



**Model Number**

**NBN3-F31-E8-V18**

**Features**

- Direct mounting on standard actuators
- Compact and stable housing
- Fixed setting
- Satisfies machinery directive

**Accessories**

**BT65A**  
Activator for F31 series

**BT65X**  
Activator for F31 series

**BT115A**  
Activator for F31 series

**BT115X**  
Activator for F31 series

**BT65B**  
Activator for F31 series

**BT115B**  
Activator for F31 series

**V18-G**  
Cable socket in M18 format, ready for make up

**V18-W**  
Cable socket in M18 format, ready for make up

**Technical Data**

**General specifications**

Switching element function	PNP	Dual NO
Rated operating distance	$s_n$	3 mm
Installation		flush mountable
Output polarity		DC
Assured operating distance	$s_a$	0 ... 2.43 mm
Actual operating distance	$s_r$	2.7 ... 3.3 mm typ.
Reduction factor $r_{AI}$		0.5
Reduction factor $r_{Cu}$		0.4
Reduction factor $r_{304}$		1
Reduction factor $r_{S37}$		1.2

**Nominal ratings**

Operating voltage	$U_B$	10 ... 30 V DC
Switching frequency	$f$	0 ... 500 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protection		all connections
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. 20 $\mu$ A at 25 °C
No-load supply current	$I_0$	$\leq 25$ mA
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow

**Functional safety related parameters**

MTTF <sub>d</sub>	780 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	Connector M18 x 1, 4-pin
Housing material	PBT
Sensing face	PBT
Degree of protection	IP67

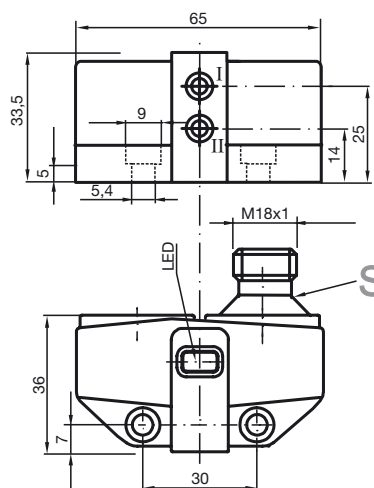
**Compliance with standards and directives**

Standard conformity	
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

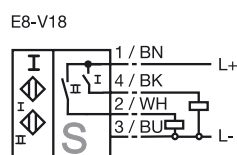
**Approvals and certificates**

EAC conformity	TR CU 020/2011
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**

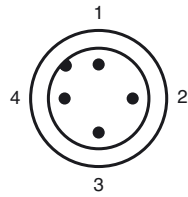


**Electrical Connection**



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Pinout



Wire colors in accordance with EN 60947-5-2

1		BN	(brown)
2		WH	(white)
3		BU	(blue)
4		BK	(black)