



### Model Number

NBB15-U1-A2-T

### Features

- Sensor head bidirectional and rotatable
- Temperature range  
-25 ... 100 °C (-13 ... 212 °F)
- 15 mm flush
- 4 LEDs indicator for 360° visibility

### Accessories

#### MHW 01

Modular mounting bracket

#### V1-M20-80

Receptacles, M12/M20; plastic version

#### V1-G

Female connector, M12, 4-pin, field attachable

#### V1-W

Female connector, M12, 4-pin, field attachable

## Technical Data

### General specifications

Switching element function	PNP	NO/NC
Rated operating distance	$s_n$	15 mm
Installation		flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 12.15 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
Switching frequency	$f$	0 ... 300 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	$t_v$	$\leq 100$ ms
Operating voltage display		LED, green
Switching state indication		LED, yellow

### Functional safety related parameters

MTTF <sub>d</sub>	1480 a
Mission Time (T <sub>M</sub> )	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)

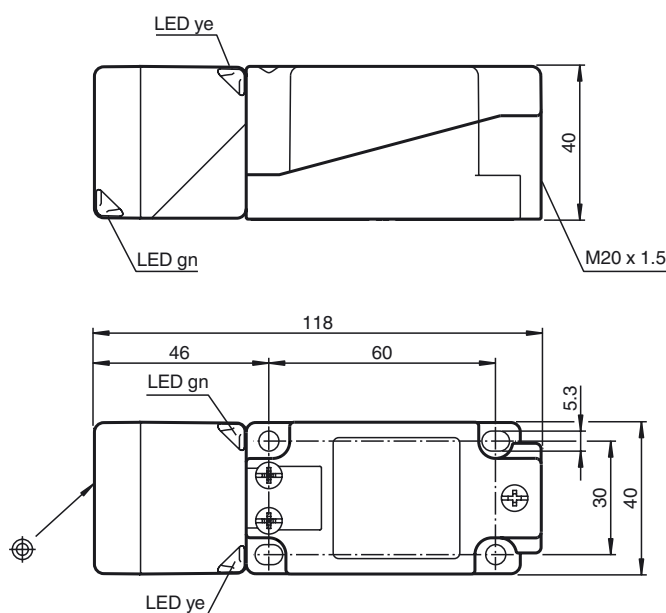
### Compliance with standards and directives

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

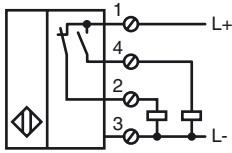
### Approvals and certificates

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

## Dimensions



Electrical Connection



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