



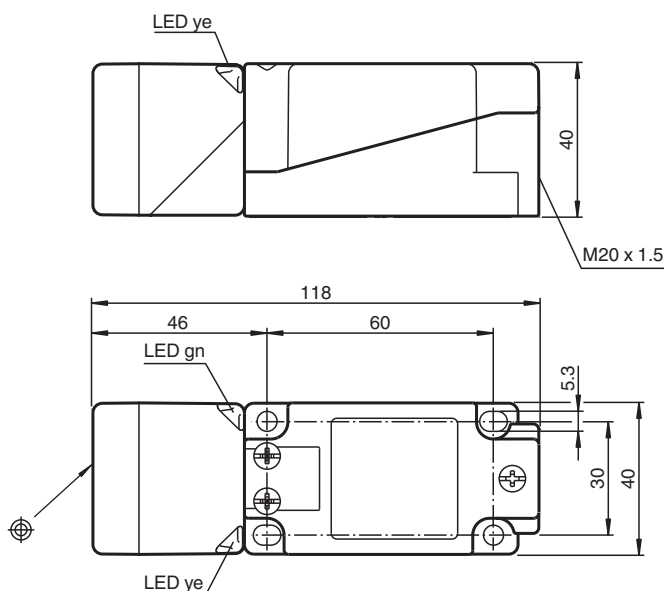
Inductive sensor

NBB20-U3-UU

- Sensor head bidirectional and rotatable
- NO/NC selectable
- Comfort series
- Metal base with ground connection



Dimensions



Technical Data

General specifications

Switching function		Normally open/closed (NO/NC)
Output type		Two-wire
Rated operating distance	s_n	20 mm
Installation		flush
Output polarity		AC/DC
Assured operating distance	s_a	0 ... 16.2 mm
Actual operating distance	s_r	18 ... 22 mm
Reduction factor r_{Al}		0.4
Reduction factor r_{Cu}		0.3
Reduction factor r_{304}		0.77
Reduction factor r_{Fe}		1
Reduction factor r_{Brass}		0.43
Output type		2-wire

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

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Technical Data

Nominal ratings

Switching frequency	f	AC, 0 ... 30 Hz DC, 0 ... 100 Hz
Hysteresis	H	1 ... 10 % typ. 5 %
Reverse polarity protection		reverse polarity tolerant
Short-circuit protection		pulsing
Voltage drop	U _d	≤ 5 V (typ. 2V) DC operation ≤ 8 V (typ. 3 V) AC operation
Momentary current (20 ms, 0.1 Hz)		0 ... 3000 mA
Operating current	I _L	5 ... 500 mA
Rated operating current	I _e	500 mA 50/60 Hz
Lowest operating current	I _m	5 mA
Off-state current	I _r	≤ 1.5 mA
Usage category		AC12 , AC140 , DC12 , DC13
Time delay before availability	t _v	≤ 300 ms
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow
Error indicator		flashes when overcurrent

Functional safety related parameters

MTTF _d		540 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %

Electrical specifications

Rated operating voltage	U _e	24 ... 250 V DC / 24 ... 230 V AC
Operating voltage	U _B	20 ... 275 V DC / 20 ... 253 V AC

Compliance with standards and directives

Standard conformity		
Standards		EN IEC 60947-5-2

Approvals and certificates

Protection class		I
Rated insulation voltage	U _i	230 V
Rated impulse withstand voltage	U _{imp}	2.5 kV
UL approval		cULus Listed, General Purpose
CCC approval		Ue 75VDC - 250VDC Ue 75VAC - 230VAC

Ambient conditions

Ambient temperature		-25 ... 85 °C (-13 ... 185 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Pollution degree		3

Mechanical specifications

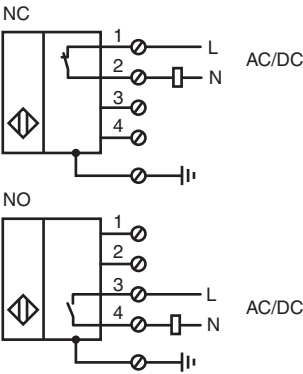
Connection type		terminal compartment
Information for connection		A maximum of two conductors with the same core cross section may be mounted on one terminal connection! tightening torque 1.2 Nm + 10 %
Core cross section		up to 2.5 mm ²
Minimum core cross-section		without wire end ferrules 0.5 mm ² , with connector sleeves 0.34 mm ²
Maximum core cross-section		without wire end ferrules 2.5 mm ² , with connector sleeves 1.5 mm ²
Housing material		PA 6.6 / metal
Sensing face		PA 6.6
Housing base		metal / class I equipment with ground connection
Degree of protection		IP67
Mass		255 g
Dimensions		
Height		40 mm
Width		40 mm

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Technical Data

Length	118 mm
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Connection



Connection

Note

The sensor is designed for individual operation. A series or parallel connection of sensors is not permissible.