Transmitters with galvanic separation of the input and output

Transmitters of the series **RGI**-... and **RGU**-... are designed for converting the signals of resistance transducers Pt100, Pt500, Pt1000, Ni1000, Ni10000 and of resistance transmitters OV100 (0 to 100Ω), OV1000 (0 to 1000Ω) or OV105 (5 to 105Ω) to unified signals 4 to 20 mA or 0 to 10 V. As the input signals, also standardised current or voltage signals may be used. The converters may be supplied with continuous-current voltage 24 V. They are equipped with galvanic separation of the input and the output signals. The output signals are linear and proportional to the temperature or to the input signal. Resulting from their protecting IP20 and the capability of clamping to the DIN mounting bar TS35, they are designed for mounting into distribution boxes, in the first place.

Summary of types

TYPE	TYPE	INPUT	TYPE	TYPE	INPUT
RGI-P	RGU-P	Pt100	RGI-RTA	RGU-RTA	OV105 three-wire
RGI-PA	RGU-PA	Pt1000	RGI-RDA	RGU-RDA	OV105 two-wire
RGI-PB	RGU-PB	Pt500	RGI-RTB	RGU-RTB	OV1000 three-wire
RGI-L	RGU-L	Ni1000/5000 ppm	RGI-RDB	RGU-RDB	OV1000 two-wire
RGI-S	RGU-S	Ni1000/6180 ppm	RGI-I1	RGU-I1	4 to 20 mA
RGI-SA	RGU-SA	Ni10000/6180 ppm	RGI-I2	RGU-I2	0 to 20 mA
RGI-J	RGU-J	Ni891/6371 ppm	RGI-U1	RGU-U1	0 to 2 V
RGI-RT	RGU-RT	OV100 three-wire	RGI-U2	RGU-U2	0 to 5 V
RGI-RD	RGU-RD	OV100 two-wire	RGI-U3	RGU-U3	0 to 10 V

Basic technical parameters

Transmitters type	RGI-P...	RGI-L...; RGI-S...; RGI-J	RGI-R...	RGI-U...	RGI-I...
Input part supply voltage	U_1 = 8 to 30 Vss	8 to 30 Vss	8 to 30 Vss	8 to 30 Vss	8 to 30 Vss
Output part supply voltage	U_2 = 11 to 35 Vss	11 to 35 Vss	11 to 35 Vss	11 to 35 Vss	11 to 35 Vss
Output signal I_z	4 to 20 mA	4 to 20 mA	4 to 20 mA	4 to 20 mA	4 to 20 mA
Measuring range of the input signal	-30 to 60°C 0 to 100°C 0 to 200°C 0 to 400°C 0 to 600°C 200 to 600°C	-30 to 60°C 0 to 35°C 0 to 100°C 0 to 150°C 0 to 250°C	0 to 100 Ω for RT a RD 0 to 1000 Ω for RTB a RDB 5 to 105 Ω for RTA a RDA	0 to 1 V for U1 0 to 2 V for U2 0 to 10 V for U3	4 to 20 mA for I1 0 to 20 mA for I2
Ambient temperature	-25 to 60°C	-25 to 60°C	-25 to 60°C	-25 to 60°C	-25 to 60°C
Insulation voltage	2500 V_{RMS}	2500 V_{RMS}	2500 V_{RMS}	2500 V_{RMS}	2500 V_{RMS}
Relative humidity	< 80 %	< 80 %	< 80 %	< 80 %	< 80 %
Measuring error	< 0,8 %	< 0,8 %	< 0,8 %	< 0,8 %	< 0,8 %
Loading resistance R_z	< (Ucc-11)x50 [Ω]	< (Ucc-11)x50 [Ω]	< (Ucc-11)x50 [Ω]	< (Ucc-11)x50 [Ω]	< (Ucc-11)x50 [Ω]
Sensing element break	I_z > 24 mA	I_z > 24 mA	I_z > 24 mA	I_z > 24 mA	I_z > 24 mA
Sensing element short	I_z < 3 mA	I_z < 3 mA	I_z < 3 mA	I_z < 3 mA	I_z < 3 mA

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Transmitters type	RGU-P...	RGU-L...; RGU-S...; RGU-J	RGU-R...	RGU-U...	RGU-I...
Input part supply voltage	U_1 = 8 to 30 Vss	8 to 30 Vss	8 to 30 Vss	8 to 30 Vss	8 to 30 Vss
Output part supply voltage	U_2 = 18 to 30 Vss	18 to 30 Vss	18 to 30 Vss	18 to 30 Vss	18 to 30 Vss
Output signal U_v	0 to 10 V	0 to 10 V	0 to 10 V	0 to 10 V	0 to 10 V
Measuring range of the input signal	-30 to 60°C 0 to 100°C 0 to 200°C 0 to 400°C 0 to 600°C 200 to 600°C	-30 to 60°C 0 to 35°C 0 to 100°C 0 to 150°C 0 to 250°C	0 to 100 Ω for RT a RD 0 to 1000 Ω pro RTB a RDB 5 to 105 Ω for RTA a RDA	0 up to 1 V for U1 0 up to 2 V for U2 0 to 10 V for U3	4 to 20 mA for I1 0 to 20 mA for I2
Ambient temperature	-25 to 60°C	-25 to 60°C	-25 to 60°C	-25 to 60°C	-25 to 60°C
Relative humidity	< 80 %	< 80 %	< 80 %	< 80 %	< 80 %
Current consumption	< 10 mA	< 10 mA	< 10 mA	< 10 mA	< 10 mA
Measuring error	< 0,8 %	< 0,8 %	< 0,8 %	< 0,8 %	< 0,8 %
Loading resistance R_z	> 50 kΩ	> 50 kΩ	> 50 kΩ	> 50 kΩ	> 50 kΩ
Sensing element break	U_v > 14 V	U_v > 14 V	U_v > 14 V	U_v > 14 V	U_v > 14 V
Sensing element short	U_v ~ 0 V	U_v ~ 0 V	U_v ~ 0 V	U_v ~ 0 V	U_v ~ 0 V

Method of ordering

State the quantity of pieces and the transmitter type in your order
Example of the order: **5 pieces transmitter RGI-P.2**

transmitter name — temperature range (ordering number)

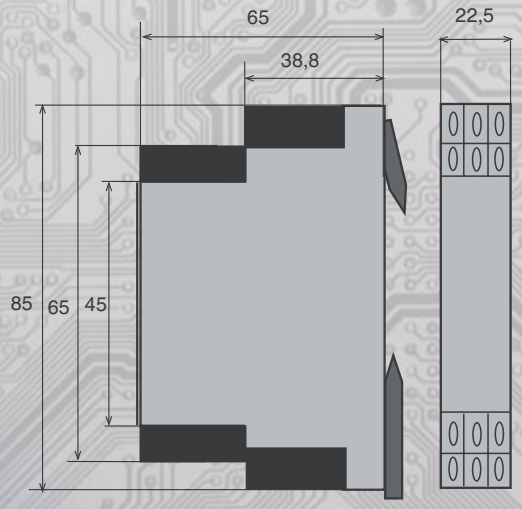
i.e. transmitter with input **Pt100** range **0 to 100°C**, output 4 to 20 mA

Transmittter type	RGI-P...; RGU-P...	Ordering number	RGI-L,S,J; RGU-L,S,J	Ordering number
Temperature range	-30 to 60°C	1	-30 to 60°C	1
	0 to 100°C	2	0 to 35°C	2
	0 to 200°C	3	0 to 100°C	3
	0 to 400°C	4	0 to 150°C	4
	0 to 600°C	5	0 to 250°C	5
	200 to 600°C	6		

Mounting and putting into operation

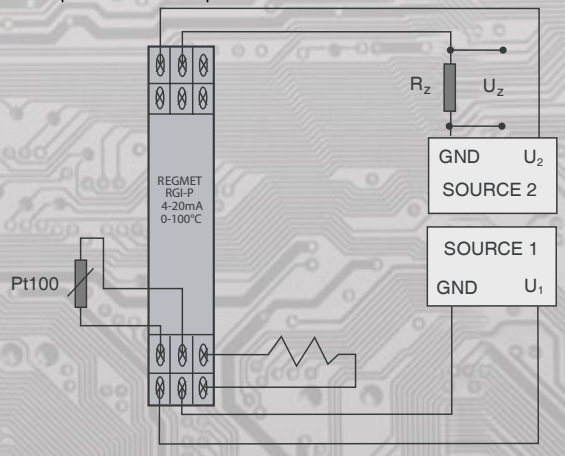
Using a holder, fasten the transmitter to the DIN bar TS 35. Put on the upper pin of the box holder onto the upper edge of the bar first, and prying by means of a screw-driver, protrude slightly the lock of the lower arresting pin. Press completely the lower part of the box to the bar and release the lock. In this way, the box is fixed to the bar. Connect the inputs, the outputs, and the supply voltage to the corresponding terminals. Lead-in cable of cross section from 0,35 to 4 mm² is recommended to be used, for the active signals a shielded one.

Dimensions



Transmitter connection into the circuit

This holds for the RGI-P; connection with a compensation loop



Remark: Subject of an order, transmitters also for other input ranges may be manufactured.

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