



### Model Number

**NBB1-3M22-E2-0,3M-V3**

### Features

- 1 mm flush
- Miniature design
- Cable with M8 plug

## Technical Data

### General specifications

Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	$s_n$	1 mm
Installation		flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 0.81 mm
Reduction factor $r_{Al}$		0.4
Reduction factor $r_{Cu}$		0.29
Reduction factor $r_{304}$		0.76
Reduction factor $r_{Brass}$		0.46
Output type		3-wire

### Nominal ratings

Operating voltage	$U_B$	10 ... 30 V
Switching frequency	$f$	0 ... 700 Hz
Hysteresis	$H$	typ. 5%
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 3$ V
Operating current	$I_L$	0 ... 100 mA
Off-state current	$I_r$	0 ... 0.1 mA typ. at 25 °C
No-load supply current	$I_0$	$\leq 10$ mA
Switching state indicator		LED, yellow

### Functional safety related parameters

MTTF <sub>d</sub>	1340 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

### Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
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### Mechanical specifications

Connection type	Cable connector M8 x 1, 3-pin with PVC cable 300 mm
Core cross-section	0.055 mm <sup>2</sup>
Housing material	Stainless steel 1.4305 / AISI 303
Sensing face	PC
Degree of protection	IP67
Cable	
Cable diameter	2.6 mm $\pm$ 0.1 mm
Bending radius	> 10 x cable diameter

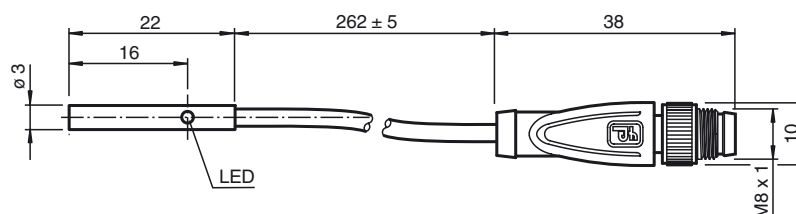
### Compliance with standards and directives

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

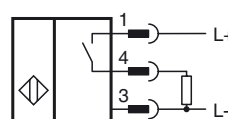
### Approvals and certificates

UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated $\leq 36$ V

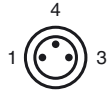
## Dimensions



## Electrical Connection



Pinout



Wire colors in accordance with EN 60947-5-2

1		BN	(brown)
3		BU	(blue)
4		BK	(black)

