

Inductive sensor

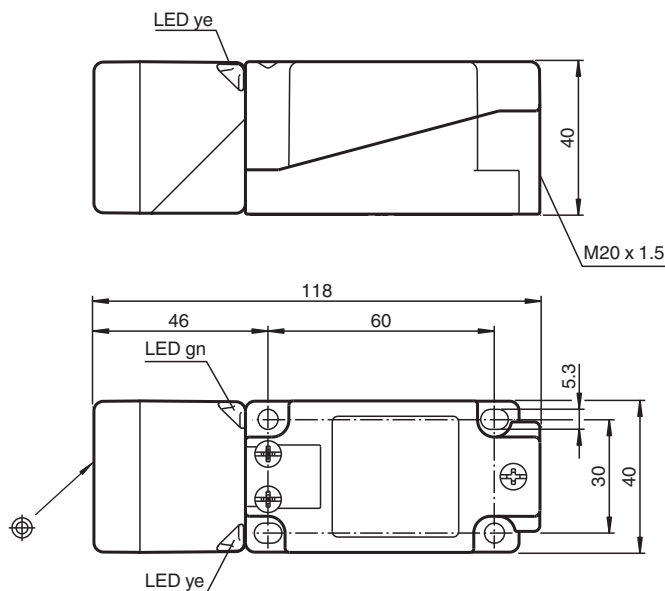
NBB20-U1-UU



- Sensor head bidirectional and rotatable
- NO/NC selectable



Dimensions



Technical Data

General specifications

Switching function	Normally open/closed (NO/NC) selectable through wiring	
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".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

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
-------------------	--	-------

Safety-relevant product characteristics

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		II
Rated insulation voltage	U _i	250 V
Rated impulse withstand voltage	U _{imp}	2.5 kV
UL approval		cULus Listed Load Type: General Purpose Enclosure Type Rating: Type 1 Supply/Switching Voltage: 250 V AC / 273 V DC Output Switching Current: 500 mA Further UL information see section "Additional Information"
CCC approval		U _e 75 V DC - 250 V DC U _e 75 V AC - 230 V AC

Ambient conditions

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

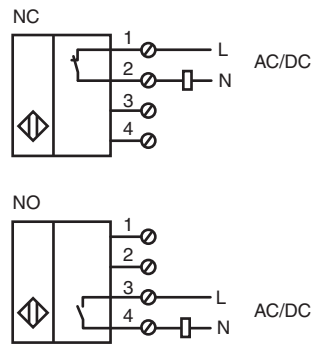
Mechanical specifications

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

Technical Data

Housing base	plastic
Degree of protection	IP67
Mass	255 g
Dimensions	
Height	40 mm
Width	40 mm
Length	118 mm
Note	Tightening torque: 1.8 Nm (housing)

Connection Assignment



Additional Information

Additional UL Information
Various: These devices shall be protected by an external fuse in accordance with UL 248, rated 3 A fuse suitable 300 V AC and DC.

Connection

Note

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

Release date: 2026-05-29 Date of issue: 2026-05-29 Filename: 238884_eng.pdf

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

 **PEPPERL+FUCHS**