

The transmitters series **RI-1...RI-2...and RI-4...** in single, double or quadruple version are proposed for signal conversion from resistive temperature sensors Pt100, Pt500, Pt1000, Ni1000, Ni10000 and resistive sensors OV100 (0 to 100 Ω), OV105 (5 to 105 Ω) and OV1000 (0 to 1000 Ω) to the standard current signal 4 to 20mA or 0 to 20mA. The output signal has got a linear temperature or resistance dependence. The transmitters are supplied by 24 Vdc. The transmitters are not equipped with galvanic separation between input and output signals. The given degree of ingress protection and possibility of fitting on the mounting bar DIN TS 35 determine the transmitters for use in the distribution cases, boards and panels.

Summary of types

| TYPE | INPUT | TYPE | INPUT | TYPE | INPUT |
|---------|--------------------------|---------|----------------------------|---------|----------------------------|
| RI-1P | Pt100 | RI-2P | 2xPt100 | RI-4P | 4xPt100 |
| RI-1PA | Pt1000 | RI-2PA | 2xPt1000 | RI-4PA | 4xPt1000 |
| RI-1PB | Pt500 | RI-2PB | 2xPt500 | RI-4PB | 4xPt500 |
| RI-1L | Ni1000/5000 ppm | RI-2L | 2xNi1000/5000 ppm | RI-4L | 4xNi1000/5000 ppm |
| RI-1S | Ni1000/6180 ppm | RI-2S | 2xNi1000/6180 ppm | RI-4S | 4xNi1000/6180 ppm |
| RI-1J | Ni891/6371 ppm | RI-2J | 2xNi891/6371 ppm | RI-4J | 4xNi891/6371 ppm |
| RI-1SA | Ni10000/6180 ppm | RI-2SA | 2xNi10000/6180 ppm | RI-4SA | 4xNi10000/6180 ppm |
| RI-1RT | OV100 3-wire connection | RI-2RT | 2xOV100 3-wire connection | RI-4RT | 4xOV100 3-wire connection |
| RI-1RD | OV100 2-wire connection | RI-2RD | 2xOV100 2-wire connection | RI-4RD | 4xOV100 2-wire connection |
| RI-1RTA | OV105 3-wire connection | RI-2RTA | 2xOV105 3-wire connection | RI-4RTA | 4xOV105 3-wire connection |
| RI-1RDA | OV105 2-wire connection | RI-2RDA | 2xOV105 2-wire connection | RI-4RDA | 4xOV105 2-wire connection |
| RI-1RTB | OV1000 3-wire connection | RI-2RTB | 2xOV1000 3-wire connection | RI-4RTB | 4xOV1000 3-wire connection |
| RI-1RDB | OV1000 2-wire connection | RI-2RDB | 2xOV1000 2-wire connection | RI-4RDB | 4xOV1000 2-wire connection |

Main technical parameters

| Transmitter type | RI-xP; RI-xPA; RI-xPB | RI-xL; RI-xS; RI-xJ | RI-xR... |
|------------------------------|--------------------------|--------------------------|--------------------------|
| Power supply | 11 to 35 Vss | 11 to 35 Vss | 11 to 35 Vss |
| Output signal I_z | 1, 2 or 4 x (4 to 20 mA) | 1, 2 or 4 x (4 až 20 mA) | 1, 2 or 4 x (4 až 20 mA) |
| Input signal measuring range | -30 to 60°C | -30 to 60°C | 0 to 100 Ω |
| | 0 to 100°C | 0 to 35°C | for RT a RD |
| | 0 to 200°C | 0 to 100°C | 0 to 1000 Ω |
| | 0 to 400°C | 0 to 150°C | for RTB a RDB |
| | 0 to 600°C | 0 to 250°C | 5 to 105 Ω |
| Ambient temperature | -25 to 60°C | -25 to 60°C | for RTA a RDA |
| Relative humidity | < 80 % | < 80 % | < 80 % |
| Measurement error | < 0,8 % | < 0,8 % | < 0,8 % |
| Load resistance R_z | < (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 |
| Sensing element short | $I_z < 3$ mA | $I_z < 3$ mA | $I_z < 3$ mA |

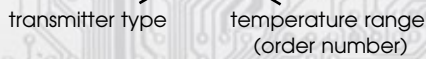
Mounting and putting into service

The transmitter has to be fastened with the help of a holder on the mounting bar DIN TS 35. First we set the upper mandrel of transmitter box holder on the upper bar edge and with the help of a screwdriver push out the lower arrestment mandrel lock. We pull the lower box part to the bar and then free the lock. The transmitter is fastened now. We connect the inputs, outputs and power supply into the respective clamps. We recommend the connecting cable with the wires cross section 0,35...2 mm², for the active signals with the screening mantle.

How to order the transmitter

There have to be given the number of pieces and the type of temperature or resistance transmitter in the order.
 E. g.: **5 pieces transmitter RI-2P.2**

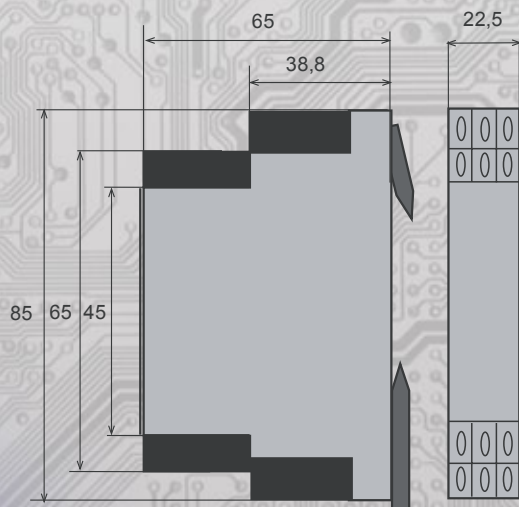
i. e. transmitter for **2x Pt100**,
 measuring range **0 to 100°C**



| Transmitter type | RI-xP, RI-xPA, RI-xPB | Order number | RI-xL, RI-xS, RI-xJ | Order 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 | 0 to 50°C | |

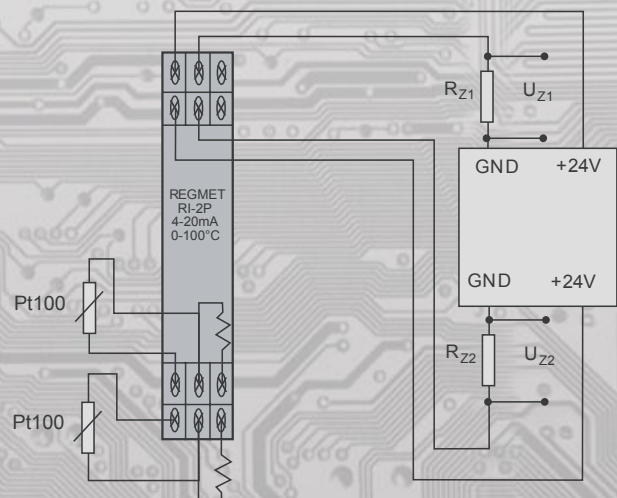
Single or double version - RI-1..., RI-2...

Dimensions



Transmitter connectoin into the circuit

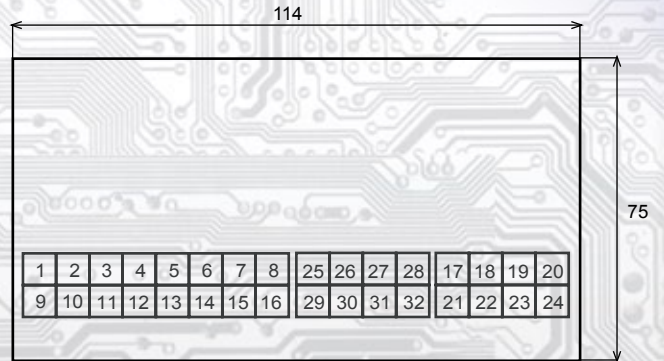
This holds for the RI-2P; connection with a compensation loop



Quadruple version - RI-4...

Input-Output connection: 4 - 20 mA

| Channel | Inputs | Outputs |
|---------|--------------|---------------------------|
| 1 | 1, 2, 9, 10 | 17, 21 arbitrary polarity |
| 2 | 3, 4, 11, 12 | 18, 22 arbitrary polarity |
| 3 | 5, 6, 13, 14 | 19, 23 arbitrary polarity |
| 4 | 7, 8, 15, 16 | 20, 24 arbitrary polarity |

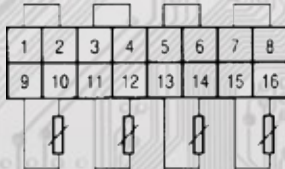


Input-Output connection: 0 - 20 mA

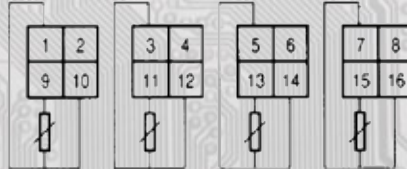
| Channel | Inputs | Outputs | Supply voltage connection |
|---------|--------------|----------------------|---------------------------|
| 1 | 1, 2, 9, 10 | 17 - pole, 21 + pole | 25 + pole, 29 - pole |
| 2 | 3, 4, 11, 12 | 18 - pole, 22 + pole | 26 + pole, 30 - pole |
| 3 | 5, 6, 13, 14 | 19 - pole, 23 + pole | 27 + pole, 31 - pole |
| 4 | 7, 8, 15, 16 | 20 - pole, 24 + pole | 28 + pole, 32 - pole |

Wiring diagram

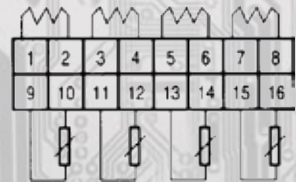
Two-wire connection Pt100



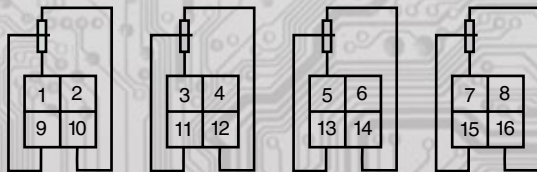
Three-wire connection Pt100



Connection with a compensation loop



Three-wire connection OV100 a OV105



Two-wire connection Ni1000, Pt1000
Pt500, OV100 a OV105

