BENDER
The Power in Electrical Safety©

RK170

Measuring converter

TDB109006en/05.2013

RK170

Measuring converter RK170

Device features

- Plastic enclosure for DIN rail mounting
- Zero setting 0 or 4 mA
- Electrical separation between the input and output signal

Product description

The measuring transducer RK170 is designed to convert current signals of measuring instrument outputs of ISOMETER®s (0…400 µA) and residual current monitors (RCM, RCMA) into standard current signals 0(4)…20 mA or into voltage signals (0…10 V). These currents and voltages are usually required in process technology.

Application

- Conversion of DC 0…400 µA current signals into 0(4)…20 mA or 0…10 V signals
- For ISOMETER®s and RCM and RCMA residual current monitors with measurement instrument output DC 0…400 µA

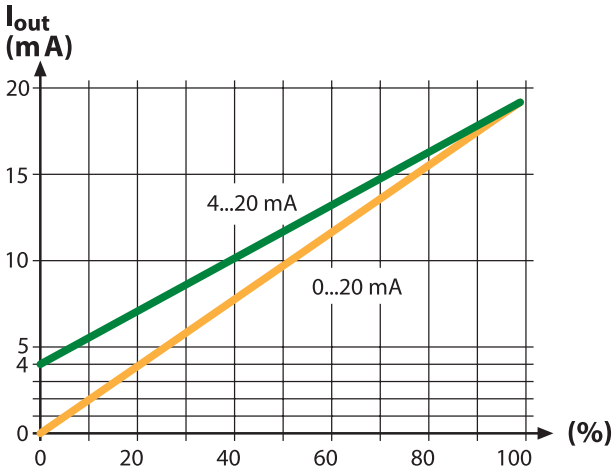
RK170 adjustments

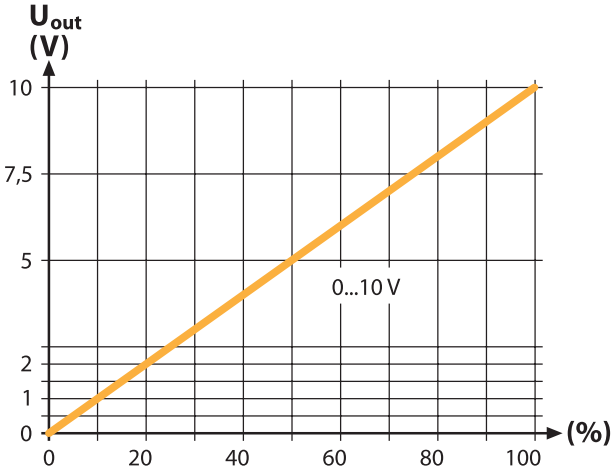
The signals at the outputs 0(4)…20 mA and 0…10 V are simultaneously available and their own nominal load must not be exceeded.

Setting the zero and the full-scale value will have an effect on both outputs. Hence, optimum adjustment is only possible for one output at a time.

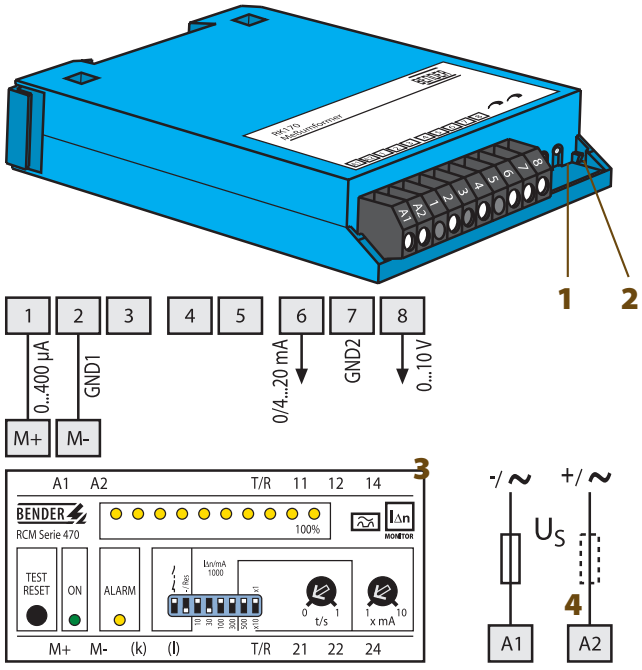
The measuring transducer RK170 is factory-set to an input signal of DC 0…400 µA providing a galvanically isolated output signal of 0…20 mA or 0…10 V. When an output signal of 4…20 mA is required or the measuring transducer RK170 is to be adjusted for other reasons, the adjustment can be carried out using the trimmers “Zero” and “Scale”.

Characteristic curve





Wiring diagram



1 - Zero: zero setting
2 - Scale: full-scale value calibration
3 - RCM series device
4 - U_S see nameplate, 2 A slow-blow fuse recommended

Technical data

Voltage ranges

Supply voltage U_S	DC 20…297 V/AC 19…264 V
Frequency range U_S	50…120 Hz
Power consumption	≤ 3 VA

Inputs

Current input	DC 0…400 µA
Max. permissible current	DC 4 mA
Rated input resistance	approx. 2.5 kΩ

Outputs

Outputs	two outputs with common ground
Voltage output	DC 0 … 10 V
Open-circuit voltage	DC 12 V
Rated burden	1 kΩ
Current output	DC 0/4…20 mA
Short-circuit current	≤ DC 50 mA short-circuit proof
Rated burden	500 Ω
Accuracy at T_u = 23 °C	class 0.5
Temperature coefficient	0.025 %/°C
Rated rise time T 0.9	50 ms
Dielectric strength input/output/supply	AC 2500 V

Environment

Shock resistance IEC 60068-2-27 (device in operation)	5 g/11 ms
Vibration resistance IEC 60068-2-6 (device in operation)	1 g/10…150 Hz
Vibration resistance IEC 60068-2-6 (transport)	2 g/10…150 Hz
Ambient temperature (during operation)	0…+50 °C
Ambient temperature (during storage)	-20…+70 °C
Climatic class acc. to IEC 60721-3-3	3K3

Connection

Connection type	modular terminals
Connection properties rigid/flexible	0.5…2.5 mm²/0.14…1.5 mm²

Other

Operating mode	continuous operation
Mounting	any position
Degree of protection, internal components (IEC 60529)	IP40
Degree of protection, internal components (IEC 60529)	IP20
Dimensions	75 x 22.5 x 110 mm
DIN rail mounting acc. to	IEC 60715
Flammability class	UL94 V-2
Operating manual	BP109006
Weight	≤ 200 g

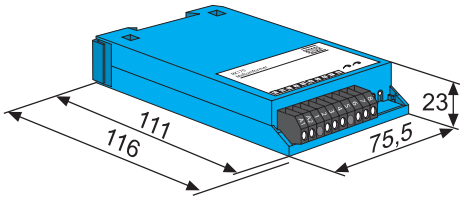
Ordering information

Supply voltage [1] U_S		Type	Art. No.
AC	DC		
19…264 V	20…297 V	RK170	B 9804 1500

[1] Absolute values

Type of enclosure/dimension diagram

Dimensions in mm



Bender GmbH & Co. KG
P.O. Box 1161 • 35301 Grünberg • Germany
Londorfer Straße 65 • 35305 Grünberg • Germany
Tel.: +49 6401 807-0 • Fax: +49 6401 807-259
E-Mail: info@bender-de.com • www.bender-de.com

BENDER Group