



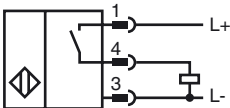
## Model Number

NCB50-FP-E2-C-P1-V1

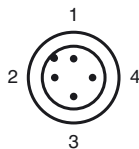
## Features

- 50 mm flush
- 3-wire DC
- Weld Immune
- Optimum use at a distance >50 cm

## Connection



## Pinout



Wire colors in accordance with EN 60947-5-2

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

## Accessories

### V1-G

4-pin, M12 female field-attachable connector

### V1-W

4-pin, M12 female field-attachable connector

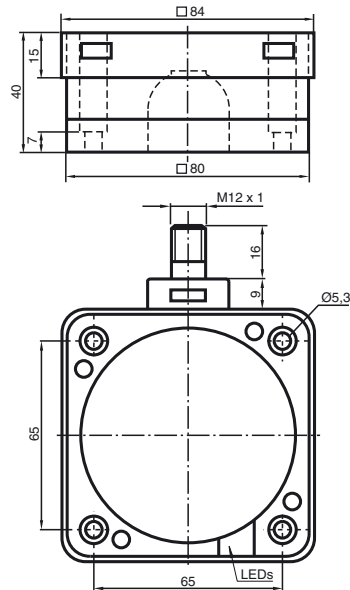
### V1-G-2M-PUR

Cable socket, M12, 4-pin, PUR cable

### V1-W-2M-PUR

Cable socket, M12, 4-pin, PUR cable

## Dimensions



## Technical Data

### General specifications

Switching element function		PNP NO
Rated operating distance	$s_n$	50 mm
Installation		flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 40.5 mm
Reduction factor $r_{Al}$		0.38
Reduction factor $r_{Cu}$		0.35
Reduction factor $r_{304}$		0.83

### Nominal ratings

Operating voltage	$U_B$	10 ... 60 V DC
Switching frequency	$f$	0 ... 1 Hz
Hysteresis	$H$	typ. 3 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 3$ 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
Tuning-out		$\geq 50$ ms
Operating voltage display		LED, green
Indication of the switching state		LED, yellow

### Functional safety related parameters

MTTF <sub>d</sub>	960 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

### Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
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### Mechanical specifications

Connection type	Device connector M12 x 1 , 4-pin
Housing material	PBT/metal
Sensing face	PBT, active surface PTFE coated
Housing base	PBT
Protection degree	IP68

### Compliance with standards and directives

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

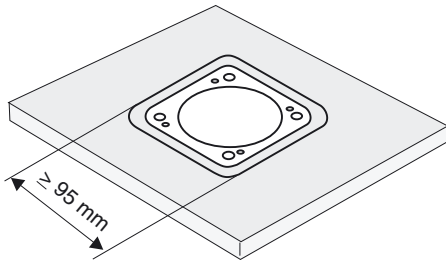
### Approvals and certificates

UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	Certified by China Compulsory Certification (CCC)

**Installation hint**

These sensors are especially designed for embeddable mounting in conveyor floors. Due to its precise location in metal base plates the sensor is afforded a high degree of mechanical protection. No clearance is required between the sensor and the base plate, avoiding the need for protective guarding to prevent possible foot injury.

The large sensing range ensures positive detection, and thus provides consistent control and monitoring of the conveyor.



**Warning!**  
Once the metal screening has been removed, the sensor can no longer be embeddable mounted.