



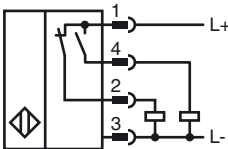
**Model Number**

NCB50-FP-A2-P4-V1

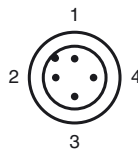
**Features**

- 50 mm flush
- 4-wire DC
- Surface mount
- M12 plug connection

**Connection**



**Pinout**



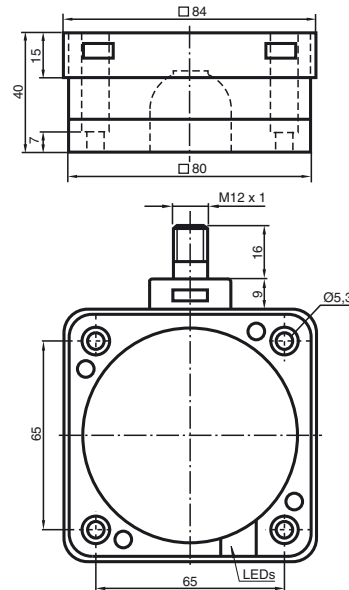
Wire colors in accordance with EN 60947-5-2

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

**Accessories**

- V1-G-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/NC
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 ... 80 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	
Time delay before availability	$t_v$	$\leq 300$ ms	
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 <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Standard conformity**

Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007
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**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
Housing base	metal
Protection degree	IP68

**Approvals and certificates**

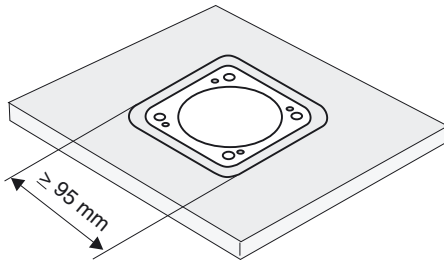
UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval.

Release date: 2012-11-27 14:10 Date of issue: 2012-11-27 908489\_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.