

# Inductive sensor

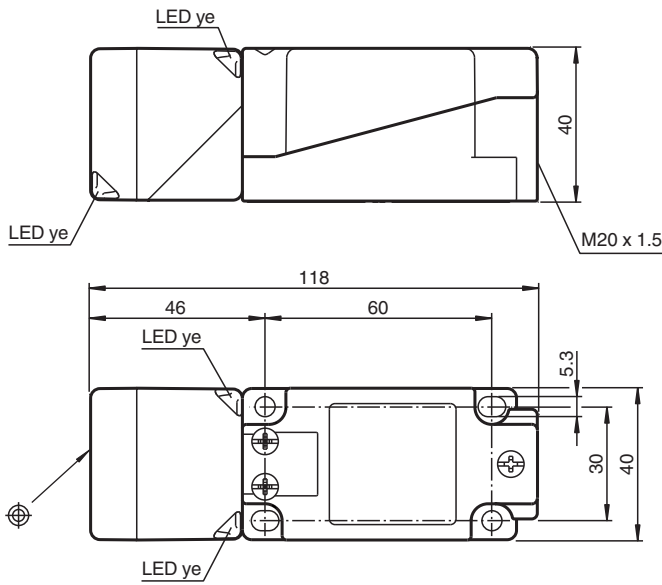
## NBB15-U1K-N0



- Sensor head bidirectional and rotatable
- 15 mm flush



### Dimensions



### Technical Data

#### General specifications

Switching function		Normally closed (NC)
Output type		NAMUR
Rated operating distance	$s_n$	15 mm
Installation		flush
Assured operating distance	$s_a$	0 ... 12.15 mm
Actual operating distance	$s_r$	13.5 ... 16.5 mm typ.
Reduction factor $r_{Al}$		0.33
Reduction factor $r_{Cu}$		0.31
Reduction factor $r_{304}$		0.74

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

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## Technical Data

Output type		2-wire
<b>Nominal ratings</b>		
Nominal voltage	U <sub>o</sub>	8.2 V (R <sub>i</sub> approx. 1 kΩ)
Switching frequency	f	0 ... 300 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		yes
Short-circuit protection		yes
Current consumption		
Measuring plate not detected		min. 2.2 mA
Measuring plate detected		≤ 1 mA
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1660 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Compliance with standards and directives</b>		
Standard conformity		
NAMUR		EN 60947-5-6:2000 IEC 60947-5-6:1999
Electromagnetic compatibility		NE 21:2007
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>		
IECEX approval		
Equipment protection level Ga		IECEX PTB 11.0021X
Equipment protection level Gb		IECEX PTB 11.0021X
Equipment protection level Da		IECEX PTB 11.0021X
Equipment protection level Mb		IECEX PTB 11.0021X
ATEX approval		
Equipment protection level Ga		PTB 00 ATEX 2032 X
Equipment protection level Gb		PTB 00 ATEX 2032 X
Equipment protection level Da		PTB 00 ATEX 2032 X
UL approval		
Ordinary Location		E87056
Hazardous Location		E501628
Control drawing		116-0451
CCC approval		
Hazardous Location		2020322315002303
NEPSI approval		
NEPSI certificate		GYJ16.1394X
CML approval		on request
ANZEx		19.3001X
KCC approval		
Hazardous Location		22-AV4BO-0032X
Marine approval		DNVGL TAA00001A5
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 100 °C (-13 ... 212 °F)
Storage temperature		-40 ... 100 °C (-40 ... 212 °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 %

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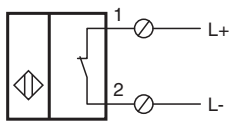
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**PEPPERL+FUCHS**




## Technical Data

Core cross section	up to 2.5 mm <sup>2</sup> , stripped insulation length: 7 mm
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>
Connection (system side)	screw terminals , M20 x 1.5 cable gland , usable thread length 9.1 mm , screw-in depth max. 9.1 mm
Housing material	PA
Sensing face	PA
Degree of protection	IP66 / IP68 / IP69K
Mass	225 g
Note	Tightening torque: 1.8 Nm (housing)
<b>General information</b>	
Use in the hazardous area	see instruction manuals

## Connection



## Accessories

	<b>MHW 01</b>	Modular mounting bracket
	<b>MH 04-2057B</b>	Mounting aid for VariKont and +U1+
	<b>KCD2-E2L</b>	Sensor output interface terminal with lead breakage monitoring