



## Model Number

NBN3-F31-E8-K-K

## Features

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

## 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

## Technical Data

### General specifications

Switching function		2 x normally open (NO)
Output type		PNP
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 $r_{A1}$		0.5
Reduction factor $r_{Cu}$		0.4
Reduction factor $r_{304}$		1
Reduction factor $r_{St37}$		1.2
Output type		3-wire

### 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 ... 0.5 mA typ. 0.1 $\mu$ A at 25 °C
No-load supply current	$I_o$	$\leq 25$ mA
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow
Valve status indicator		LED, yellow

### Functional safety related parameters

MTTF <sub>d</sub>	780 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

### Valve circuit

Voltage	max. 32 V DC
Current	max. 240 mA
Short-circuit protection	no
Reverse polarity protection	yes, with reversed output LED is out of function, therefore more power for solenoid valve

### Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
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### Mechanical specifications

Connection (system side)	PVC cable 5 m
Core cross-section (system side)	0.75 mm <sup>2</sup>
Connection (valve side)	PVC cable 0.5 m
Core cross-section (valve side)	0.75 mm <sup>2</sup>
Housing material	PBT
Sensing face	PBT
Degree of protection	IP67

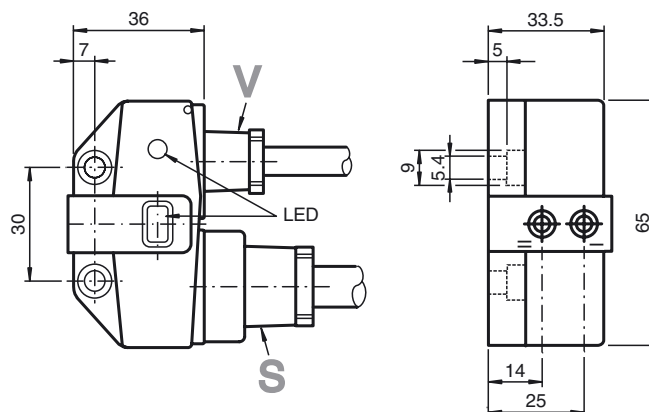
### Compliance with standards and directives

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

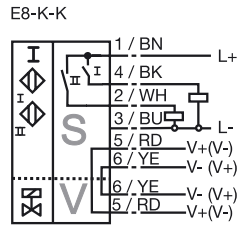
### Approvals and certificates

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



Release date: 2018-02-18 14:41 Date of issue: 2018-02-18 047567\_eng.xml