



Model Number

NBB5-F33M-A2

Features

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

Technical Data

General specifications

Switching function		complementary
Output type		PNP
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

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	≤ 3 V
Operating current	I_L	0 ... 200 mA
Off-state current	I_r	0 ... 0.5 mA typ. 0.1 μ A
No-load supply current	I_0	≤ 20 mA
Time delay before availability	t_v	≤ 10 ms
Switching state indicator		LED

Functional safety related parameters

MTTF _d	1590 a
Mission Time (T_M)	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 PVC , 2 m
Core cross-section	0.34 mm ²
Housing material	metal
Sensing face	PBT
Degree of protection	IP67

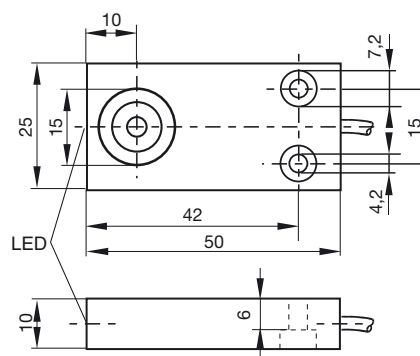
Compliance with standards and directives

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 ≤ 36 V

Dimensions



Electrical Connection

