



## Model Number

NBB15-30GM50-E1-M

## Features

- 15 mm flush
- Extended temperature range  
-40 ... +85 °C
- E1-Type approval
- Increased noise immunity 100 V/m
- With increased sealing, protection  
class  
IP68 / IP69K
- Highly shock and vibration resistant

## Accessories

### BF 30

Mounting flange, 30 mm

### EXG-30

Quick mounting bracket with dead stop

## Technical Data

### General specifications

Switching function	Normally closed (NC)
Output type	NPN
Rated operating distance	$s_n$ 15 mm
Installation	flush
Output polarity	DC
Assured operating distance	$s_a$ 0 ... 12.15 mm
Reduction factor $r_{AI}$	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	$U_B$	5 ... 60 V
Switching frequency	$f$	0 ... 600 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Inductive overvoltage protection		yes
Surge suppression		yes
Voltage drop	$U_d$	$\leq 2$ V
Rated insulation voltage	$U_{BIS}$	60 V
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	0 ... 0.5 mA typ. 6 $\mu$ A at 25 °C
No-load supply current	$I_0$	$\leq 7$ mA
Time delay before availability	$t_v$	$\leq 220$ ms
Switching state indicator		LED, yellow

### Functional safety related parameters

MTTF <sub>d</sub>	830.5 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

### Ambient conditions

Ambient temperature	-40 ... 85 °C (-40 ... 185 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

### Mechanical specifications

Connection type	cable PUR , 2 m
Core cross-section	3 x 0.75 mm <sup>2</sup>
Housing material	brass, nickel-plated
Sensing face	PBT
Degree of protection	IP68 / IP69K
Mass	190 g

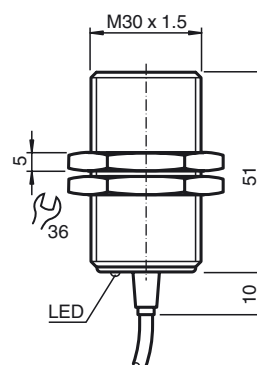
### Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

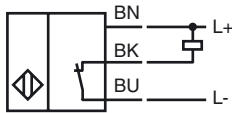
### Approvals and certificates

EAC conformity	TR CU 020/2011
UL approval	cULus Listed, General Purpose, Class 2 Power Source
CSA approval	cCSAus Listed, General Purpose, Class 2 Power Source
CCC approval	Certified by China Compulsory Certification (CCC)
E1 Type approval	10R-04

## Dimensions



**Electrical Connection**



**Installation Hint**

Interference immunity in accordance with  
 DIN ISO 11452-2: 100 V/m  
 Frequency band 20 MHz up to 2 GHz

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

	1	2a	2b	3a	3b	4	5
Severity level	III	III	III	III	III	III	III
Failure criterion	C	A	C	A	A	A	B

EN 61000-4-2:	CD: 8 kV / AD: 15 kV
Severity level	IV IV
EN 61000-4-3:	30 V/m (80...2500 MHz)
Severity level	IV
EN 61000-4-4:	2 kV
Severity level	III
EN 61000-4-6:	10 V (0.01...80 MHz)
Severity level	III
EN 55011:	Class A