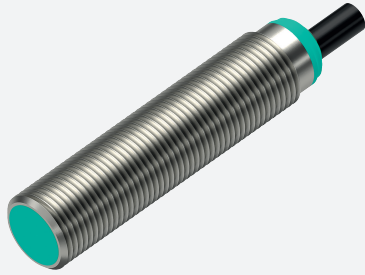


# Inductive sensor

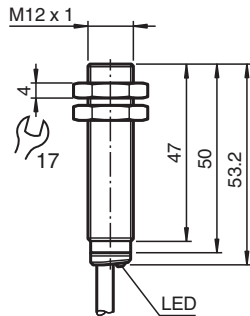
## NBB2-12GM50-E2-9M-Y0146



- 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		PNP
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
<b>Nominal ratings</b>		
Operating voltage	$U_B$	5 ... 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

Release date: 2025-02-21 | Date of issue: 2025-02-21 | Filename: 326163-0146\_eng.pdf

## Technical Data

Off-state current	$I_r$	max. 20 $\mu$ A
No-load supply current	$I_0$	$\leq$ 10 mA
Time delay before availability	$t_v$	$\leq$ 10 ms
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1721 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Conformity</b>		
PWIS conformity		VDMA 24364-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, 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		sensor: -40 ... 85 °C (-40 ... 185 °F) Cable: -25 ... 75 °C (-13 ... 167 °F)
Storage temperature		-40 ... 80 °C (-40 ... 176 °F)
<b>Mechanical specifications</b>		
Connection type		cable shielded
Housing material		brass , white bronze coated
Sensing face		PBT , green
Degree of protection		IP65 / IP66 / IP67 / IP68
Cable		
Wire end ferrules		yes
Cable diameter		3 mm - 0.2 mm
Bending radius		> 10 x cable diameter
Material		PVC
Color		grey (similar to RAL 7001)
Number of cores		3
Core cross section		0.14 mm <sup>2</sup>
Length	L	9 m
Dimensions		
Length		53 mm
Diameter		12 mm
Mounting		with nuts, M12
Tightening torque		$\leq$ 10 Nm
<b>General information</b>		
Scope of delivery		2 self locking nuts in scope of delivery

## Connection

