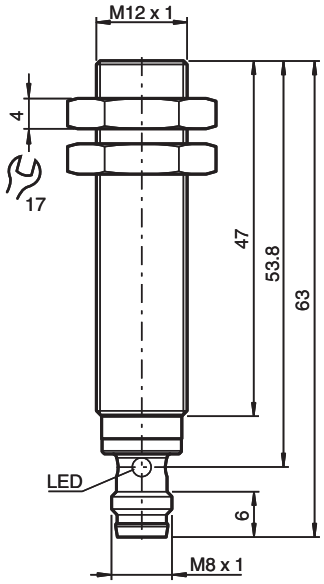
Inductive sensor

NBB4-12GM50-E0-V3



- 4 mm flush
- Increased operating distance
- Extended temperature range -40 ... +85 °C
- Extended operating voltage range
- Flexible use with versatile mounting opportunities
- Extremely high switching frequency

Dimensions



Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		NPN
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

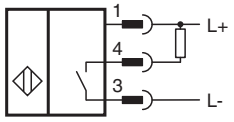
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Technical Data

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
Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 1 V
Operating current	I_L	0 ... 200 mA
Off-state current	I_r	max. 150 µA
No-load supply current	I_0	≤ 10 mA
Time delay before availability	t_v	≤ 10 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 %
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 ≤36 V
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		IP67
Connector		
Threading		M8 x 1
Number of pins		3
Mass		32 g
Dimensions		
Length		63 mm
Diameter		12 mm
Mounting		with nuts, M12
Tightening torque		≤ 10 Nm
General information		
Scope of delivery		2 self locking nuts in scope of delivery

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Connection Assignment



Connection Assignment



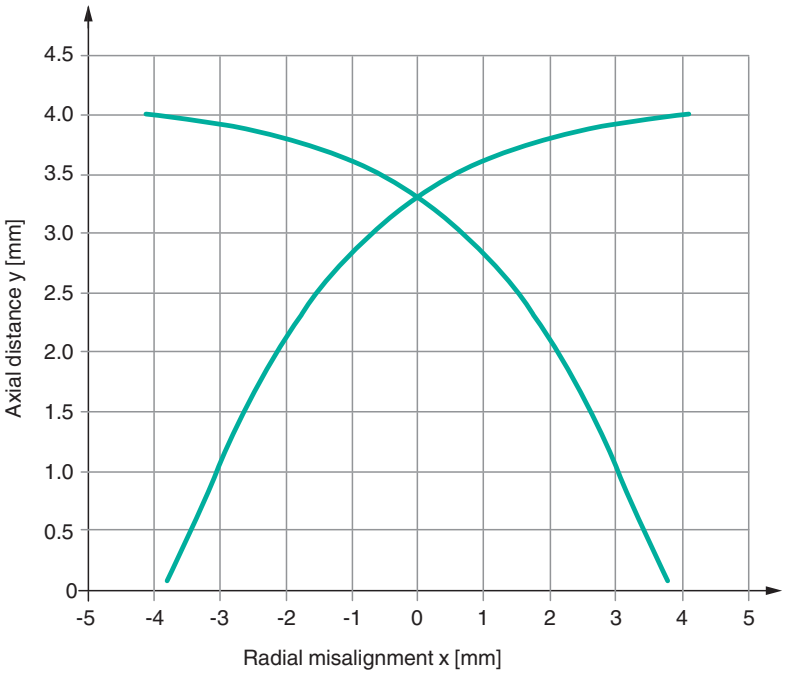
Wire colors in accordance with EN 60947-5-2

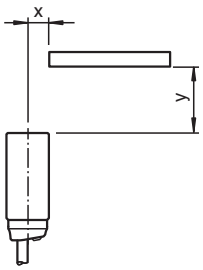
1	BN	(brown)
3	BU	(blue)
4	BK	(black)

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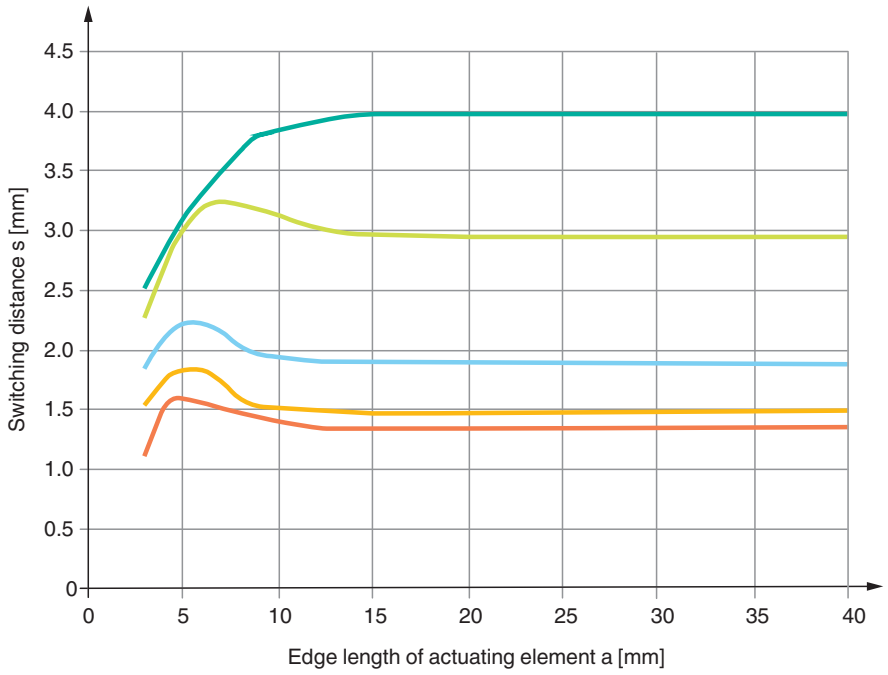
Characteristic Curve

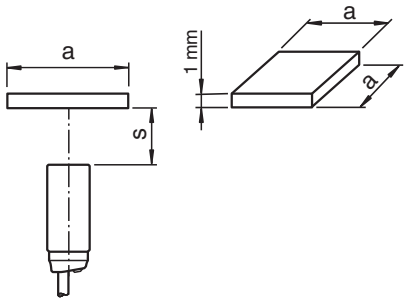
Actuation by radial approach (standard target)





Switching distance depending on the actuating element







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