

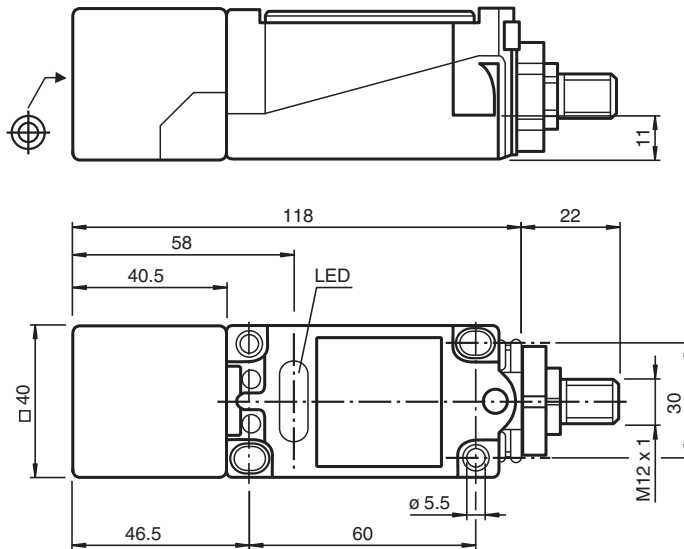
# Inductive sensor

## NBB20+U1A+B3-V1

- Basic series
- NO/NC programmable
- Adjustable sensor head
- Oscillator monitoring



### Dimensions



### Technical Data

#### General specifications

Switching function		Normally open/closed (NO/NC) programmable
Output type		AS-Interface
Rated operating distance	$s_n$	20 mm
Installation		flush
Assured operating distance	$s_a$	0 ... 16.2 mm
Actual operating distance	$s_r$	18 ... 22 mm typ. 20 mm
Reduction factor $r_{Al}$		0.4
Reduction factor $r_{Cu}$		0.35
Reduction factor $r_{304}$		0.85
Output type		2-wire

#### Nominal ratings

Operating voltage	$U_B$	26.5 ... 31.9 V via AS-i bus system
Switching frequency	$f$	0 ... 150 Hz

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

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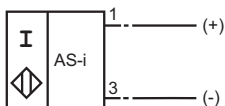
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## Technical Data

Hysteresis	H	1 ... 15 typ. 5 %
Reverse polarity protection		reverse polarity protected
No-load supply current	$I_0$	≤ 25 mA
Time delay before availability	$t_v$	≤ 1000 ms
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow
<b>Compliance with standards and directives</b>		
Standard conformity		
Standards		EN 60947-5-2:2007 IEC 60947-5-2:2007
<b>Approvals and certificates</b>		
UL approval		cULus Listed, General Purpose
CSA approval		cCSAus Listed, General Purpose
CCC approval		CCC approval / marking not required for products rated ≤36 V
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>		
Connection type		Connector plug M12 x 1 , 4-pin
Housing material		PBT
Sensing face		PBT
Degree of protection		IP67
Mass		240 g

## Connection

B3 (...+V1)



## Additional Information

### Programming Instructions

Address 00 preset, alterable  
via Busmaster or  
programming units  
IO-Code 1  
ID-Code 1

### Data bit

#### Bit Function

D0 switching state<sup>1)</sup>  
(0 = damped; 1 = undamped)  
D1 not used  
D2 oscillator monitoring  
(0= oscillator defective,  
1=normal operation)  
D3 not used





### Parameter bit

#### Bit Function

P0 not used  
P1 switching element function<sup>2)</sup>  
(0 = NC; 1 = NO)  
P2 not used  
P3 not used

- 1) Applies to NO funktion (P1 = 1; preset),  
with NC funktion (P1 = 0) reversed characteristics  
2) Default setting: NO

## Accessories

	<b>V1-W-2M-PUR</b>	Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey
	<b>V1-G-2M-PUR</b>	Female cordset single-ended M12 straight A-coded, 4-pin, PUR cable grey
	<b>MHW 01</b>	Modular mounting bracket
	<b>MH 04-2681F</b>	Mounting aid for VariKont, +U1+ and +U9*

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