type of connection	Part number	Article number
0 ... 20 mm	Quasi-flush	0 … 10 V / 4 … 20 mA	Metal plug, M12x1, 4-pin	IMT 30-A-QB3-PS-L4M	996-01037
0 ... 40 mm	Non-flush	0 … 10 V / 4 … 20 mA	Metal plug, M12x1, 4-pin	IMT 30-A-NB3-PS-L4M	996-01038

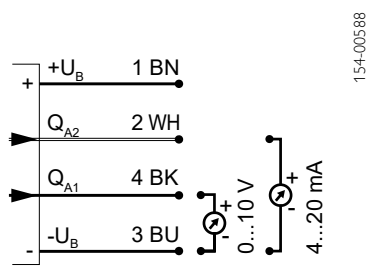
Plug connection[1]



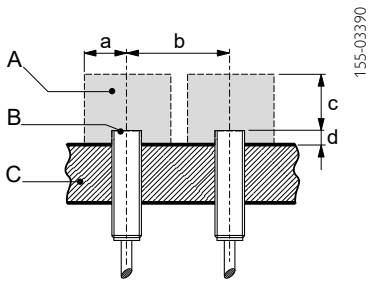
Plug connection[2]



Connection, 4-pin

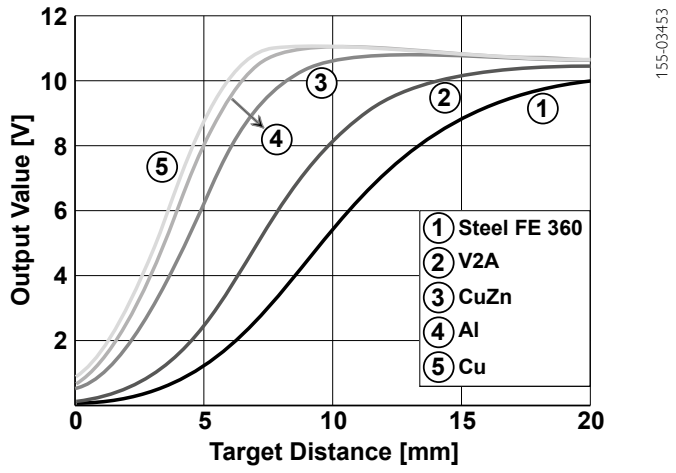


Mounting



A: Metal-free zone	a: 35 mm[1] / 55 mm[2]
B: Active surface	b: 80 mm[1] / 150 mm[2]
C: Backing material	c: 60 mm[1] / 120 mm[2]
	d: 4 mm[1] 35 mm[2] Stahl FE 360 25 mm[2] Aluminium 25 mm[2] Messing 20 mm[2] V2A

Signal process[1]



Signal process[2]

