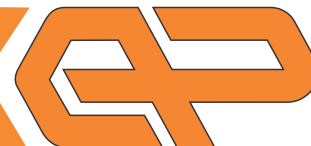# Instructions for mounting and use of transmitter type RI-13

Programmable temperature transmitter type RI-13 is designed for mounting on DIN 36mm rail.Parameters of transmitter are set via EPKON programming software on PC. In EPKON software user can choose sensor type, measuring range, measurement offset to compensate sensor error and digital filter. Settings are implemented in transmitter via KOV-1 programming interface. KOV-1 is connected to RI-13 transmitter via programming connector (refer to instructions for programming). Transmitter's parameters are factory set to customer specifications but can also be changed and set via KOV-1 programming interface with EPKON programming software.

Transmitter description

sensor input
terminals for connection of Pt100 or Pt1000 sensors. With two-wire sensor connection terminals 1 and 2 have to be short-circuited.

programming connector for connection of KOV-1, if transmitter has factory-set parameters, are the set parameters stated on the label of the transmitter.
- input type: Pt100 or Pt1000
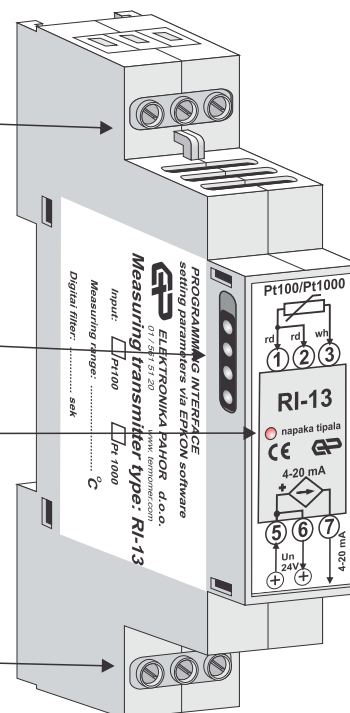- measuring range
- digital filter

status signalization
signalling input error
red LED signal is on, when:
- incorrect sensor is connected to transmitter
- connector to sensor is broken or short-circuited
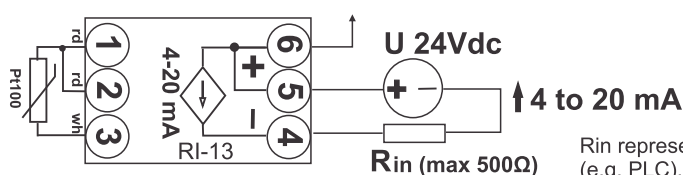- with two-wire sensor connection terminals 1 and 2 aren't short-circuited

output terminals:
terminal 5: transmitter supply 24V dc ±20 %
terminal 6: supply connection for adjoining transmitters
terminal 7: current output: 4 .. 20 mA

Connection

Transmitter connection is shown on image below.

Rin represents input resistance of the instrument (e.g. PLC), which measures 4-20 mA current.

Recommendations for correct connection of transmitter.
Three-wire sensor connection is recommended in order to exclude the influence of connection wires' resistance on the measurement.
If two-wire sensor connection is used, terminals 1 and 2 have to be short-circuited. In this case the resistance of connection wires is added to sensor resistance and in result the measured temperature is higher than real temperature.
Transmitter mustn't be supplied from the same supply as the power elemnts of the system. Power elements (e.g. relays, contactors, frequency inverters, etc.) must be equiped with appropritae filters.
Although the transmitter is protected against external electromagnetic disorders it is recommended the use of:
- shielded connection cable which has to be grounded in the same point as negative supply of transmitter.
- sensor connections have to be separated from power connections of transmitter.

Temperature transmitter requires no maintenance.