RE71 TEMPERATURE CONTROLLER

IP65

Auto tuning

SMART PID

ON/OFF control

Password protection

INPUTS:

OUTPUTS:

SSR output

GALVANIC ISOLATION:

Sup.

- Control acc. to the PID or ON/OFF algorithm.
- Direct co-operation with resistance thermometer or thermocouple sensors.
- Automatic selection of PID parameters.
- One control output, relay output or voltage output for SSR relay control.
- Manual control mode.

CE

EXAMPLE OF APPLICATION

RE71 - temperature/ process controller

Heater/oven
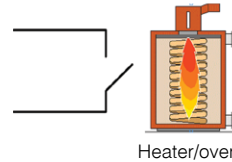
Temperature Pt100 probe

PID
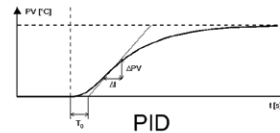
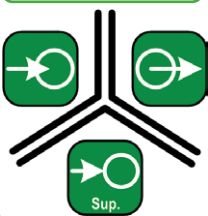Automatic control of the heater using the PID algorithm with autotuning function

INPUTS

Sensor type	Range [°C]	Basic error [°C]	Remarks	Additional error
Resistance thermometer (acc. to EN 60751), measuring current 0.25mA				
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 EN 60584-1)				**Additional errors in rated operating conditions caused by:**
Fe-CuNi	0..250	±2.0		• compensation of reference junction temperature changes ≤2°C
	0..600	±3.0		
	0..900	±4.0		• change of the ambient temperature ≤100% of the basic error/10K
Thermocouple of K type (acc. to EN 60584-1)				
NiCr-NiAl	0..600	±3.0		
	0..900	±4.0		
	0..1300	±6.0		
Thermocouple of S type (acc. to 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, set point value display, auto-tuning, manual control	

RE71 TEMPERATURE CONTROLLER

EXTERNAL FEATURES		
Weight	< 0.25 kg	
Dimensions	48 x 48 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. ± 10%, 50/60Hz	power consumption: < 4 VA
Temperature	ambient: 0...23...50˚C	storage: -20...70˚C
Relative humidity	≤ 85%	condensation inadmissible
Operating position	any	
Preheating time	30 min	
Averaging time	≥ 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	
Pollution grade	2	acc. to EN 61010-1
Installation category	III	
Maximal phase-to-earth operating voltage	for the supply circuit, outputs: 300 V	
	for input circuit: 50 V	
Altitude above sea level	< 2000 m	

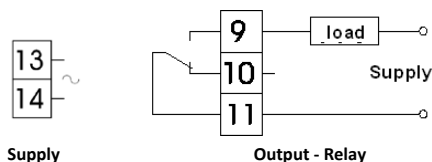## CONNECTION DIAGRAMS
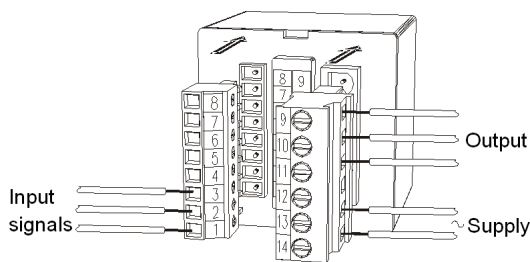
Fig. 1 View of the controller connection strips

Input signals
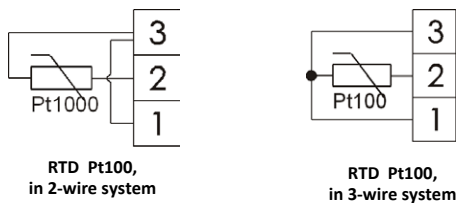
Output

Supply

RTD Pt100, in 2-wire system

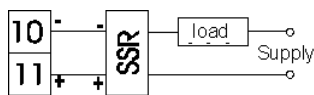**RTD Pt100, in 3-wire system**
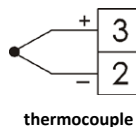
thermocouple

Fig. 2. Connections of input signals

Supply

Output - Relay

Output – binary voltage for SSR control

Fig. 3. Connections of the supply and load circuit

ORDERING

ORDERING CODES:					
RE71 -	XX	X	X	X	X
Input signal:					
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				
Output:					
relay		1			
binary 0/6 V for SSR control		2			
Version:					
standard			00		
custom-made*			XX		
Language:					
Polish				P	
English				E	
other*				X	
Acceptance tests:					
without extra requirements					0
with a extra quality inspection certificate					1
acc. to customer's request*					X

* - after agreeing with the manufacturer

Order example:

The code **RE71 - 06 2 00 E 0** means:

RE71 - temperature controller of RE71 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