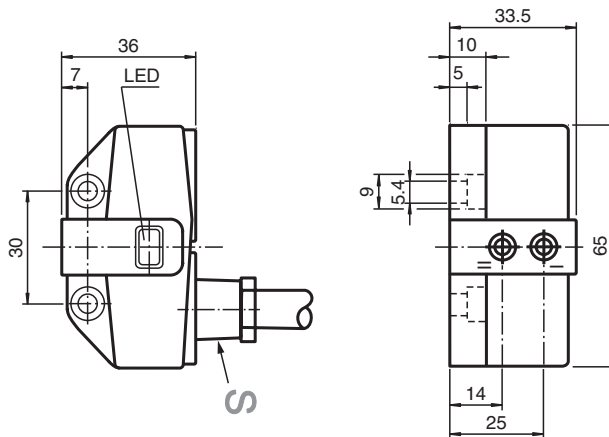


## Inductive sensor NBN3-F31-E8-K

- Direct mounting on standard actuators
- Fixed setting



### Dimensions



### 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 $r_{Al}$		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 %

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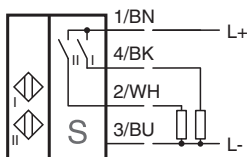
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## Technical Data

Reverse polarity protection		all connections
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 3 \text{ V}$
Operating current	$I_L$	0 ... 100 mA
Off-state current	$I_r$	0 ... 0.5 mA typ. 0.1 $\mu\text{A}$ at 25 °C
No-load supply current	$I_0$	$\leq 25 \text{ mA}$
Time delay before availability	$t_v$	$\leq$
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		780 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<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
CCC approval		CCC approval / marking not required for products rated $\leq 36 \text{ V}$
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
<b>Mechanical specifications</b>		
Connection (system side)		PVC cable 5 m
Core cross section (system side)		0.75 mm <sup>2</sup>
Housing material		PBT
Sensing face		PBT
Degree of protection		IP67
Cable		
Cable diameter		6.8 mm $\pm$ 0.2 mm
Bending radius		> 10 x cable diameter
Tightening torque, fastening screws		4 Nm ... 5 Nm

## Connection



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