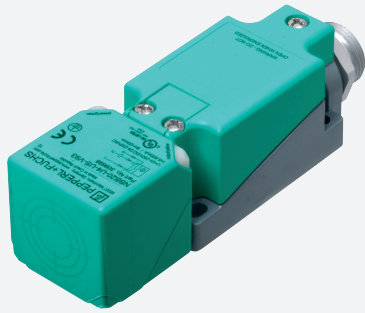


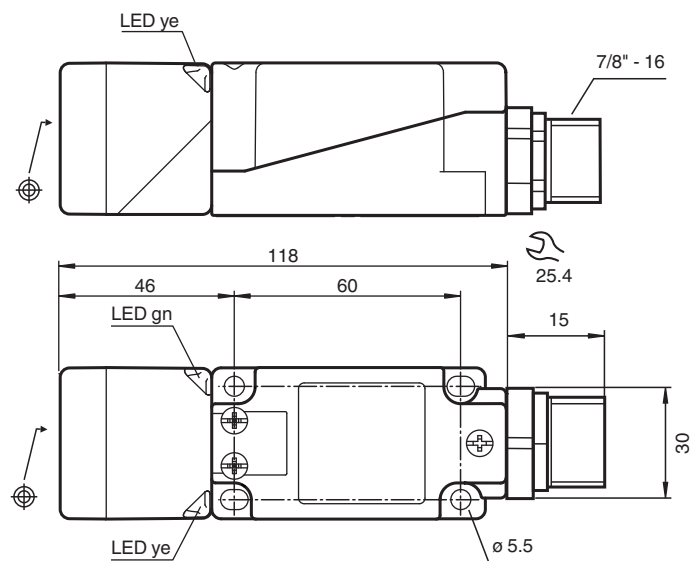


Inductive sensor NBB20-U4-US-V93

- Sensor head bidirectional and rotatable
- Comfort series
- Metal base with ground connection



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
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_{AI}		0.4

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

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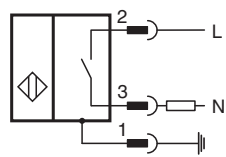
Singapore: +65 6779 9091
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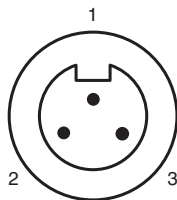
Technical Data

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
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. 2V) AC operation
Momentary current (20 ms, 0.1 Hz)		0 ... 3000 mA
Operating current	I_L	5 ... 500 mA
Off-state current	I_r	≤ 1.5 mA
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 ... 300 V DC / 20 ... 253 V AC
Compliance with standards and directives		
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
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
Ambient conditions		
Ambient temperature		-25 ... 85 °C (-13 ... 185 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications		
Connection type		Connector plug V93
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		298 g

Connection



Connection Assignment



Wire colors

1	GN	(green)
2	BK	(black)
3	WH	(white)

Accessories

	MHW 01	Modular mounting bracket
	V93-G-YE2M-STOOW	Female cordset, 7/8", 3-pin, STOOW cable

Release date: 2020-03-24 Date of issue: 2020-03-30 Filename: 309698_eng.pdf

Connection

Note

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