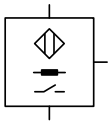
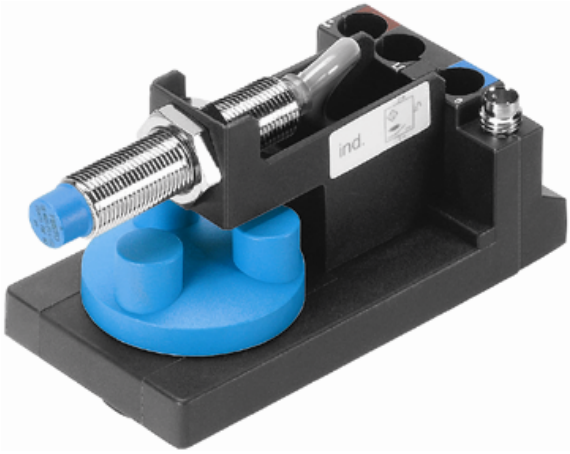
178574

Proximity sensor, inductive





Design

The inductive 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 inductive proximity sensor consists of an oscillator circuit, which is made up of a parallel resonant circuit with coil and capacitor as well as an amplifier. The electromagnetic field is directed outwardly by means of a ferrite shell core. When a electrically conductive material is brought into the electromagnetic stray field, this creates eddy currents in the material in accordance with the law of induction, which attenuate the oscillator. Depending on the conductivity, the size and proximity of the conducting object, the oscillator may be attenuated so strongly that oscillation ceases. The attenuation of the oscillator is evaluated in the triggering stage which supplies an output signal.

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 in the form of a normally open contact. The connection of the load takes place between the signal output of the proximity sensor and the load. The active surface can be identified by a blue polymer disc. The operating status is indicated via an LED display. The sensor is protected against polarity reversal, overload and short circuit.

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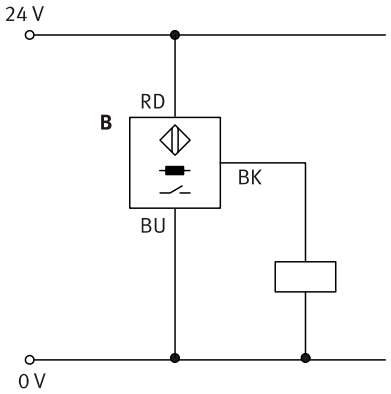

Note

The correct polarity of the applied voltage is necessary 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 connected to the negative terminal of the current supply.

Technical data

Electrical	
Switching voltage	10 – 30 V DC
Residual ripple	maximum 10%
Nominal switching distance	4 mm
Switching frequence	maximum 800 Hz
Output function	normally open contact, positive switching
Output current	maximum 400 mA
Protection class	IP65
Connections	for 4 mm safety connector plug
Electromagnetic compatibility	CE
Emitted interference	tested to EN EN 500 81-1
Noise immunity	tested to EN 500 82-1