

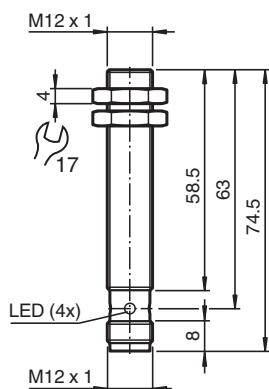


Inductive sensor NBB4-12GM60-E2-V1

- Extended temperature range
-40 ... +85 °C



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	S_n	4 mm
Installation		flush
Output polarity		DC
Assured operating distance	S_a	0 ... 3.24 mm
Actuating element		mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 12 mm x 12 mm x 1 mm
Reduction factor r_{Al}		0.4
Reduction factor r_{Cu}		0.35
Reduction factor r_{304}		0.79
Reduction factor r_{Brass}		0.49
Output type		3-wire

Nominal ratings

Operating voltage	U_B	6 ... 36 V
Switching frequency	f	0 ... 2550 Hz

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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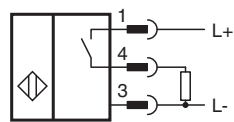
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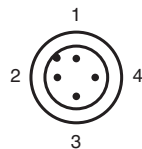
Technical Data

Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	$\leq 1 \text{ V}$
Operating current	I_L	0 ... 200 mA
Off-state current	I_r	max. 20 μA
No-load supply current	I_0	$\leq 10 \text{ mA}$
Time delay before availability	t_v	$\leq 10 \text{ ms}$
Switching state indicator		Multihole-LED, yellow
Safety-relevant product characteristics		
MTTF _d		1607 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Conformity		
PWIS conformity		VDMA 24364-A1/B2/C1/T100°C-W
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
Protection class		II
Rated insulation voltage	U_i	36 V
Rated impulse withstand voltage	U_{imp}	500 V
UL approval		cULus Listed Load Type: General Purpose Circuitry: Class 2 Power Source Enclosure Type Rating: Type 1 Supply/Switching Voltage: 36 V DC Output Switching Current: 200 mA
CCC approval		CCC approval / marking not required for products rated $\leq 36 \text{ V}$
Marine approval		DNVGL TAA00003AK
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		Connector plug
Housing material		brass , white bronze coated
Sensing face		PBT , green
Degree of protection		IP65 / IP66 / IP67 / IP68 / IP69
Connector		
Threading		M12 x 1
Number of pins		3
Mass		29 g
Dimensions		
Length		74.5 mm
Diameter		12 mm
Mounting		with nuts, M12
Tightening torque		$\leq 10 \text{ Nm}$
General information		
Scope of delivery		2 self locking nuts in scope of delivery

Connection Assignment



Connection Assignment



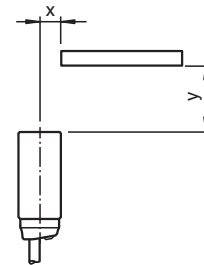
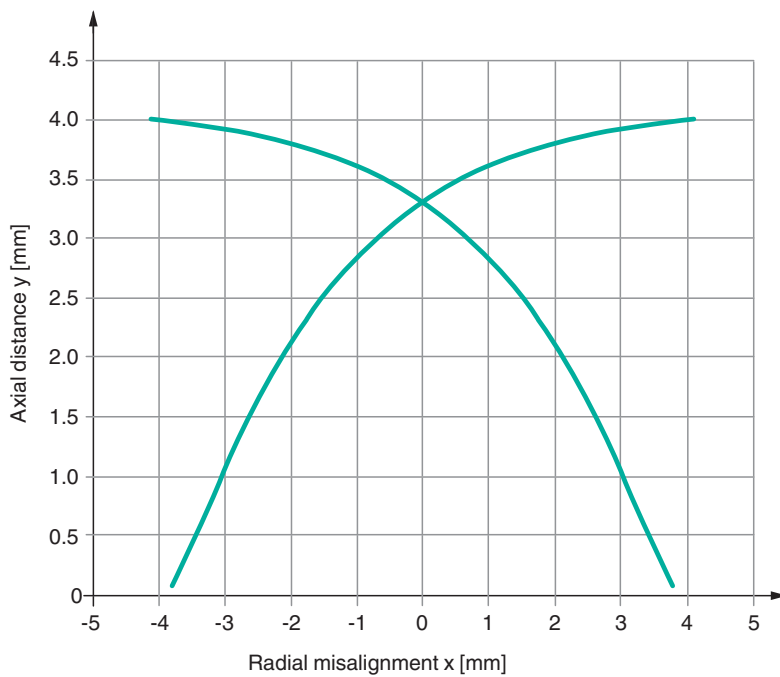
Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

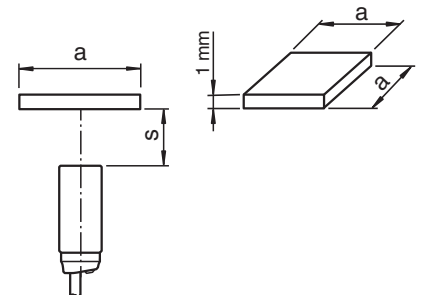
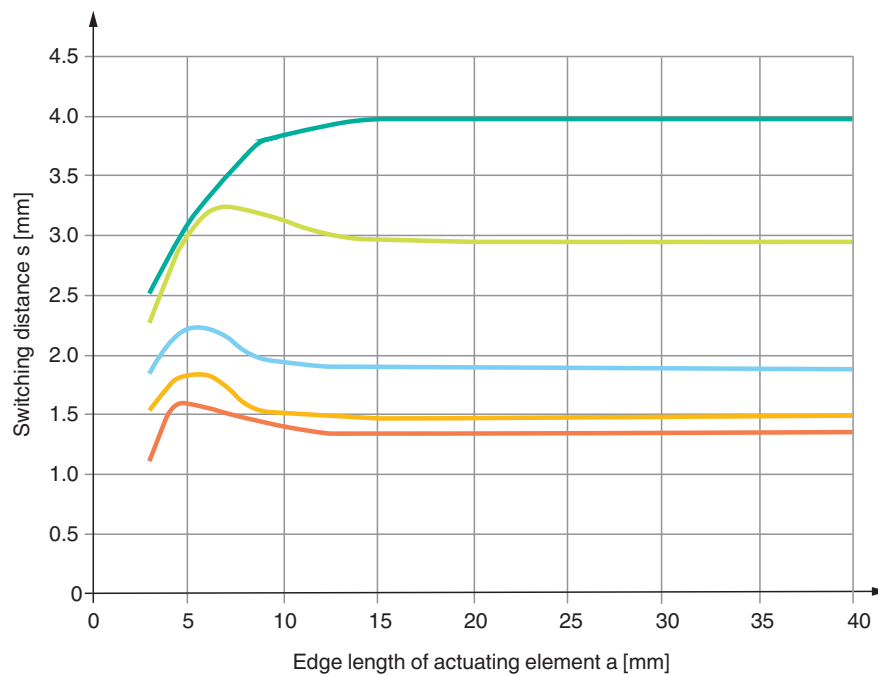
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Characteristic Curve

Actuation by radial approach (standard target)



Switching distance depending on the actuating element



- Steel
- Stainless steel
- Brass
- Aluminum
- Copper