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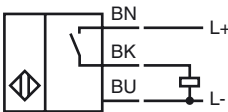
e 1

**Model Number**

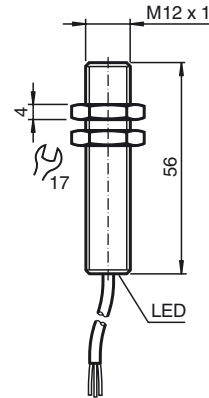
NBN4-12GK50-E2-M

**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	NO
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**

<b>Installation conditions</b>		
A		8 mm
B		9 mm
C		6 mm
F		27 mm
Operating voltage	$U_B$	10 ... 65 V
Switching frequency	$f$	0 ... 1000 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 <sub>d</sub>	1640 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 <sup>2</sup>
Housing material	PPS
Sensing face	PPS
Protection degree	IP68
Mass	110 g

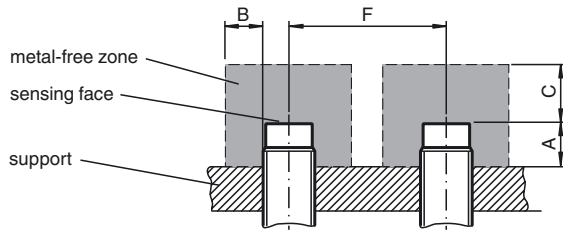
**Compliance with standards and directives**

<b>Standard conformity</b>	
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