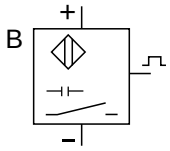

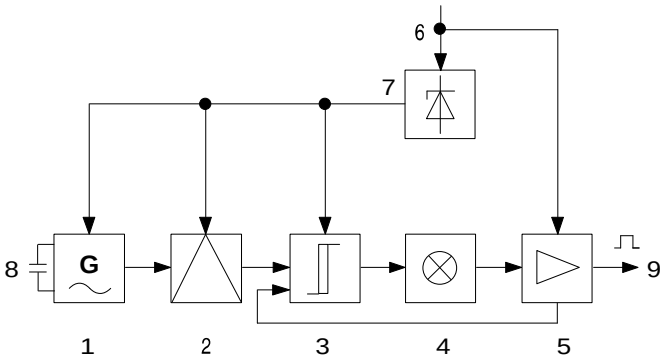

1 Oscillator
2 Demodulator
3 Trigger stage
4 Switching status display
5 Output stage with protective circuit
6 External voltage
7 Internal constant voltage supply
8 Capacitor with active zone
9 Switch output

Design

The capacitive proximity sensor can be attached via an angle bracket and two lock nuts. The sensor is of cylindrical design with an M18x1 thread.

Function

The operational principle of a capacitive proximity sensor is based on the evaluation of the change in capacitance of a capacitor in an RC resonant circuit. The capacitance increases, when an object approaches the proximity sensor. This leads to a change in the oscillating action of the RC circuit which can be evaluated. The change in capacitance largely depends on the distance, the dimensions and the dielectric constant of the respective material.

The proximity sensor has a PNP output, i.e. the signal line is switched to positive potential in the switched status. The switch is designed in the form of a normally open contact. The load is connected between the sensor signal output and earth. A yellow light emitting diode (LED) indicates the switching status. The capacitive proximity sensor cannot be flush fitted.

Note

During operation, please observe the polarity of the applied voltage. The terminals are colour coded.

Operating voltage		
	Positive terminal	brown
	Negative terminal	blue
	Load output	black

The sensor is protected against reverse polarity and short circuit.

Technical data

Permissible operating voltage	10 to 55 V DC
Switch output	PNP, Normally open contact
Nominal switching distance (adjustable)	2 to 8 mm
Hysteresis (at nominal switching distance)	3 to 15 %
Maximum switching current	200 mA
Maximum switching frequency	300 Hz
Current consumption during idling (at 55 V)	7 mA
Permissible ambient operating temperature	20 °C to +70 °C
Degree of protection	IP 65
Reverse polarity protection, short circuit strength	yes
Materials (housing)	Thermoplast
Weight	0.20 kg
Electrical connection	Cable, 2000 mm long
Subject to change	