

#### Design

The capacitive proximity sensor with LED and electrical connections is assembled on a polymer assembly base. The electrical connection is effected by means of safety connectors. The unit is mounted on the profile plate via a quick release detent system with blue triple grip nut (mounting alternative “B”).

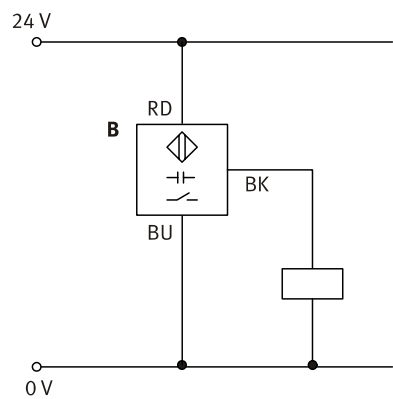
#### Function

The operational principle of a capacitive sensor is based on the evaluation of the capacity change of a capacitor in a RC resonant circuit. When a material approaches the proximity sensor, the capacity of the capacitor is stimulated (increased), whereby the change in the oscillatory characteristics of the RC circuit can be evaluated. The capacity change largely depends on the distance, size and dielectric constant of the material used.

The proximity sensor has a PNP output, i.e. the signal line is switched to a positive potential in the switched status. The switch is designed as a normally open contact. The connection of the load takes place between the signal output of the proximity sensor and the load. A yellow LED indicates the switching status. The sensor is protected against polarity reversal, overload and short circuit.


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Proximity sensor, capacitive



**Note** The correct polarity of the applied voltage is to be observed for proper functioning. The connections for the operating voltage are colour coded as follows, red for positive, blue for negative and black for the signal output. The load is connected to the switching output and linked to the negative terminal of the current supply.

Technical Data

Electrical	
Switching voltage	10 – 30 V DC
Residual ripple	maximum 10%
No-load current	approx. 15 mA
Nominal switching distance	4 mm
Reproducible switching point at constant temperature	≤ 0.01 mm
Switching frequency	maximum 100 Hz
No-load current	approx. 15 mA
Output current	maximum 200 mA
Switching capacity	maximum 4.8 W
Protection class	IP65
Connection	for 4 mm safety connector plug
Electromagnetic compatibility	
Emitted interference	tested to EN 500 81-1
Noise immunity	tested to EN 500 82-1