

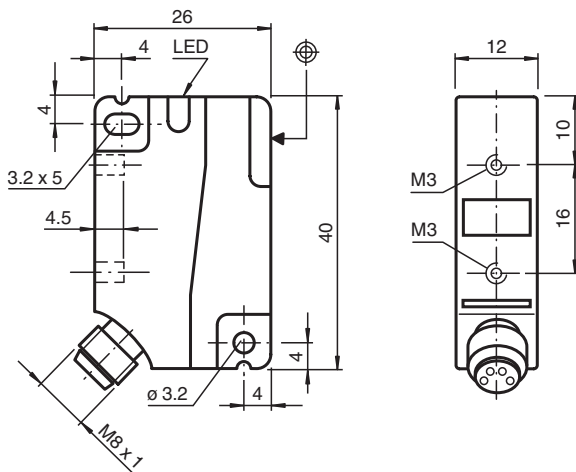


# Inductive sensor NBN8-F1-A2-V31

- 8 mm non-flush
- 4-wire DC



## Dimensions



## Technical Data

### General specifications

Switching function		complementary
Output type		PNP
Rated operating distance	$s_n$	8 mm
Installation		non-flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 6.48 mm
Reduction factor $r_{AI}$		0.45
Reduction factor $r_{Cu}$		0.45
Reduction factor $r_{304}$		0.7

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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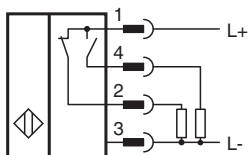
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## Technical Data

Reduction factor $r_{\text{Brass}}$		0.55
Output type		4-wire
<b>Nominal ratings</b>		
Operating voltage	$U_B$	10 ... 30 V DC
Switching frequency	$f$	0 ... 1400 Hz
Hysteresis	$H$	typ. 5%
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 2.5$ V
Rated insulation voltage	$U_{\text{BIS}}$	60 V
Operating current	$I_L$	0 ... 250 mA
Off-state current	$I_r$	0 ... 0.01 mA typ. 0.1 $\mu\text{A}$ at 25 °C
No-load supply current	$I_0$	$\leq 15$ mA
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1530 a
Mission Time ( $T_M$ )		20 a
Diagnostic Coverage (DC)		0 %
<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>		
Protection class		II
Rated insulation voltage	$U_i$	60 V
Rated impulse withstand voltage	$U_{\text{imp}}$	800 V
UL approval		cULus Listed, General Purpose
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 type		Connector plug M8 x 1 , 4-pin
Housing material		PA
Sensing face		PA
Degree of protection		IP67
Tightening torque, fastening screws		Threading M3 max: 1.1 Nm

## Connection



## Connection Assignment



Wire colors in accordance with EN 60947-5-2

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