

Current comparator

for return wire monitoring



Current comparator for return wire monitoring

Description

The 710350 current comparator was designed especially for the simultaneous monitoring of 4 standard 0-10 V, 0(4)-20 mA voltage or current sources. The built-in output relay is activated at once if at least one input signal exceeds the selected threshold value. The yellow status LEDs show at which input the measured value is greater than the threshold value. The red LED shows the state of the relay. The relay drops out if all the measured values are less than the threshold value after the fifth measurement. The threshold can be set with the built-in coding switches. The (+/-) 00 stands for 5 V (10 mA) and each further position is 50 mV larger or smaller.

Function

The signals applied to channels CH1 - CH4 are received at the same time by a Sample&Hold amplifier. This is necessary so that rapid changes in the cable loading do not lead to falsified results. Once the measured values that have been recorded simultaneously are stored temporarily, they are converted digitally one after another and passed to the microprocessor for further processing.

If a measured value deviates from the other measured values by more than the set threshold value, it is classified as an error and the output relay is set.

Inputs CH1 - CH4 are designed in such a way that they can be connected to standard isolating amplifier outputs.

The temporary switching of the isolating amplifier is necessary so that no potentials are



brought into the controller from the contact wire unit in the event of a failure.

Initial commissioning

Ensure first of all that all the input signals CH1 - CH4 have been parameterized the same way (i.e., the preswitched isolating amplifiers must supply the same output signals for the same current flow).

The threshold value from which an error message is given can be set by the selector switch.

Here a setting of -99 corresponds to a voltage difference of 50 mV between channels CH1 - CH4 and a setting of +99 corresponds to a voltage difference of 9.95 V in steps of 50 mV.

Once the supply voltage has been applied, the error relay is reset if 5 consecutive measuring cycles are free of errors (i.e., none of the channels exceeds the threshold value).

The device is ready for use after that.

See the complete brochure folder for additional monitoring units.

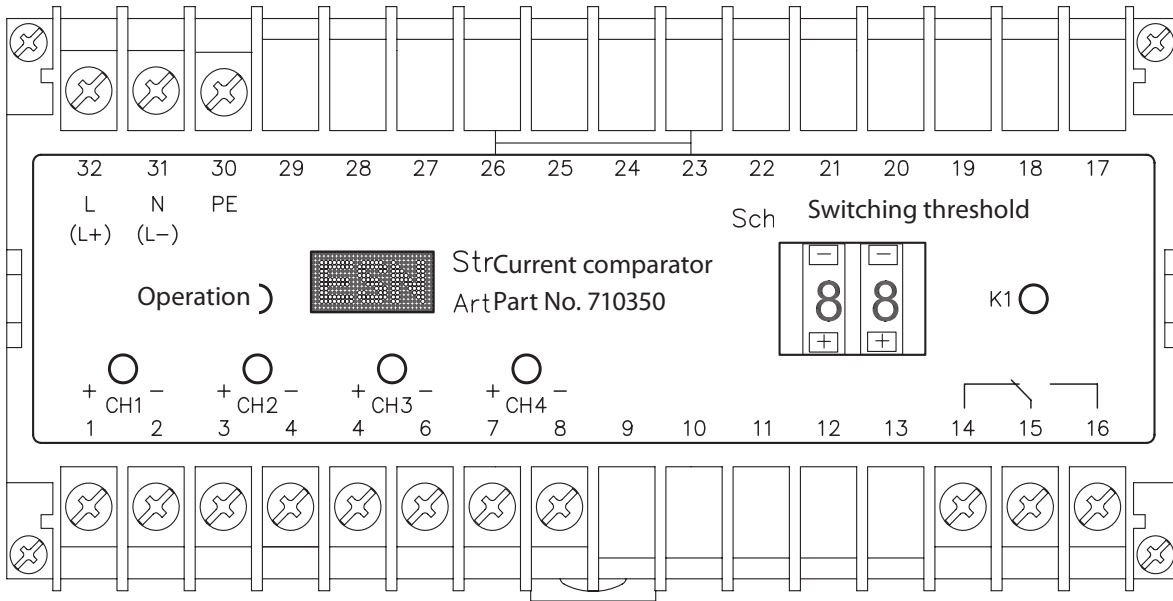
Technical data

Dimensions	WxHxD 150/70/115 mm
Housing	ABS / polycarbonate
Attachment	2 holes to be drilled as per the drilling template, top hat rail in accordance with DIN EN 50022
Type of protection	Housing: IP 40; terminals: IP 10
Ambient temperature	-20°C to +60°C
Connections	2 X 2.5 mm ² solid as per DIN 46288 or 2 x 1.5 mm ² with sleeve
Supply voltage	Terminal 30 (L-); terminal 31 (L+) AC/DC 20 - 250 V
Power drawn	approx. 5 VA
Measuring input	Channel 1 (CH1) terminal 1 (+), terminal 2 (-) Channel 2 (CH2) terminal 2 (+), terminal 4 (-) Channel 3 (CH3) terminal 5 (+), terminal 6 (-) Channel 4 (CH4) terminal 7 (+), terminal 8 (-)
Measuring input	0 - 10 V, 0(4)- 20 mA, U _{max} : 12V
Relay output	AC 250 V / 4A, cos Phi > 0.7 DC 120 V / 1 A, ohmic load
Displays	Mains: LED green K1: LED red CH1-CH4: ED yellow
Test voltage	Supply voltage - measured voltage Supply voltage - outputs each: 4 kV _{eff}

Ordering information

Type	Part No.
Current comparator	710350

Accessories: Special versions, other functions and measuring ranges, complete units, protective housings with additional terminals, etc., to special order



Block circuit diagram

