



**Model Number**

**NBB20-U4-Z2**

**Features**

- Sensor head bidirectional and rotatable
- 20 mm flush
- 2-wire DC
- 2 LEDs indicator for 360° visibility

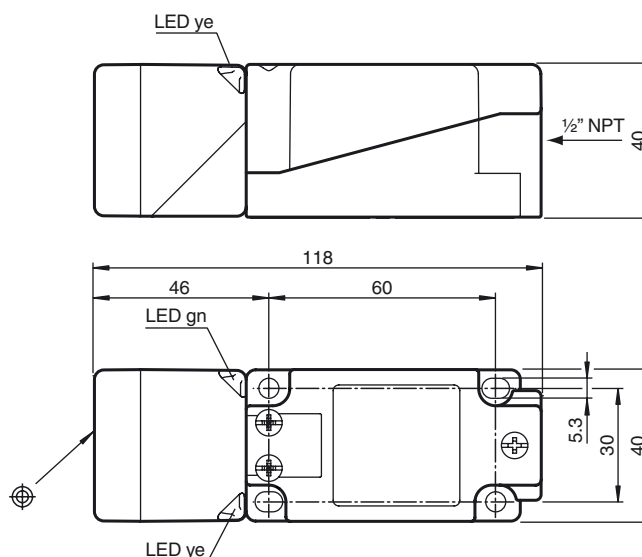
**Accessories**

- MHW 01**  
Modular mounting bracket
- MH 04-2681F**  
Mounting aid for VariKont, +U1+ and +U9\*

**Technical Data**

<b>General specifications</b>	
Switching function	Normally open/closed (NO/NC)
Output type	Two-wire
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 $r_{AI}$	0.3
Reduction factor $r_{Cu}$	0.3
Reduction factor $r_{304}$	0.7
Output type	2-wire
<b>Nominal ratings</b>	
Operating voltage	$U_B$ 5 ... 60 V DC
Switching frequency	$f$ 0 ... 250 Hz
Hysteresis	$H$ typ. 5 %
Reverse polarity protection	reverse polarity tolerant
Short-circuit protection	pulsing
Voltage drop	$U_d$ $\leq$ 5 V
Voltage drop at $I_L$	
Voltage drop $I_L = 100$ mA, switching element on $U_d$	... 5 V
Operating current	$I_L$ 2 ... 200 mA
Off-state current	$I_r$ 0 ... 0.5 mA
Switching state indicator	2 LED, yellow
<b>Functional safety related parameters</b>	
MTTF <sub>d</sub>	1162 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %
<b>Ambient conditions</b>	
Ambient temperature	-25 ... 85 °C (-13 ... 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 with epoxy powder coating
Sensing face	PA
Housing base	metal
Degree of protection	IP68 / IP69K
Mass	225 g
Note	Tightening torque: 1.8 Nm (housing)
<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>	
UL approval	cULus Listed, General Purpose
CCC approval	Certified by China Compulsory Certification (CCC)

**Dimensions**



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Electrical Connection

