



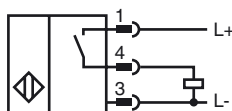
**Model Number**

NRB50-FP-E2-C-P3-V1

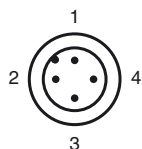
**Features**

- 50 mm flush
- Reduction factor = 1
- Weld Immune

**Connection**



**Pinout**



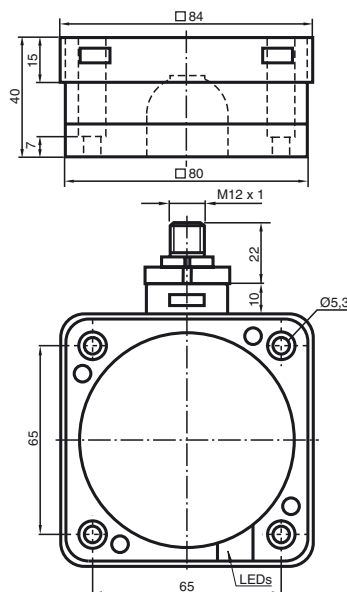
Wire colors in accordance with EN 60947-5-2

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 $r_{Al}$		1
Reduction factor $r_{Cu}$		1
Reduction factor $r_{304}$		1
Reduction factor $r_{S137}$		1

**Nominal ratings**

Operating voltage	$U_B$	10 ... 30 V DC
Switching frequency	$f$	0 ... 1 Hz
Hysteresis	$H$	typ. 3 %
Reverse polarity protected		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 3$ V
Rated insulation voltage	$U_{BIS}$	50 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 switched state		LED, yellow

**Functional safety related parameters**

MTTF <sub>d</sub>	944 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

**Ambient conditions**

Ambient temperature	0 ... 50 °C (32 ... 122 °F) ( $\pm 10$ % changing operating distance)
	-25 ... 70 °C (-13 ... 158 °F) ( $\pm 20$ % changing operating distance)

**Mechanical specifications**

Connection type	Device connector M12 x 1 , 4-pin
Housing material	PBT/metal
Sensing face	PBT, 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**

Protection class	II
Rated insulation voltage	$U_i$ 60 V
Design-impulse-voltage withstand	$U_{imp}$ 800 V
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: 2012-05-04 09:41 Date of issue: 2012-05-04 187797\_eng.xml

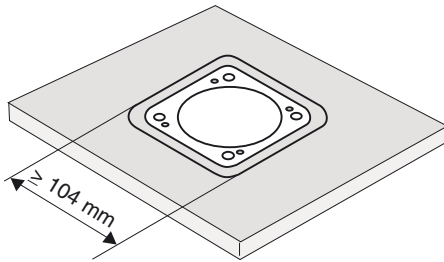
**Installation hint**

These sensors are particularly suitable for embedded installation in floor conveyor systems. The installation of the switch in a metal base plate provides it with considerable protection against mechanical damage.

Care should be taken to ensure that the cut out in the base plate is at least 104 mm x 104 mm and that the sensor is positioned centrally within this cut out.

The active surface of the sensor must not be recessed with respect to the front face of the base plate.

The high switching distance guarantees safe detection and thus control of the floor conveyor system.



**Caution!**  
After removal of the metal screen the proximity switch can no longer be mounted as an embedded installation.