

# RE81 TEMPERATURE CONTROLLER

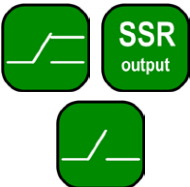
## FEATURES:



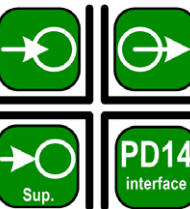
## INPUTS:



## OUTPUTS:

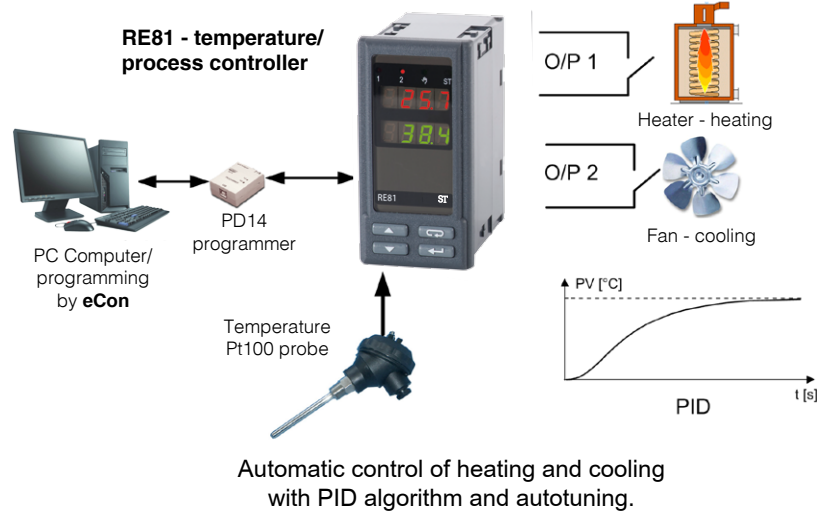


## GALVANIC ISOLATION:



- Control acc. to the PID, ON-OFF, heating/cooling algorithms or step-by-step control.
- Co-operates directly with resistance thermometers (RTD) or thermocouple sensors (TC).
- Automatic selection of PID parameters.
- 2 configurable outputs.
- Controller configuration by means of the free delivered eCon software.
- Error signaling by means of messages.
- Manual control mode.
- Frontal protection grade ensured by the casing: IP65.

## EXAMPLE OF APPLICATION



## INPUTS

Sensor type	Range [°C]	Basic error [°C]	Remarks	Additional error
Resistance thermometer (acc. to EN 60751), measuring current 0.25mA				<b>Additional errors in rated operating conditions caused by:</b> <ul style="list-style-type: none"><li>• compensation of reference junction temperature changes ≤ 2°C</li><li>• line resistance change of the RTD sensor ≤ 50% of the basic error value/10K</li><li>• change of the ambient temperature ≤ 100% of the basic error/10K</li></ul>
Pt100*)	-50..100	±0.8	Resistance of the sensor line < 10 Ω; one must connect with wires of the same section and length	
	0..250	±1.3		
	0..600	±3.0		
Thermocouple of J type (acc. to PN-EN 60584-1)				
Fe-CuNi	0..250	±2.0		
	0..600	±3.0		
	0..900	±4.0		
Thermocouple of K type (acc. to PN-EN 60584-1)				
NiCr-NiAl	0..600	±3.0		
	0..900	±4.0		
	0..1300	±6.0		
Thermocouple of S type (acc. to PN-EN 60584-1)				
PtRh10-Pt	0..1600	±8.0		

## OUTPUTS

Output kind	Properties
voltageless relay	switching contact, overload capacity: 5A/230V
binary voltage	voltage 6V, without isolation from the sensor side

## PARAMETERS OF WORK

Detection of error in the measurement circuit:	thermocouple, Pt100	overflow of measuring range
Way of output operation	reverse: for heating	direct: for cooling
Signalling:	active output, auto-tuning, manual control	

Sifam Tinsley Instrumentation Ltd  
Unit 1 Warner Drive,  
Springwood Industrial Estate  
Braintree, Essex, UK, CM72YW  
E-mail: sales@sifamtinsley.com  
Web: www.sifamtinsley.com/uk  
Contact: +44(0)1803615139



Sifam Tinsley Instrumentation Inc.  
3105, Creekside Village Drive,  
Suite No. 801, Kennesaw,  
Georgia 30144 (USA)  
E-mail Id : psk@sifamtinsley.com  
Web: www.sifamtinsley.com  
Contact No.: +1 404 736 4903

**SEE ALSO:**

## EXTERNAL FEATURES

Weight	< 0.25 kg	
Dimensions	48 x 96 x 93 mm	
Protection grade (acc. to EN 60529)	ensured by the housing: IP65	from the terminal side: IP20

## RATED OPERATING CONDITIONS

Supply voltage	230 V a.c. $\pm 10\%$ , 50/60Hz	power consumption: < 4 VA
Temperature	ambient: 0...23...50°C	storage: -20...70°C
Relative humidity	$\leq 85\%$	condensation inadmissible
Operating position	any	
Preheating time	30 min	
Averaging time	$\geq 0.33$ s	

## SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	Noise immunity	acc. to EN 61000-6-2
	Noise emissions	acc. to EN 61000-6-4
Isolation between circuits	basic	acc. to EN 61010-1
Pollution grade	2	
Installation category	III	
Maximal phase-to-earth operating voltage	for the supply circuit, outputs: 300 V for input circuits: 50 V	
Altitude above sea level	< 2000 m	

## CONNECTION DIAGRAMS

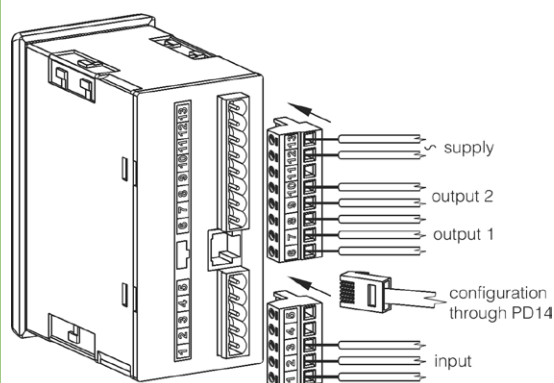


Fig. 1 View of the controller connection strips

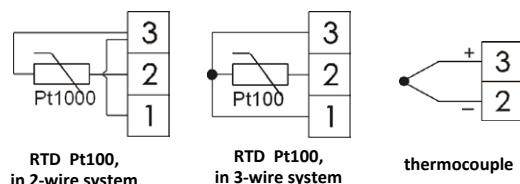


Fig. 2. Connections of input signals

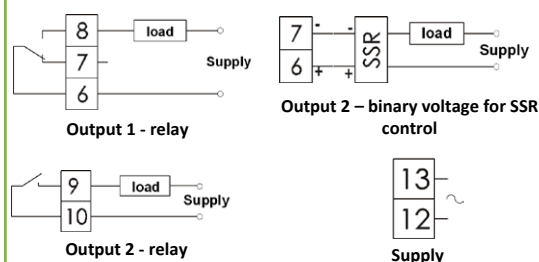


Fig. 3. Supply and load circuit connections

## ORDERING

### ORDERING CODES:

RE81 -	XX	X	X	X	X
<b>Input signal:</b>					
RTD Pt100 (-50...100°C)	01				
RTD Pt100 (0...250°C)	02				
RTD Pt100 (0...600°C)	03				
Thermocouple J (Fe-CuNi)(0...250°C)	04				
Thermocouple J (Fe-CuNi)(0...600°C)	05				
Thermocouple J (Fe-CuNi)(0...900°C)	06				
Thermocouple K (NiCr-NiAl)(0...600°C)	07				
Thermocouple K (NiCr-NiAl)(0...900°C)	08				
Thermocouple K (NiCr-NiAl)(0...1300°C)	09				
Thermocouple S (PtRh10-Pt)(0...1600°C)	10				
<b>Output*:</b>					
relay	1				
binary 0/6 V for SSR control	2				
<b>Version:</b>					
standard	00				
custom-made**	XX				
<b>Language:</b>					
Polish				P	
English				E	
other**				X	
<b>Acceptance tests:</b>					
without extra requirements				0	
with a extra quality inspection certificate				1	
acc. to customer's request**				X	

\* - second output - relay

\*\* - after agreeing with the manufacturer

### Order example:

The code **RE81 - 06 2 00 E 0** means:

**RE81** - temperature controller of RE81 type

**06** - input: TC J, (0...900°C)

**2** - output: binary 0/6 V for SSR control

**00** - standard version

**E** - English language

**0** - without extra requirements

Sifam Tinsley Instrumentation Ltd  
Unit 1 Warner Drive,  
Springwood Industrial Estate  
Braintree, Essex, UK, CM72YW  
E-mail: sales@sifamtinsley.com  
Web: www.sifamtinsley.com/uk  
Contact: +44(0)1803615139



Sifam Tinsley Instrumentation Inc.  
3105, Creekside Village Drive,  
Suite No. 801, Kennesaw,  
Georgia 30144 (USA)  
E-mail: psk@sifamtinsley.com  
Web: www.sifamtinsley.com  
Contact No.: +1 404 736 4903