

# RE82 TEMPERATURE CONTROLLER

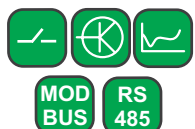
## FEATURES:



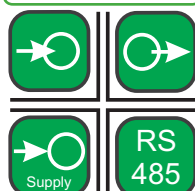
## INPUTS:



## OUTPUTS:

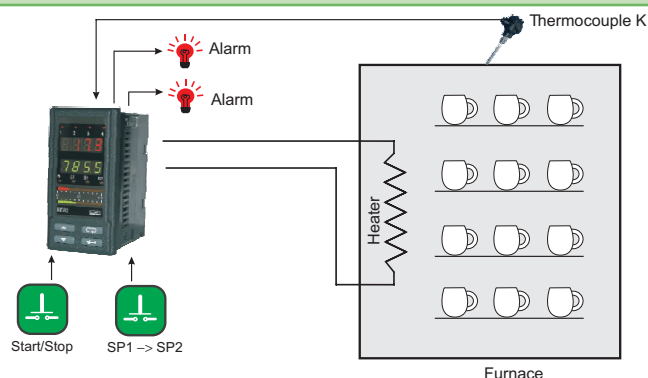


## GALVANIC ISOLATION:



- Universal measuring input.
- Binary input control.
- Set point value: constant value, programmed or from an additional input.
- On/off, PID, PID step-by-step control (valve control) or PID of heating-cooling type.
- 2 relay outputs in standard and optional 2 outputs: relay, OC or analog output.
- Soft-start function.
- 8 types of alarms.
- Alarm latch function.
- Timer function.
- Measurement of heater current and check of heater overheating or shortening of the control element (e.g. SSR).

## EXAMPLE OF APPLICATION



Process control of ceramic firing.

## INPUT

| Input type           | Range          | Error            |
|----------------------|----------------|------------------|
| Pt100                | -200 .. 850°C  | 0.2%             |
| Pt1000               | -200 .. 850°C  | 0.2%             |
| Fe-CuNi (J)          | -100 .. 1200°C | 0.3%             |
| Cu-CuNi (T)          | -100 .. 400°C  | 0.3%             |
| NiCr-NiAl (K)        | -100 .. 1372°C | 0.3%             |
| PtRh10-Pt (S)        | 0 .. 1767°C    | 0.5%             |
| PtRh13-Pt (R)        | 0 .. 1767°C    | 0.5%             |
| PtRh30-PtRh6 (B)     | 200 .. 1767°C  | 0.5%             |
| NiCr-CuNi (E)        | -100 .. 1000°C | 0.3%             |
| NiCrSi-NiSi (N)      | -100 .. 1300°C | 0.3%             |
| Chromel-kopel (L)    | -100 .. 800°C  | 0.3%             |
| Current channels (I) | 0/4 .. 20 mA   | 0.2% +/- 1 digit |
| Voltage channels (U) | 0 .. 5/10 V    | 0.2% +/- 1 digit |
| Binary               | voltageless    |                  |

## OUTPUT

| Output type                | Properties             | Load capacity                         |
|----------------------------|------------------------|---------------------------------------|
| Relay voltageless output   | NO contacts            | 2 A/ 230 V a.c. (outp. 1, 2, 3 and 4) |
| Transistor voltage output  | 0/5 V                  | max 40 mA                             |
| Continuous voltage output  | 0 .. 10 V              | at $R_{load} \geq 1 k\Omega$          |
| Continuous current output  | 0 .. 20 mA, 4 .. 20 mA | at $R_{load} \leq 500 \Omega$         |
| Supply of measuring relays | 24 V d.c.              | max 30 mA                             |

## DIGITAL INTERFACE

|                |                                   |                    |
|----------------|-----------------------------------|--------------------|
| Interface type | RS-485                            | Mode               |
| Protocol       | Modbus RTU                        | 8N2, 8E1, 8O1, 8N1 |
| Baud rate      | 4.8, 9.6, 19.2, 38.4, 57.6 kbit/s |                    |

## EXTERNAL FEATURES

|                    |                         |                                    |
|--------------------|-------------------------|------------------------------------|
| Readout field      | 2 x 4 digits            | digit height: 10 mm, red and green |
| Overall dimensions | 48 x 96 x 93 mm         |                                    |
| Weight             | < 0.2 kg                |                                    |
| Protection grade   | from frontal side: IP65 | from terminal side: IP20           |
| Bargraph           | 2 x 21 points           | color: red and green               |

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## RATED OPERATING CONDITIONS

|                    |                        |                      |
|--------------------|------------------------|----------------------|
| Supply voltage     | 85 .. 253 V a.c./ d.c. | 20 .. 40 V a.c./d.c. |
| Temperature        | ambient: 0...23...50°C | storage: -20...70°C  |
| Humidity           | < 85%                  | without condensation |
| Operating position | any                    |                      |

## SAFETY AND COMPATIBILITY REQUIREMENTS

|                                          |                       |                      |
|------------------------------------------|-----------------------|----------------------|
| Electromagnetic compatibility            | noise immunity        | acc. to EN 61000-6-2 |
|                                          | noise emissions       | acc. to EN 61000-6-4 |
| Pollution level                          |                       | 2                    |
| Installation category                    |                       | III                  |
| Maximal phase-to-earth operating voltage | supply, output: 300 V | input circuits: 50 V |
| Altitude above sea level                 |                       | 2000 m               |

## CONNECTION DIAGRAMS

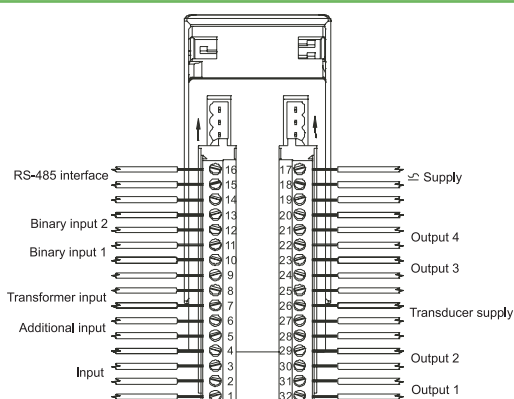


Fig.1. View of controller connection terminal strips.

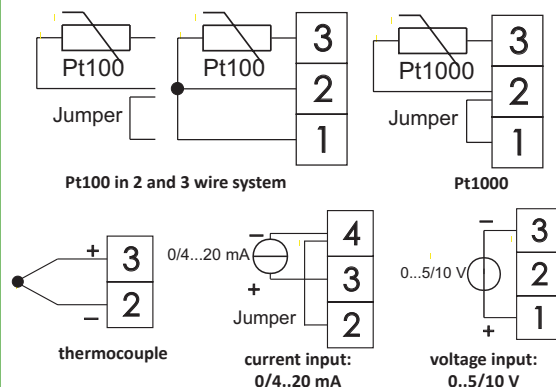


Fig.2. Connection of input signals.

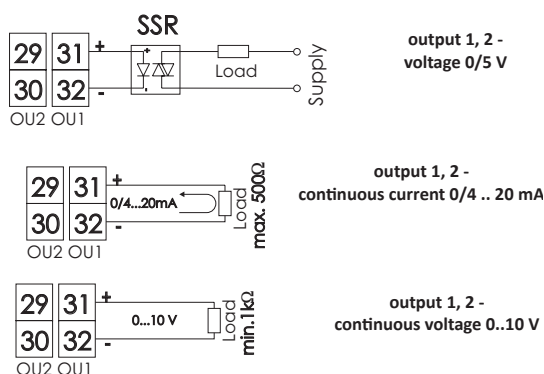
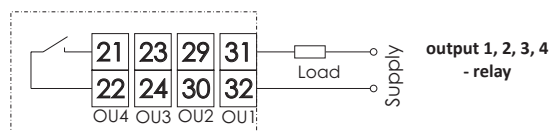


Fig.3. Control/alarm output.

## ORDERING

|                                              |   |   |   |   |   |   |    |
|----------------------------------------------|---|---|---|---|---|---|----|
| RE82 -                                       | X | X | X | X | X | X | X  |
| <b>Output 1:</b>                             |   |   |   |   |   |   |    |
| relay                                        | 1 |   |   |   |   |   |    |
| voltage 0/5 V                                | 2 |   |   |   |   |   |    |
| continuous current: 0/4 .. 20 mA             | 3 |   |   |   |   |   |    |
| continuous voltage: 0 .. 10 V                | 4 |   |   |   |   |   |    |
| <b>Output 2:</b>                             |   |   |   |   |   |   |    |
| relay <sup>1)</sup>                          | 1 |   |   |   |   |   |    |
| voltage 0/5 V                                | 2 |   |   |   |   |   |    |
| continuous current: 0/4 .. 20 mA             | 3 |   |   |   |   |   |    |
| continuous voltage: 0 .. 10 V                | 4 |   |   |   |   |   |    |
| <b>Supply of transducers:</b>                |   |   |   |   |   |   |    |
| none                                         |   |   |   |   |   | 0 |    |
| supply of transducers 24 V d.c. 1 W          |   |   |   |   |   | 1 |    |
| <b>Supply:</b>                               |   |   |   |   |   |   |    |
| 85 .. 253 V a.c./ d.c.                       |   |   |   |   |   | 1 |    |
| 20 .. 40 V a.c./ d.c.                        |   |   |   |   |   | 2 |    |
| <b>Version:</b>                              |   |   |   |   |   |   |    |
| standard                                     |   |   |   |   |   |   | 00 |
| custom-made <sup>2)</sup>                    |   |   |   |   |   |   | XX |
| <b>Language:</b>                             |   |   |   |   |   |   |    |
| Polish                                       |   |   |   |   |   |   | P  |
| English                                      |   |   |   |   |   |   | E  |
| other <sup>2)</sup>                          |   |   |   |   |   |   | X  |
| <b>Additional quality requirements:</b>      |   |   |   |   |   |   |    |
| without additional quality requirements      |   |   |   |   |   |   | 8  |
| with an extra inspection quality certificate |   |   |   |   |   |   | 7  |
| acc. to customer's request <sup>2)</sup>     |   |   |   |   |   |   | X  |

<sup>1)</sup> only when a relay or voltage output 0/5 V is also selected on the output 1  
<sup>2)</sup> only after agreeing with the manufacturer

## Order example:

The code **RE82 - 1 2 0 1 00 E 0** means:  
**RE82** - controller of RE82 type  
**1** - output 1: relay  
**2** - output 2: voltage 0/5 V  
**0** - without supply of transducers  
**1** - supply: 85 .. 253 V a.c./ d.c.  
**00** - standard version  
**E** - English language version  
**8** - without additional quality requirements.

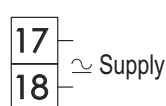


Fig.4. Supply.

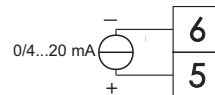


Fig.5. Signal of additional output.

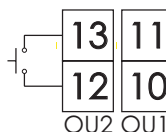


Fig.6. Binary input 1 and 2.

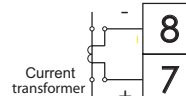


Fig.7. Current transformer input.

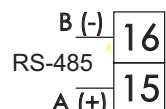


Fig.8. RS-485 interface.

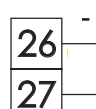


Fig.9. Supply of 24 V transducers.

## SEE ALSO:



Temperature sensors.

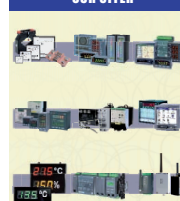


SSR relays LU series.



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