

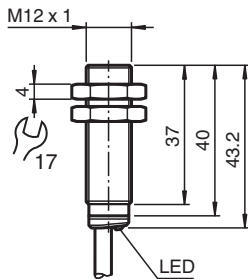
Inductive sensor

NBB2-12GM40-E0

- 2 mm flush
- Extended temperature range
-40 ... +85 °C
- Extended operating voltage range
- Flexible use with versatile mounting opportunities



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		NPN
Rated operating distance	s_n	2 mm
Installation		flush
Output polarity		DC
Assured operating distance	s_a	0 ... 1.62 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}		0.29
Reduction factor r_{Cu}		0.23
Reduction factor r_{304}		0.78
Reduction factor r_{Brass}		0.42
Output type		3-wire

Nominal ratings

Operating voltage	U_B	6 ... 36 V
Switching frequency	f	0 ... 3500 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 μ A
No-load supply current	I_o	≤ 10 mA
Time delay before availability	t_v	≤ 10 ms
Switching state indicator		LED, yellow

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Technical Data

Functional safety related parameters

MTTF _d	1607 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Conformity

PWIS conformity	VDMA 24364-C1/T100°C-W
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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, General Purpose, Class 2 Power Source
CCC approval	CCC approval / marking not required for products rated ≤36 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	cable
Housing material	brass , white bronze coated
Sensing face	PBT , green
Degree of protection	IP65 / IP66 / IP67 / IP68

Cable

Wire end ferrules	yes
Cable diameter	4.3 mm ± 0.15 mm
Bending radius	> 10 x cable diameter
Material	PVC
Color	black
Number of cores	3
Core cross section	0.34 mm ²
Length	L 2 m
Mass	83 g

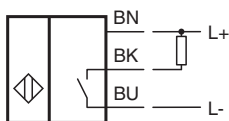
Dimensions

Length	43 mm
Diameter	12 mm
Mounting	with nuts, M12
Tightening torque	≤ 10 Nm

General information

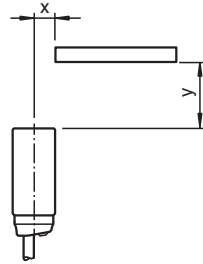
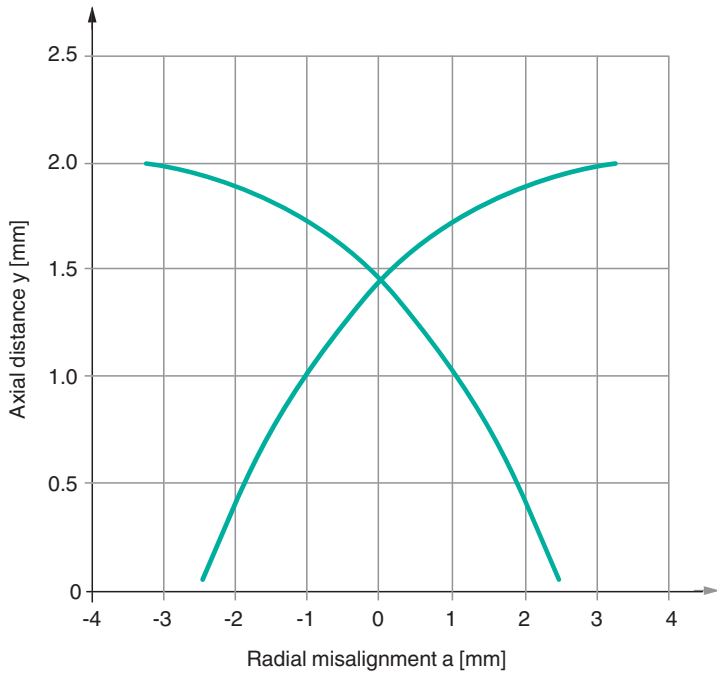
Scope of delivery	2 self locking nuts in scope of delivery
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Connection

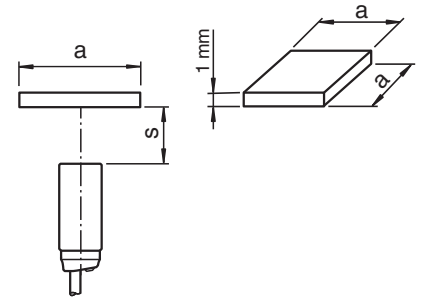
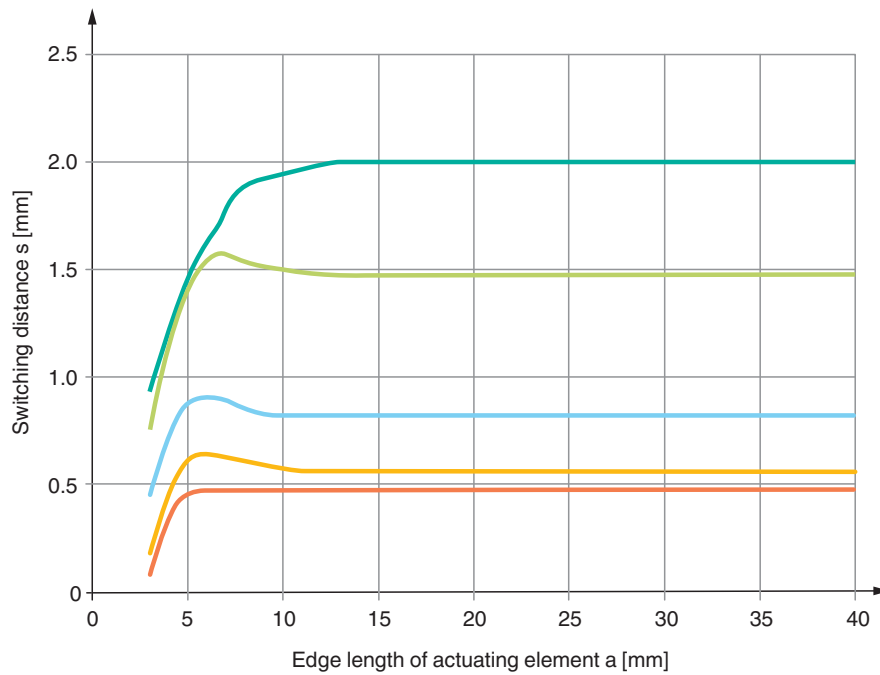


Characteristic Curve

Actuation by radial approach (standard target)



Switching distance depending on the actuating element



- Steel
- Stainless steel
- Brass
- Aluminum
- Copper

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