



**Model Number**

**NBB2-F29-E3**

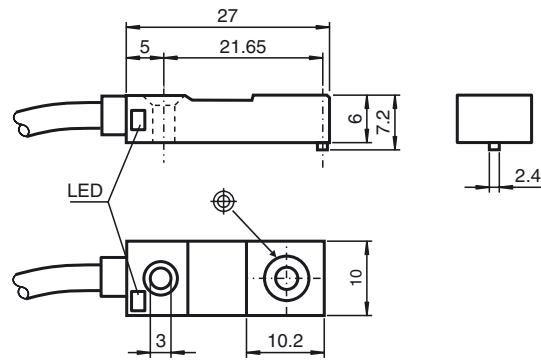
**Features**

- **Basic series**
- **2 mm flush**
- **3-wire DC**

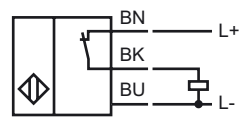
**Technical Data**

<b>General specifications</b>		
Switching element function		PNP normally closed
Rated operating distance	$s_n$	2 mm
Installation		flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 1.62 mm
Reduction factor $r_{Al}$		0.2
Reduction factor $r_{Cu}$		0.15
Reduction factor $r_{304}$		0.7
<b>Nominal ratings</b>		
Operating voltage	$U_B$	4.75 ... 30 V DC
Switching frequency	$f$	0 ... 1000 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 2$ V
Operating current	$I_L$	0 ... 100 mA
Off-state current	$I_r$	0 ... 0.5 mA typ. 0.1 $\mu$ A at 25 °C
No-load supply current	$I_0$	$\leq 15$ mA
Time delay before availability	$t_v$	$\leq 5$ ms
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1680 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)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>		
Connection type		cable PVC , 2 m
Core cross-section		0.14 mm <sup>2</sup>
Housing material		Ryton R4
Sensing face		Ryton R4
Degree of protection		IP67
<b>Compliance with standards and directives</b>		
Standard conformity		
Standards		EN 60947-5-2:2007 IEC 60947-5-2:2007
<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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