



## Model Number

NBN7-12GM50-E2-M

## Features

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

## Accessories

### EXG-12

Quick mounting bracket with dead stop

## Technical Data

### General specifications

Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	$s_n$	7 mm
Installation		non-flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 5.67 mm
Reduction factor $r_{Al}$		0.5
Reduction factor $r_{Cu}$		0.35
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 ... 1500 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. 0.1 $\mu$ A at 25 °C
No-load supply current	$I_0$	$\leq 7$ mA
Time delay before availability	$t_v$	$\leq 200$ ms
Switching state indicator		LED, yellow

### Functional safety related parameters

MTTF <sub>d</sub>	1006 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
Cable	
Cable diameter	6 mm $\pm$ 0.2 mm
Bending radius	> 6 x cable diameter
Mass	120 g

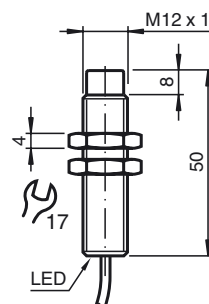
### Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012

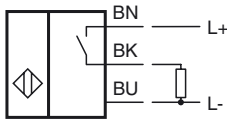
### Approvals and certificates

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