



**Model Number**

**NBB5-F33M-A0**

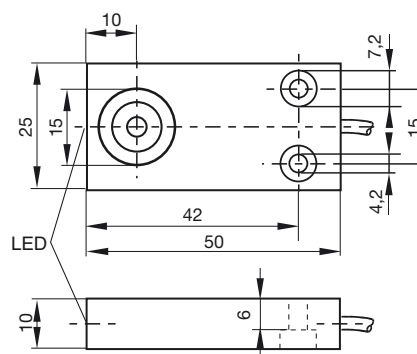
**Features**

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

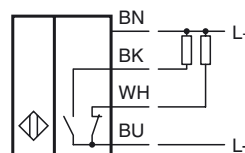
**Technical Data**

<b>General specifications</b>	
Switching function	complementary
Output type	NPN
Rated operating distance	$s_n$ 5 mm
Installation	flush
Output polarity	DC
Assured operating distance	$s_a$ 0 ... 4.05 mm
Reduction factor $r_{AI}$	0.3
Reduction factor $r_{CU}$	0.2
Reduction factor $r_{304}$	0.6
Output type	4-wire
<b>Nominal ratings</b>	
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	$I_0$ $\leq$ 20 mA
Time delay before availability	$t_v$ $\leq$ 20 ms
Switching state indicator	LED
<b>Functional safety related parameters</b>	
MTTF <sub>d</sub>	1290 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %
<b>Ambient conditions</b>	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
<b>Mechanical specifications</b>	
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
<b>Compliance with standards and directives</b>	
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
<b>Approvals and certificates</b>	
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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