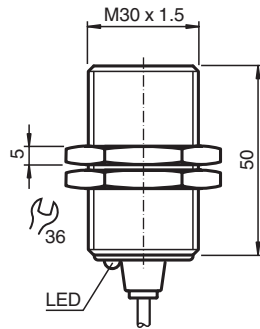


## Inductive sensor NBB15-30GM50-E0-M1

- 15 mm flush
- Increased operating distance
- Extended temperature range  
-40 ... +85 °C
- With increased sealing, protection class  
IP68 / IP69K
- E1-Type approval



### 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 $r_{Cu}$		0.4
Reduction factor $r_{304}$		0.7
Reduction factor $r_{Brass}$		0.5
Output type		3-wire

#### Nominal ratings

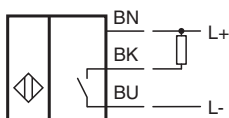
Operating voltage	$U_B$	7 ... 30 V
Switching frequency	$f$	0 ... 500 Hz
Hysteresis	$H$	typ. 5%

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## Technical Data

Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 2 \text{ V}$
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	0 ... 0.5 mA typ. 4 $\mu\text{A}$ at 25 °C
No-load supply current	$I_0$	$\leq 10 \text{ mA}$
Time delay before availability	$t_v$	$\leq 100 \text{ ms}$
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1494 a
Mission Time (T <sub>M</sub> )		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>		
UL approval		cULus Listed, General Purpose, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated $\leq 36 \text{ V}$
E1 Type approval		10R-04
<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		cable
Housing material		brass, nickel-plated
Sensing face		PBT
Degree of protection		IP68 / IP69K
<b>Cable</b>		
Wire end ferrules		yes
Cable diameter		4.3 mm $\pm$ 0.1 mm
Bending radius		> 10 x cable diameter
Material		PUR
Color		black
Number of cores		3
Core cross section		0.34 mm <sup>2</sup>
Length	L	2 m
Mass		135 g
<b>Dimensions</b>		
Length		50 mm
Diameter		30 mm
<b>General information</b>		
Scope of delivery		2 self locking nuts in scope of delivery

## Connection



## Technical Features

Mains-borne interference in accordance with ISO 7637-2:

Pulse	1	2a	2b	3a	3b	4
Severity level	III	III	III	III	III	III
Failure criterion	A	A	C	A	A	C

EN 61000-4-2: CD: 8 kV / AD: 15 kV  
Severity level IV IV

EN 61000-4-3: 36 V/m (80...2500 MHz)  
Severity level IV

EN 61000-4-4: 2 kV  
Severity level III

EN 61000-4-6: 30 V (0.01...80 MHz)  
Severity level III

EN 55011: Class A