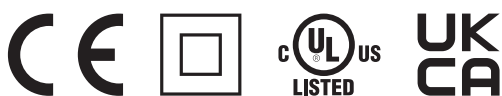
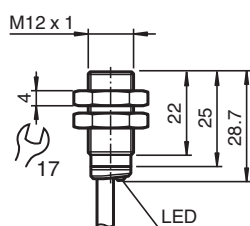


Inductive sensor NBB4-12GM25-E1

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



Dimensions



Technical Data

General specifications

Switching function		Normally closed (NC)
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
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

Release date: 2026-03-13 Date of issue: 2026-03-13 Filename: 326161-0241_eng.pdf

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

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Technical Data

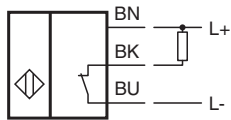
Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	$\leq 1 \text{ V}$
Operating current	I_L	0 ... 200 mA
Off-state current	I_r	max. 150 μA
No-load supply current	I_0	$\leq 10 \text{ mA}$
Time delay before availability	t_v	$\leq 10 \text{ ms}$
Switching state indicator		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-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 $\leq 36 \text{ V}$
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 / IP69
Cable		
Wire end ferrules		yes
Cable diameter		4.3 mm $\pm$ 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		67 g
Dimensions		
Length		28.7 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

Release date: 2026-03-13 Date of issue: 2026-03-13 Filename: 326161-0241_eng.pdf

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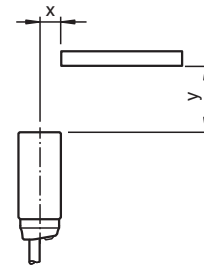
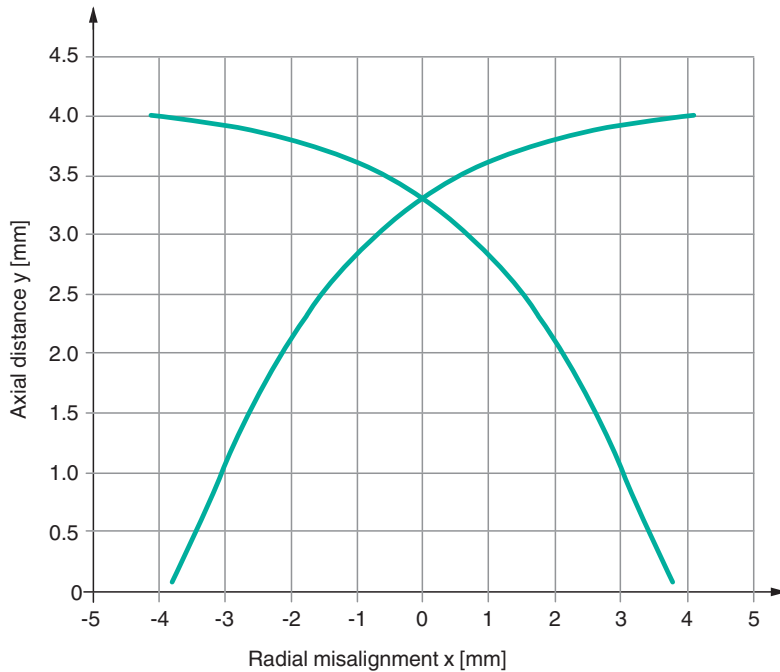
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Connection Assignment

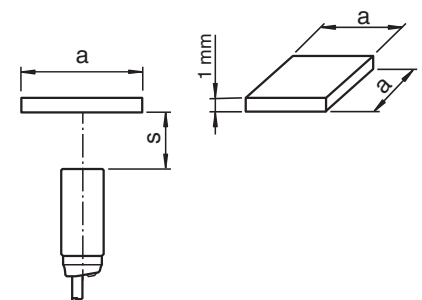
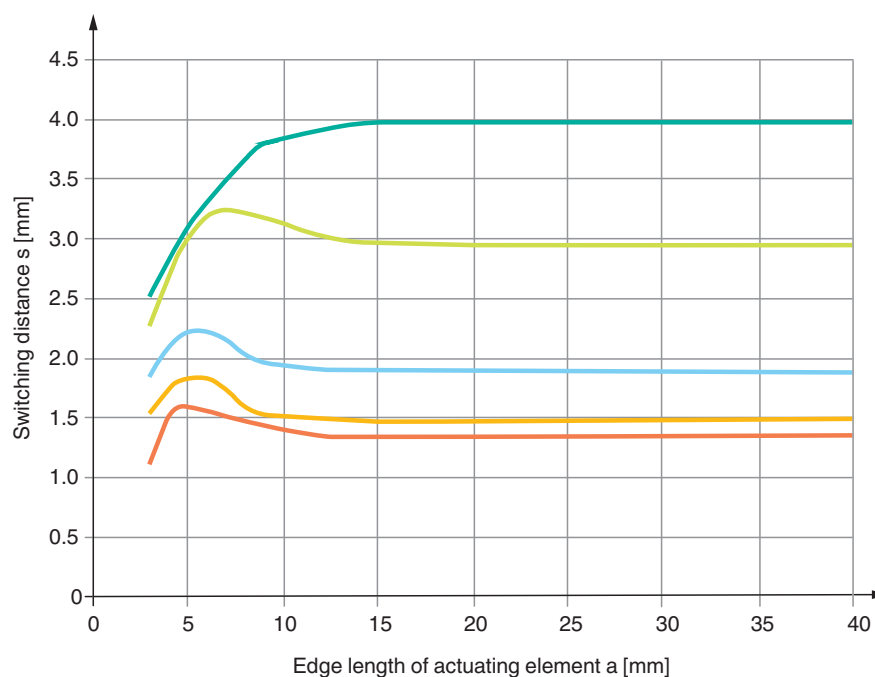


Characteristic Curve

Actuation by radial approach (standard target)



Switching distance depending on the actuating element



- Steel
- Stainless steel
- Brass
- Aluminum
- Copper