



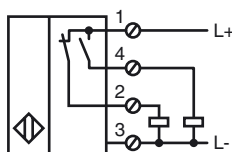
### Model Number

NBB20-U1-A2-T

### Features

- 20 mm flush
- 4-wire DC
- 4 LEDs indicator for 360° visibility
- Temperature range  
-25 ... 100 °C (-13 ... 212 °F)
- 20 mm flush

### Connection



### Accessories

#### V1-M20-80

Receptacles, M12/M20; plastic version

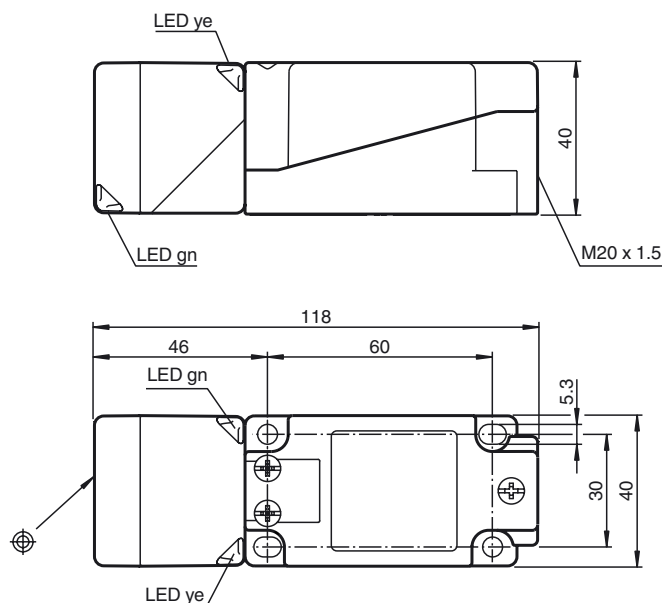
#### MHW 01

Modular mounting bracket

#### MH 04-2681F

Mounting aid for VariKont, +U1+ and +U9\*

### Dimensions



### 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 $r_{AI}$		0.35
Reduction factor $r_{Cu}$		0.3
Reduction factor $r_{304}$		0.75

#### Nominal ratings

Operating voltage	$U_B$	10 ... 30 V DC
Switching frequency	$f$	0 ... 300 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protected		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	$I_o$	$\leq 20$ mA
Operating voltage display		LED, green
Indication of the switching state		LED, yellow

#### Functional safety related parameters

MTTF <sub>d</sub>	1480 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

#### Ambient conditions

Ambient temperature	-25 ... 100 °C (-13 ... 212 °F)
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#### Mechanical specifications

Connection type	screw terminals
Core cross-section	$\leq 2.5$ mm <sup>2</sup>
Housing material	PA / LCP
Sensing face	PA
Housing base	plastic
Protection degree	IP68 / IP69K
Mass	225 g
Note	Tightening torque: 1.8 Nm (housing) Tightening torque: 1.0 Nm (Screw terminal)

#### 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	Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval.