



Inductive sensor NBB20-U1-E2-C

- Sensor head bidirectional and rotatable
- 20 mm flush
- 3-wire DC
- 4 LEDs indicator for 360° visibility
- For use in direct- and alternating-field welding systems



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		PNP
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 typ. 20 mm
Reduction factor r_{Al}		0.33
Reduction factor r_{Cu}		0.31
Reduction factor r_{304}		0.74
Reduction factor r_{Brass}		0.41
Output type		3-wire

Release date: 2024-12-09 Date of issue: 2024-12-09 Filename: 204252_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

Technical Data

Nominal ratings

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	≤ 3 V
Operating current	I_L	0 ... 200 mA
Off-state current	I_r	0 ... 0.5 mA
No-load supply current	I_0	≤ 20 mA
Time delay before availability	t_v	300 ms
Constant magnetic field	B	150 mT
Alternating magnetic field	B	150 mT
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow

Functional safety related parameters

MTTF _d		1420 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %

Compliance with standards and directives

Standard conformity		
Standards		EN IEC 60947-5-2

Approvals and certificates

UL approval		cULus Listed, General Purpose
CCC approval		CCC approval / marking not required for products rated ≤ 36 V

Ambient conditions

Ambient temperature		-25 ... 85 °C (-13 ... 185 °F)
---------------------	--	--------------------------------

Mechanical specifications

Connection type		screw terminals
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/metal with epoxy powder coating
Sensing face		PA
Housing base		plastic
Degree of protection		IP68 / IP69K
Mass		225 g
Dimensions		
Height		40 mm
Width		40 mm
Length		118 mm
Note		Tightening torque: 1.8 Nm (housing)

Connection

