

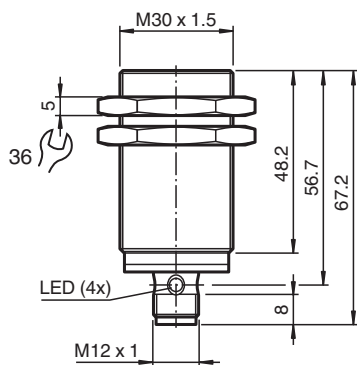
# Inductive sensor

## NBB15-30GM50-E0-V1

- Use in harsh environments
- High shock resistance
- Extended temperature range  
-40 ... +85 °C
- Extended operating voltage range
- Extremely high switching frequency



### Dimensions



### Technical Data

#### General specifications

Switching function		Normally open (NO)
Output type		NPN
Rated operating distance	$s_n$	15 mm
Installation		flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 12.15 mm
Actuating element		mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 45 mm x 45 mm x 1 mm
Reduction factor $r_{Al}$		0.45
Reduction factor $r_{Cu}$		0.43
Reduction factor $r_{304}$		0.73
Reduction factor $r_{Brass}$		0.53
Output type		3-wire

#### Nominal ratings

Operating voltage	$U_B$	6 ... 36 V
Switching frequency	$f$	0 ... 550 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing

Release date: 2026-03-11 Date of issue: 2026-03-11 Filename: 326161-0151\_eng.pdf

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

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## Technical Data

Voltage drop	$U_d$	$\leq 1$ V
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	max. 150 $\mu$ A
No-load supply current	$I_0$	$\leq 10$ mA
Time delay before availability	$t_v$	$\leq 10$ ms
Switching state indicator		Multihole-LED, yellow
<b>Safety-relevant product characteristics</b>		
MTTF <sub>d</sub>		1319 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Conformity</b>		
PWIS conformity		VDMA 24364-A1/B2/C1/T100°C-W
<b>Compliance with standards and directives</b>		
Standard conformity		
Standards		EN IEC 60947-5-2
<b>Approvals and certificates</b>		
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 $\leq 36$ V
Marine approval		DNVGL TAA00003AK
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>		
Connection type		Connector plug
Housing material		brass , white bronze coated
Sensing face		PBT , green
Degree of protection		IP65 / IP66 / IP67 / IP68 / IP69
<b>Connector</b>		
Threading		M12 x 1
Number of pins		3
Mass		156 g
<b>Dimensions</b>		
Length		67 mm
Diameter		30 mm
Mounting		with nuts, M30
Tightening torque		$\leq 30$ Nm
<b>General information</b>		
Scope of delivery		2 self locking nuts in scope of delivery

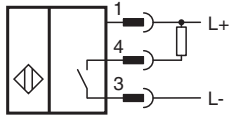
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**Connection Assignment**



**Connection Assignment**



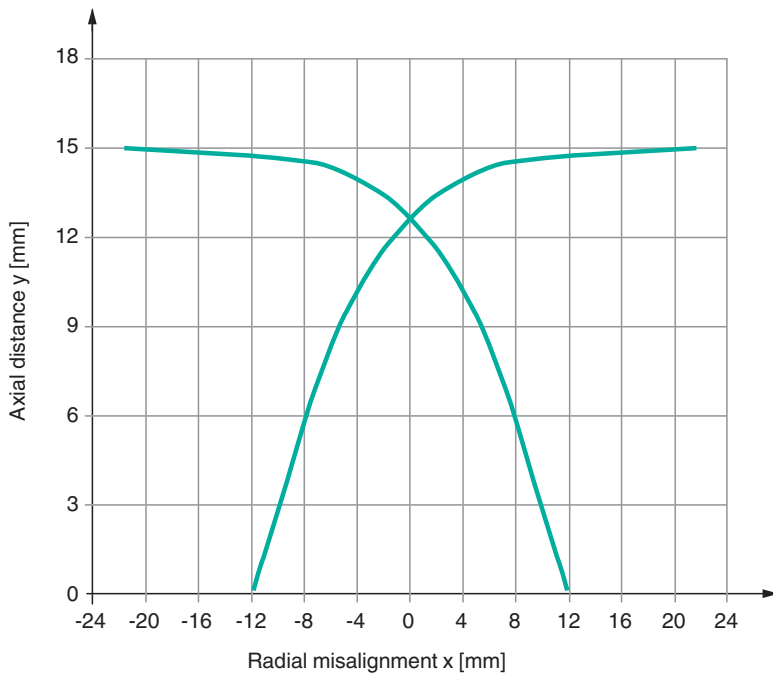
Wire colors in accordance with EN 60947-5-2

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

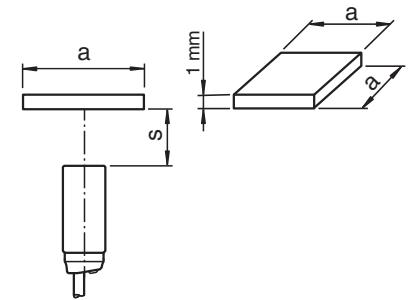
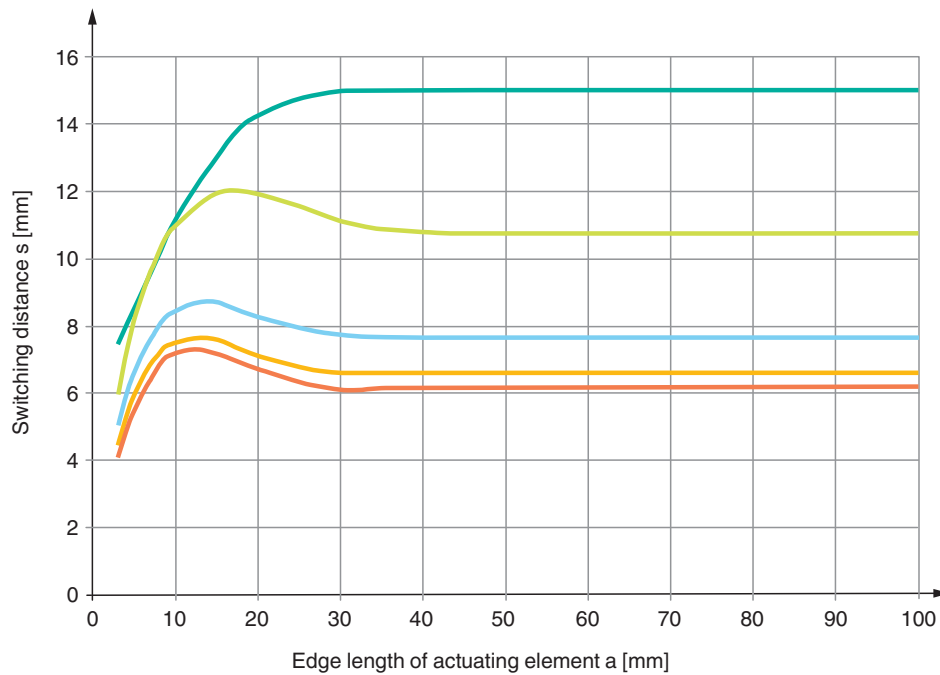
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**Characteristic Curve**

**Actuation by radial approach (standard target)**



**Switching distance depending on the actuating element**



- Steel
- Stainless steel
- Brass
- Aluminum
- Copper

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