



Resistive coupling element

Description

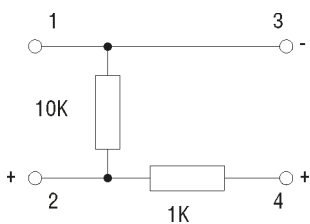
The 1 kΩ/10 kΩ resistive coupling element is used to monitor open and short circuits in isolator amplifier circuits controlled by mechanical contacts.

The coupling element is installed directly to the control contact or inside its terminal box.

Four states can be detected:

- Open circuit (broken cable)
- Open switch
- Closed switch
- Short circuit

Wiring diagram/terminal assignment



Function

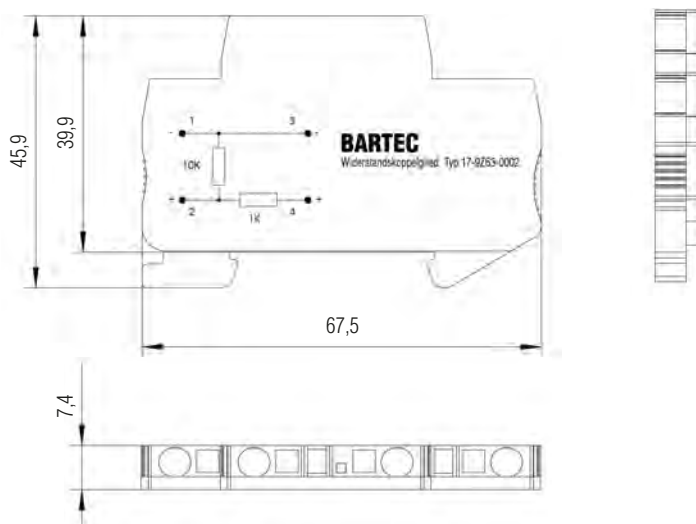
Numerous isolator amplifiers can monitor the connected sensor line for open or short circuit conditions thanks to the employment of electronic proximity switches to which current can be applied in both damped and undamped status DIN EN 60947-5-6.

Current values outside the specified range are identified as open or short circuits.

If simple mechanical contacts are used, it is not possible to identify a short circuit. Neither can be distinguished between open circuit and open contact. This problem can be solved by installing a resistor combination at the end of the sensor line immediately before the switch.

This combination provides a closed-circuit current even when the contacts is open. At closed contact it restricts the current to a value which lies clearly below the response threshold for short circuit.

Dimensions



Technical data

Resistance

- 1 kΩ/0.6 W
- 10 kΩ/0.6 W

Terminals

2.5 mm²

Mounting rail

TH 35

Supply voltage

max. DC 20 V

Ambient temperature

-40 °C to +60 °C

Storage temperature

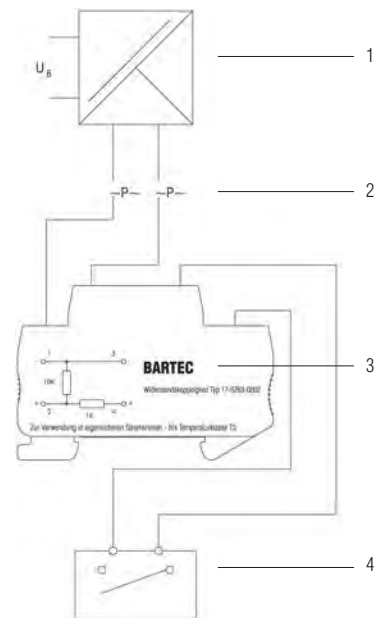
-40 °C to +60 °C

To the use in intrinsically safe electric circuits to temperature class T5.

The resistive coupling element can be used with all isolator amplifiers featuring open and short circuit monitoring.

Application

Open/short circuit monitoring for isolator amplifiers with contact control.



- 1 Isolator amplifier
- 2 Cable and sub-distribution
- 3 Resistive coupling element mounted on sensor
- 4 Sensor and contact for monitoring

Order no. 17-9Z63-0002

Other variants on request.

Technical data subject to change without notice!