



Model Number

NBB10-30GK50-E2-M

Features

- 10 mm flush
- E1-Type approval
- With increased sealing, protection class IP68 / IP69K
- Extended temperature range
- Extended operating voltage range

Accessories

BF 30

Mounting flange, 30 mm

EXG-30

Quick mounting bracket with dead stop

Technical Data

General specifications

Switching element function	PNP	NO
Rated operating distance	s_n	10 mm
Installation		flush
Output polarity		DC
Assured operating distance	s_a	0 ... 8.1 mm
Actuating element		mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 30 mm x 30 mm x 1 mm
Reduction factor r_{Al}		0.4
Reduction factor r_{Cu}		0.3
Reduction factor r_{304}		0.7
Reduction factor r_{Brass}		0.4

Nominal ratings

Installation conditions	
A	0 mm
B	10 mm
C	16 mm
F	37 mm
Operating voltage	U_B 10 ... 65 V
Switching frequency	f 0 ... 300 Hz
Hysteresis	H 0.05 ... 2.2 mm
Reverse polarity protection	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 ≤ 2.5 V
Repeat accuracy	0.3 mm
Operating current	I_L 0 ... 300 mA
Off-state current	I_r ≤ 0.01 mA
No-load supply current	I_0 ≤ 10 mA
Time delay before availability	t_v ≤ 40 ms
Switching state indicator	LED, yellow

Functional safety related parameters

MTTF _d	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 ²
Housing material	PPS
Sensing face	PPS
Degree of protection	IP68
Mass	160 g

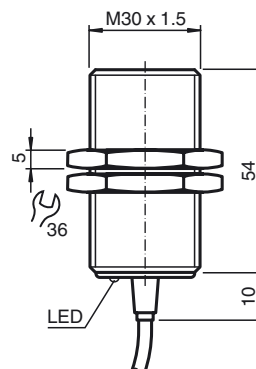
Compliance with standards and directives

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

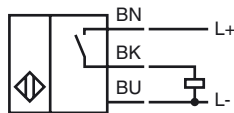
Approvals and certificates

E1 Type approval	10R-04
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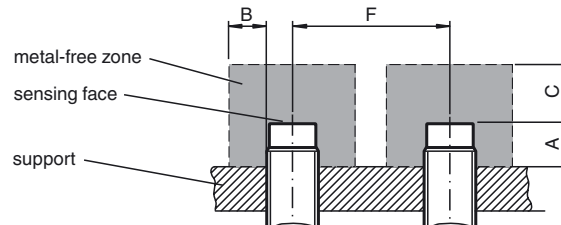
Dimensions



Electrical Connection



Installation Conditions



Installation Hint

Interference emission and immunity according to
Motor Vehicle Directive 10R-04 (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	3a	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