



CE

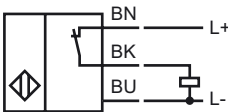
e1

Model Number

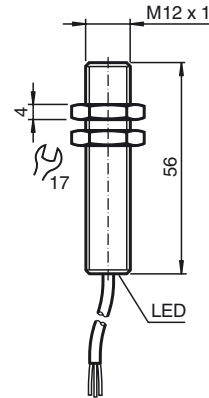
NBN4-12GK50-E3-M

Features

- 4 mm non-flush
- e1-Type approval
- With increased sealing, protection class IP68 / IP69k
- Extended temperature range
- Extended operating voltage range

Connection**Accessories****BF 12**

Mounting flange, 12 mm

Dimensions**Technical Data****General specifications**

Switching element function	PNP	NC
Rated operating distance	s_n	4 mm
Installation		non-flush
Output polarity		DC
Assured operating distance	s_a	0 ... 3.24 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}		0.5
Reduction factor r_{Cu}		0.4
Reduction factor r_{304}		0.9
Reduction factor r_{Brass}		0.6

Nominal ratings

Installation conditions	
A	8 mm
B	9 mm
C	6 mm
F	27 mm
Operating voltage	U_B 10 ... 65 V
Switching frequency	f 0 ... 3500 Hz
Hysteresis	H 0.03 ... 0.88
Reverse polarity protected	yes
Short-circuit protection	yes
Overload resistance	yes
Wire breakage protection	yes
Inductive overvoltage protection	yes
Surge suppression	yes
Ripple	10 %
Voltage drop	U_d \leq 2.5 V
Repeat accuracy	0.2 mm
Operating current	I_L 0 ... 300 mA
Off-state current	I_r \leq 0.01 mA
No-load supply current	I_0 \leq 10 mA
Indication of the switching state	LED, yellow

Functional safety related parameters

MTTF _d	1060 a
Mission Time (T_M)	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	0.75 mm ²
Housing material	PPS
Sensing face	PPS
Protection degree	IP68
Mass	110 g

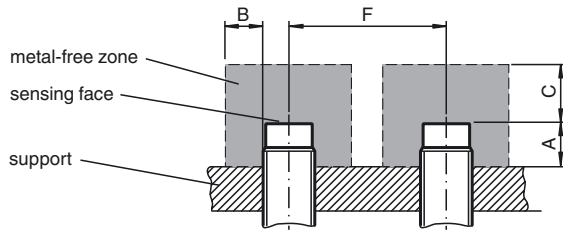
Compliance with standards and directives

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

Approvals and certificates

e1 Type approval	2006/28/EG
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Installation conditions



Installation hint

Interference emission and immunity according to Motor Vehicle Directive 2006/28/EC (e1 type approval)
 Immunity according to DIN ISO 11452-2: 30 V/m
 Frequency band of 20 MHz to 2 GHz

Conducted interference according to ISO 7637-2:

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

EN 61000-4-2 was measured according to the requirements in IEC
 EN 60947-5-2 (4 kV for metal, 8 kV for plastic)
 EN 61000-4-3: 30 V/m (80 - 2500 MHz)
 Severity IV
 EN 61000-4-4: 2 kV
 Severity III
 EN 61000-4-6: 10 V (0.01- 80 MHz)
 Severity III
 EN 55011: Class A