

Inductive sensor

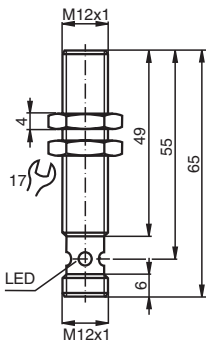
NBB4-12GM50-E2-V1-3G-3D



- Increased operating distance
- 4 mm flush
- ATEX-/IECEX-approvals for zone 2/22 (Ex ec/tc)
- Polarity reversal protected



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
Reduction factor r_{Al}		0.45
Reduction factor r_{Cu}		0.35
Reduction factor r_{304}		0.7
Output type		3-wire

Nominal ratings

Operating voltage	U_B	10 ... 30 V DC
Switching frequency	f	0 ... 1000 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing

Release date: 2025-06-12 Date of issue: 2025-06-15 Filename: 70126033_eng.pdf

Technical Data

Voltage drop	U_d	$\leq 3 \text{ V}$
Operating current	I_L	0 ... 150 mA
Off-state current	I_r	0 ... 0.5 mA typ. 0.1 μA at 25 °C
Off-state current $T_U = 40 \text{ °C}$, switching element off		\leq
No-load supply current	I_0	$\leq 15 \text{ mA}$
Time delay before availability	t_v	$\leq 5 \text{ ms}$
Switching state indicator		Multihole-LED, yellow
Functional safety related parameters		
MTTF _d		1820 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		
IECEX approval		
Equipment protection level Gc (ec)		IECEX TUR 21.0017X
Equipment protection level Dc (tc)		IECEX TUR 21.0018X
ATEX approval		
Equipment protection level Gc (ec)		TÜV 20 ATEX 8523 X
Equipment protection level Dc (tc)		TÜV 20 ATEX 8524 X
UL approval		cULus Listed, General Purpose
CCC approval		
Hazardous Location		2024322315005947 2024322315005860
Marine approval		DNVGL TAA0000160
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications		
Connection type		Connector plug
Housing material		brass, nickel-plated
Sensing face		PBT
Degree of protection		IP67
Connector		
Threading		M12 x 1
Number of pins		3
Mass		32 g
Dimensions		
Length		65 mm
Diameter		12 mm
General information		
Scope of delivery		2 self locking nuts in scope of delivery
Use in the hazardous area		see instruction manuals

Connection Assignment



Connection Assignment

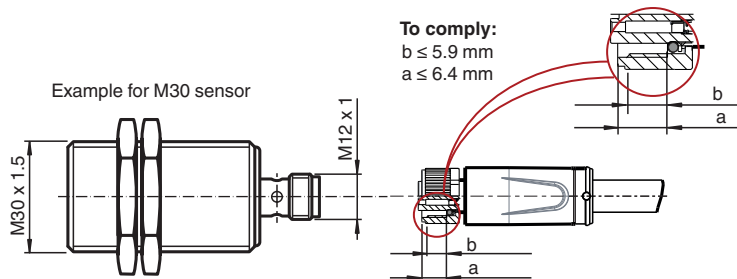


Wire colors in accordance with EN 60947-5-2

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

Installation

Requirement for cable socket to achieve IP degree of protection



b = max. distance from start of thread to seal
 a = max. distance from start of union nut to seal

Release date: 2025-06-12 Date of issue: 2025-06-15 Filename: 70126033_eng.pdf