



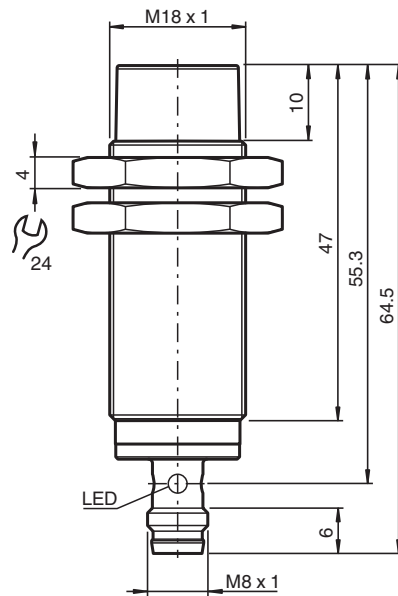
# Inductive sensor

## NBN12-18GM50-E0-V3

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



### Dimensions



### Technical Data

#### General specifications

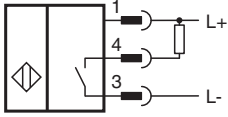
Switching function		Normally open (NO)
Output type		NPN
Rated operating distance	$s_n$	12 mm
Installation		non-flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 9.72 mm
Actuating element		mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 36 mm x 36 mm x 1 mm
Reduction factor $r_{AI}$		0.49

Release date: 2025-07-07 Date of issue: 2025-07-07 Filename: 326161-0227\_eng.pdf

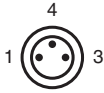
## Technical Data

Reduction factor $r_{Cu}$		0.46
Reduction factor $r_{304}$		0.75
Reduction factor $r_{Brass}$		0.55
Output type		3-wire
<b>Nominal ratings</b>		
Operating voltage	$U_B$	6 ... 36 V
Switching frequency	$f$	0 ... 1300 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
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>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1598 a
Mission Time ( $T_M$ )		20 a
Diagnostic Coverage (DC)		0 %
<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, General Purpose, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated $\leq 36$ V
<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		IP67
Connector		
Threading		M8 x 1
Number of pins		3
Mass		58 g
Dimensions		
Length		64.5 mm
Diameter		18 mm
Mounting		with nuts, M18
Tightening torque		$\leq 30$ Nm
<b>General information</b>		
Scope of delivery		2 self locking nuts in scope of delivery

## Connection Assignment



## Connection Assignment

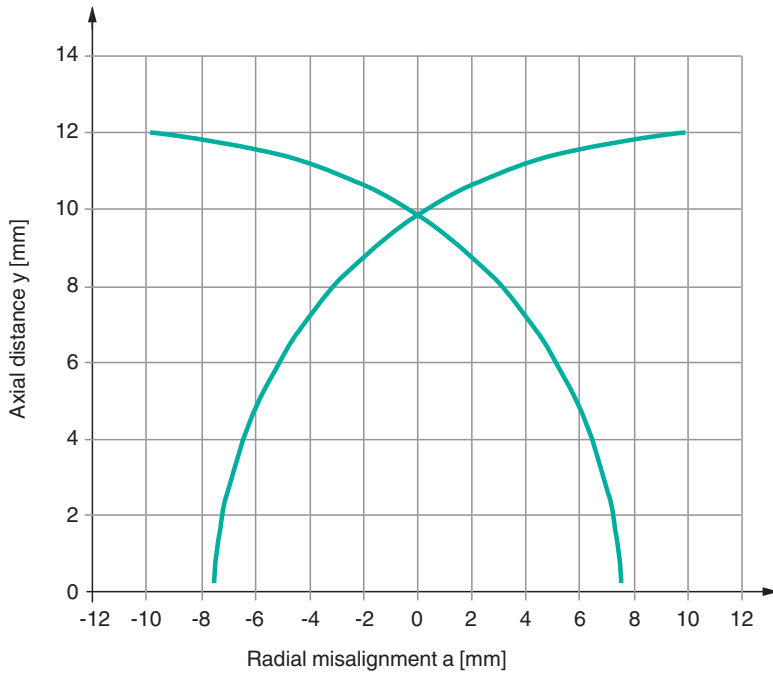


Wire colors in accordance with EN 60947-5-2

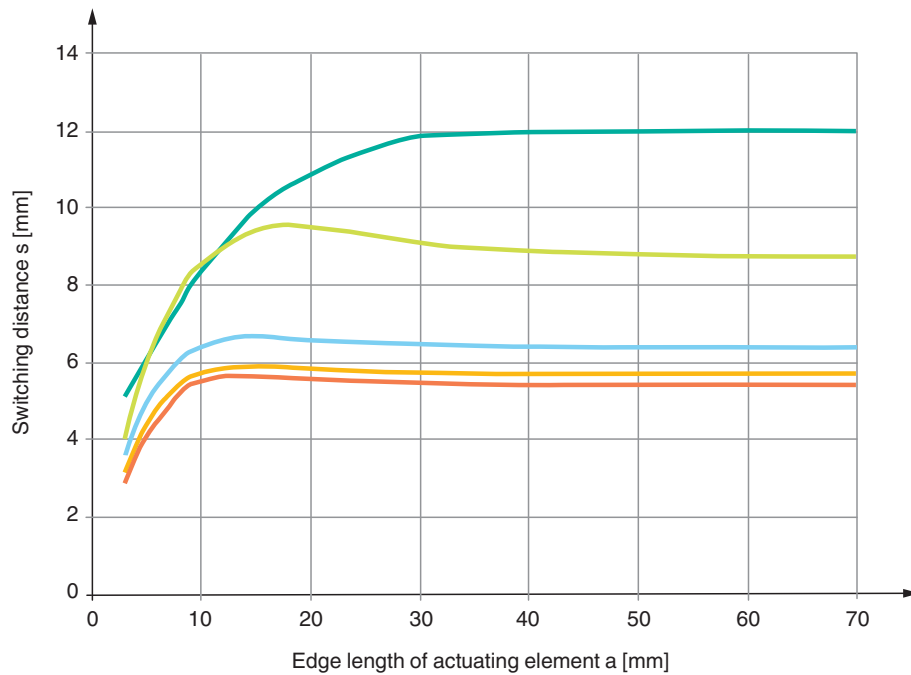
1	BN	(brown)
3	BU	(blue)
4	BK	(black)

**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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