

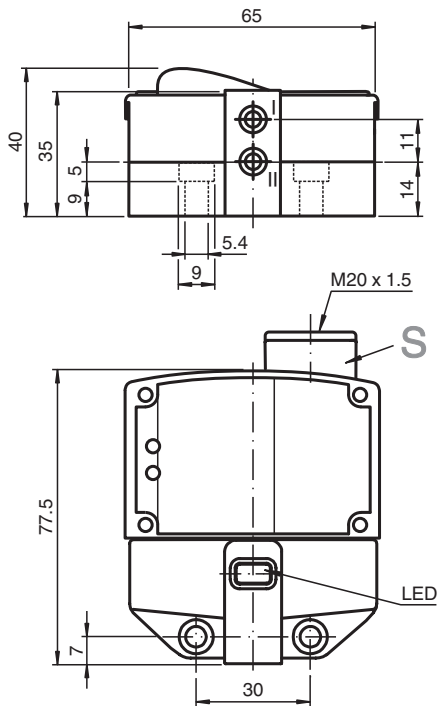
## Inductive sensor

### NBN3-F31K-E8

- 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 $r_{AI}$		0.5
Reduction factor $r_{Cu}$		0.4

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## Technical Data

Reduction factor $r_{304}$		1
Reduction factor $r_{S137}$		1.2
Output type		4-wire
<b>Nominal ratings</b>		
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
No-load supply current	$I_0$	$\leq 25$ mA
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		780 a
Mission Time ( $T_M$ )		20 a
Diagnostic Coverage (DC)		0 %
<b>Compliance with standards and directives</b>		
Standard conformity		
Standards		EN IEC 60947-5-2
<b>Approvals and certificates</b>		
UL approval		cULus Listed Load Type: General Purpose Circuitry: Class 2 Power Source Enclosure Type Rating: Type 1 Supply/Switching Voltage: 30 V DC Output Switching Current: 100 mA
CCC approval		CCC approval / marking not required for products rated $\leq 36$ V
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
<b>Mechanical specifications</b>		
Connection (system side)		Cage tension spring terminals
Core cross section (system side)		1.5/2.5 mm <sup>2</sup> flexible/rigid
Housing material		PBT
Sensing face		PBT
Degree of protection		IP67
Tightening torque, fastening screws		$\leq 5$ Nm
Tightening torque, housing screws		1 Nm
Tightening torque, cable gland		M20 x 1.5 ; max. 7 Nm
<b>Dimensions</b>		
Height		35.5 mm
Width		65 mm
Length		77.5 mm

## Connection Assignment

