

**Model Number**

NBB20-U4-A2

**Features**

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

**Accessories**

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

**Technical Data**

**General specifications**

Switching element function		PNP	NO/NC
Rated operating distance	$s_n$	20 mm	
Installation		flush	
Output polarity		DC	
Assured operating distance	$s_a$	0 ... 16.2 mm	
Reduction factor $r_{Al}$		0.33	
Reduction factor $r_{Cu}$		0.31	
Reduction factor $r_{304}$		0.74	
Reduction factor $r_{Brass}$		0.41	

**Nominal ratings**

Operating voltage	$U_B$	10 ... 30 V DC
Switching frequency	$f$	0 ... 440 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
No-load supply current	$I_0$	$\leq 20$ mA
Time delay before availability	$t_v$	80 ms
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow

**Functional safety related parameters**

MTTF <sub>d</sub>	1230 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Ambient conditions**

Ambient temperature	-25 ... 85 °C (-13 ... 185 °F)
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**Mechanical specifications**

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 % up to 2.5 mm <sup>2</sup>
Core cross-section	
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)

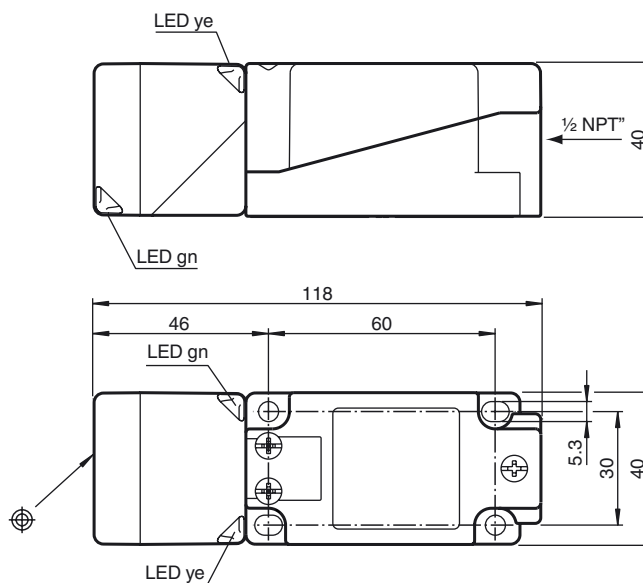
**Compliance with standards and directives**

Standard conformity	
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

**Approvals and certificates**

UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated $\leq 36$ V

**Dimensions**



Electrical Connection

