



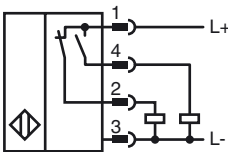
**Model Number**

NCB50-FP-A2-P1-V1

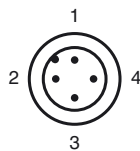
**Features**

- 50 mm embeddable
- 4-wire DC

**Connection**



**Pinout**



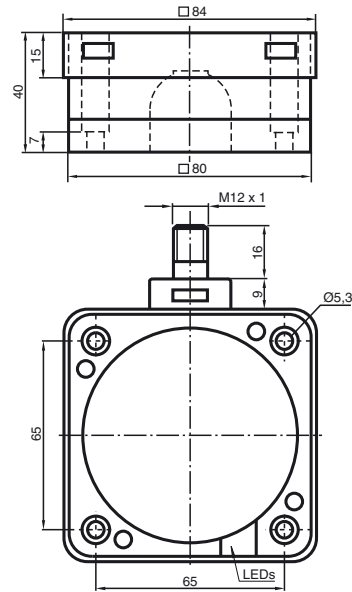
Wire colors in accordance with EN 60947-5-2

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

**Accessories**

- V1-G**  
4-pin, M12 female field-attachable connector
- V1-W-2M-PUR**  
Cable socket, M12, 4-pin, PUR cable
- V1-G-2M-PUR**  
Cable socket, M12, 4-pin, PUR cable
- V1-W**  
4-pin, M12 female field-attachable connector

**Dimensions**



**Technical Data**

**General specifications**

Switching element function	PNP	NO/NC
Rated operating distance	$s_n$	50 mm
Installation		embeddable
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 ... 80 Hz
Hysteresis	$H$	typ. 3 %
Reverse polarity protected		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
Operating voltage display		LED, green
Indication of the switching state		LED, yellow

**Functional safety related parameters**

MTTF <sub>d</sub>	680 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
Sensing face	PBT
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**

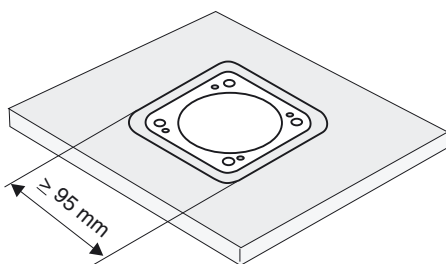
UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	Certified by China Compulsory Certification (CCC)

Release date: 2012-02-06 15:20 Date of issue: 2012-02-06 187487\_eng.xml

**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.