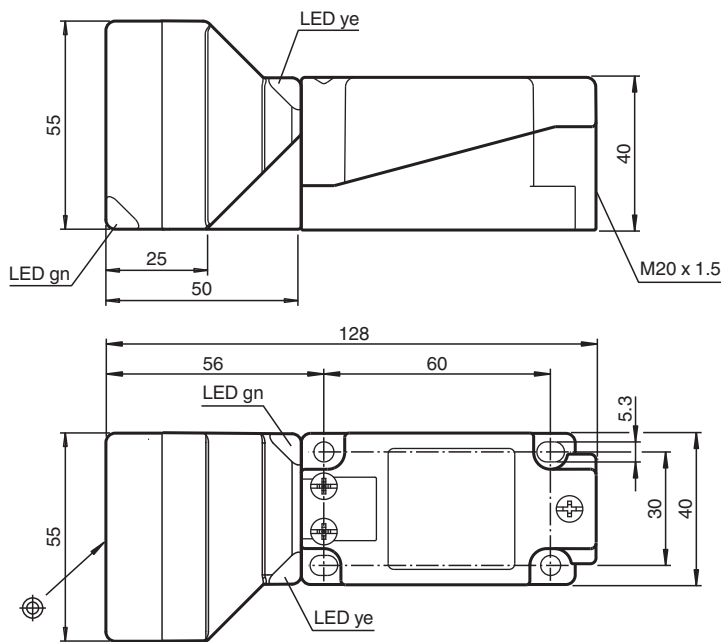


## Inductive sensor NBN40-U1L-A2-M

- Sensor head bidirectional and rotatable
- 40 mm non-flush
- 4 LEDs indicator for 360° visibility
- Increased noise immunity 100 V/m
- e1-Type approval



### Dimensions



### Technical Data

#### General specifications

Switching function		complementary
Output type		PNP
Rated operating distance	$s_n$	40 mm
Installation		non-flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 32.4 mm
Actual operating distance	$s_r$	36 ... 44 mm
Reduction factor $r_{AI}$		0.39
Reduction factor $r_{Cu}$		0.37

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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

**PF** PEPPERL+FUCHS

## Technical Data

Reduction factor $r_{304}$		0.75
Reduction factor $r_{Brass}$		0.45
Output type		4-wire
<b>Nominal ratings</b>		
Operating voltage	$U_B$	10 ... 60 V DC
Switching frequency	$f$	0 ... 100 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 2$ V
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	0 ... 0.5 mA typ. 0.01 mA
No-load supply current	$I_0$	$\leq 20$ mA
Time delay before availability	$t_v$	120 ms
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1030 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>		
Protection class		II
Rated insulation voltage	$U_i$	230 V
Rated impulse withstand voltage	$U_{imp}$	2.5 kV
UL approval		cULus Listed, General Purpose
E1 Type approval		10R-047189
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>		
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 <sup>2</sup>
Minimum core cross-section		without wire end ferrule 0.5 mm <sup>2</sup> , with connector sleeves 0.34 mm <sup>2</sup>
Maximum core cross-section		without wire end ferrule 2.5 mm <sup>2</sup> , with connector sleeves 1.5 mm <sup>2</sup>
Housing material		PA/metal
Sensing face		PA
Housing base		plastic
Degree of protection		IP68 / IP69K
Mass		225 g
Note		Tightening torque: 1.8 Nm (housing)

## Connection



## Accessories

	<p><b>MHW 01</b></p>	<p>Modular mounting bracket</p>
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## Technical Features

### EMC Properties

Interference immunity in accordance with DIN ISO 11452-2:

Frequency band 20 MHz up to 1 GHz 100 V/m

Frequency band 1 GHz up to 2 GHz 50 V/m

Mains-borne interference in accordance with ISO 7637-2:

Pulse	1	2a	2b	3a	3b	4	5
Severity level	III	III	III	III	III	III	III
Failure criterion	C	A	C	A	A	B	C

EN 61000-4-2: CD: 8 kV / AD: 15 kV

Severity level IV

EN 61000-4-3: 30 V/m (80...2500 MHz)

Severity level IV

EN 61000-4-4: 2 kV

Severity level III

EN 61000-4-6: 10 V (0.01...80 MHz)

Severity level III

EN 55011: Klasse A