



**Model Number**

**NBB5-F33M-E0**

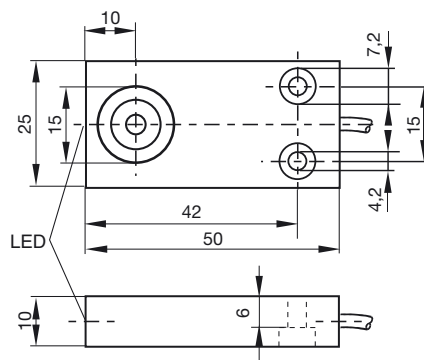
**Features**

- 5 mm flush
- 3-wire DC
- Metal housing

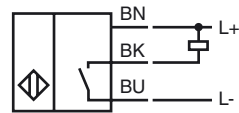
**Technical Data**

General specifications			
Switching element function		NPN	NO
Rated operating distance	$s_n$	5 mm	
Installation		flush	
Output polarity		DC	
Assured operating distance	$s_a$	0 ... 4.05 mm	
Reduction factor $r_{Al}$		0.3	
Reduction factor $r_{Cu}$		0.2	
Reduction factor $r_{304}$		0.6	
Nominal ratings			
Operating voltage	$U_B$	10 ... 30 V DC	
Switching frequency	$f$	0 ... 500 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 ... 200 mA	
Off-state current	$I_r$	0 ... 0.5 mA typ. 0.1 $\mu$ A	
No-load supply current	$I_0$	$\leq 15$ mA	
Time delay before availability	$t_v$	$\leq 10$ ms	
Switching state indicator		LED	
Functional safety related parameters			
MTTF <sub>d</sub>		1620 a	
Mission Time ( $T_M$ )		20 a	
Diagnostic Coverage (DC)		0 %	
Ambient conditions			
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)	
Mechanical specifications			
Connection type		cable PVC , 2 m	
Core cross-section		0.34 mm <sup>2</sup>	
Housing material		metal	
Sensing face		PBT	
Degree of protection		IP67	
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**



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