

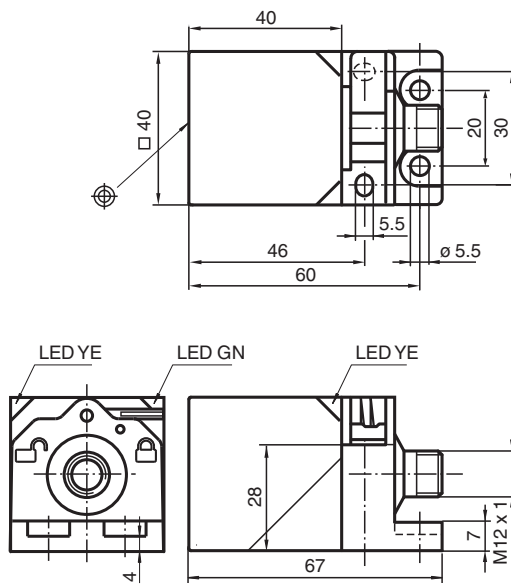
# Inductive sensor

## NBB20-L3-A2-C3-V1

- 20 mm flush
- 4-wire DC
- Weld Immune
- Quick mounting bracket
- 2-way LED indicator
- Active surface thermostat



### Dimensions



### Technical Data

#### General specifications

Switching function	complementary
Output type	PNP

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

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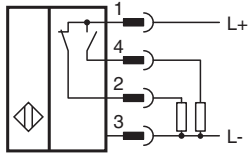
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## Technical Data

Rated operating distance	$s_n$	20 mm
Installation		flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 16.2 mm
Actual operating distance	$s_r$	18 ... 22 mm
Reduction factor $r_{Al}$		0.42
Reduction factor $r_{Cu}$		0.38
Reduction factor $r_{304}$		0.75
Reduction factor $r_{Brass}$		0.49
Output type		4-wire
<b>Nominal ratings</b>		
Operating voltage	$U_B$	10 ... 30 V DC
Switching frequency	$f$	0 ... 5 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 3$ V
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	0 ... 0.5 mA
No-load supply current	$I_0$	$\leq 20$ mA
Time delay before availability	$t_v$	80 ms
Alternating magnetic field	$B$	200 mT
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1420 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 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
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 85 °C (-13 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>		
Connection type		Connector plug M12 x 1 , 4-pin
Housing material		GD-ZnAl4Cu1, coated mounting flange PA6-GF35
Sensing face		Thermoset Plastic
Housing base		Zinc, PTFE coated
Degree of protection		IP67

**Connection**



**Connection Assignment**



Wire colors in accordance with EN 60947-5-2

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

**Accessories**

	<p><b>V1-G-OR2M-POC</b></p>	<p>Female cordset single-ended M12 straight A-coded, 4-pin, POC cable welding-bead resistant orange, suitable for robotic applications, torsion resistant, oil resistant, molecularly cross-linked</p>
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