



## Model Number

NBN7-12GM50-E2-V1-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

### BF 12

Mounting flange, 12 mm

### V1-W

Female connector, M12, 4-pin, field attachable

### V1-G

Female connector, M12, 4-pin, field attachable

### V1-G-2M-PUR

Female cordset, M12, 4-pin, PUR cable

### V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

## 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. 6 $\mu$ 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	Multihole-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	Connector M12 x 1, 3-pin
Housing material	brass, nickel-plated
Sensing face	PBT
Degree of protection	IP68 / IP69K
Mass	19 g

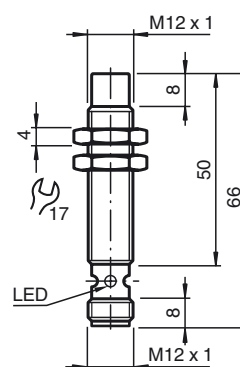
### Compliance with standards and directives

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

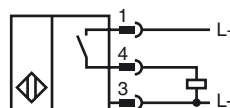
### Approvals and certificates

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



Pinout



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

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