



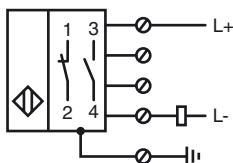
### Model Number

NBB15-U4-Z2

### Features

- 15 mm embeddable
- 2 LEDs indicator for 360° visibility

### Connection



### Accessories

#### MHW 01

Modular mounting bracket

#### V1-M20-80

Receptacles, M12/M20; plastic version

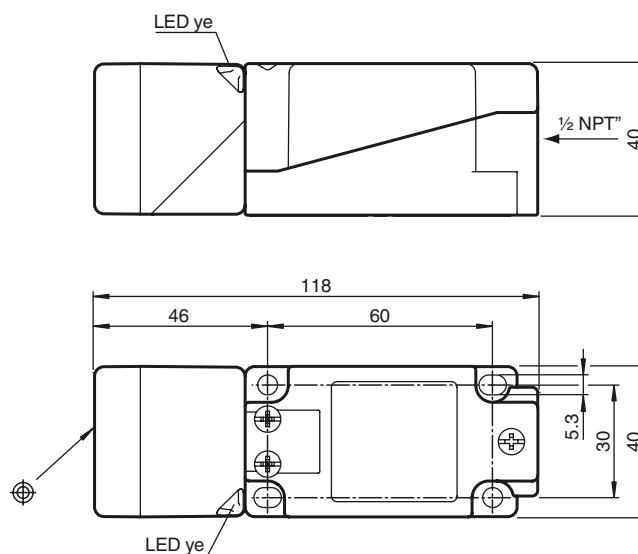
#### V1-G

4-pin, M12 female field-attachable connector

#### V1-W

4-pin, M12 female field-attachable connector

## Dimensions



## Technical Data

### General specifications

Switching element function		DC	NO/NC
Rated operating distance	$s_n$	15 mm	
Installation		embeddable	
Output polarity		DC	
Assured operating distance	$s_a$	0 ... 12.15 mm	
Reduction factor $r_{AI}$		0.3	
Reduction factor $r_{CU}$		0.3	
Reduction factor $r_{303}$		0.7	

### Nominal ratings

Operating voltage	$U_B$	5 ... 60 V
Switching frequency	$f$	0 ... 400 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protected		tolerant
Short-circuit protection		yes
Voltage drop	$U_d$	$\leq 5$ V
Operating current	$I_L$	2 ... 200 mA
Off-state current	$I_r$	0 ... 0.5 mA
Indication of the switching state		2 LED, yellow

### Functional safety related parameters

MTTF <sub>d</sub>	1133 a
Mission Time ( $T_M$ )	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
Core cross-section	$\leq 2.5$ mm <sup>2</sup>
Housing material	PA/metal with epoxy powder coating
Sensing face	PA
Housing base	metal
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	Certified by China Compulsory Certification (CCC)