



### Model Number

NBB20-L2M-E0-V1

### Features

- Sensor head bidirectional and rotatable
- 20 mm flush
- 3-wire DC
- IP69K Protected

### Accessories

#### V1-G

Female connector, M12, 4-pin, field attachable

#### V1-W

Female connector, M12, 4-pin, field attachable

#### V1-G-2M-PUR

Female cordset, M12, 4-pin, PUR cable

#### V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

#### MHW 01

Modular mounting bracket

#### MH 02-L

Mounting aid

## Technical Data

### General specifications

Switching element function		NPN	NO
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 ... 150 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>	1510 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

### Ambient conditions

Ambient temperature	-25 ... 85 °C (-13 ... 185 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

### Mechanical specifications

Connection type	Connector M12 x 1, 4-pin
Housing material	PA-GF35 metal base Xylan coated metal mounting flange Xylan coated.
Sensing face	PA-GF35
Degree of protection	IP69K
Mass	155 g

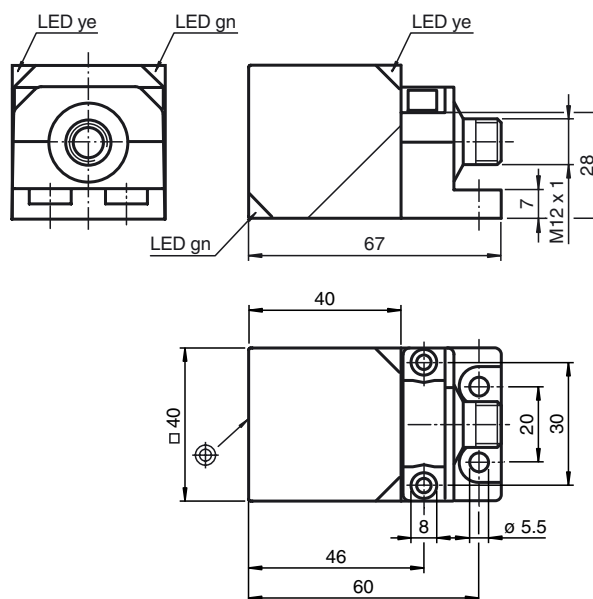
### Compliance with standards and directives

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

### Approvals and certificates

Protection class	II
Rated insulation voltage	$U_i$ 253 V
Design-impulse-voltage withstand	$U_{imp}$ 4000 V
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**



**Pinout**



Wire colors in accordance with EN 60947-5-2

1		BN	(brown)
2		WH	(white)
3		BU	(blue)
4		BK	(black)