

FEATURES:

IP65 Auto tuning

PD14 compatible **LPConfig** compatible

PID control **ON/OFF** control

Password protection

INPUTS:



OUTPUTS:

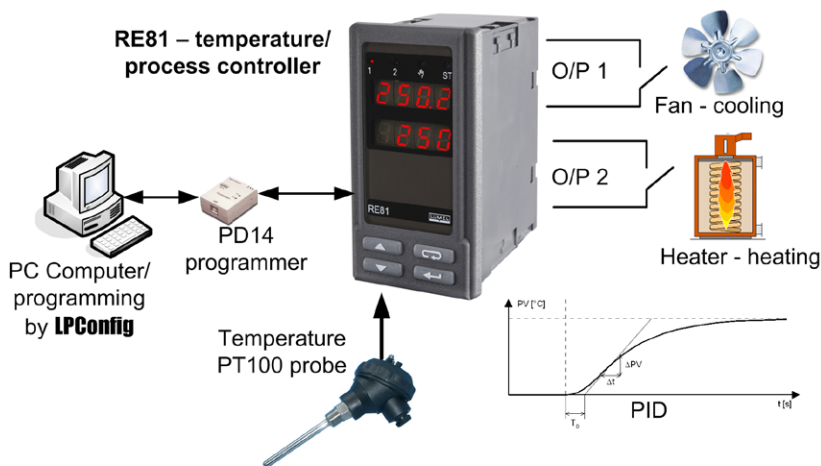


GALVANIC ISOLATION:



- ✓ Co-operates directly with resistance thermometers (RTD) or thermocouple sensors (TC),
- ✓ Has two outputs:
 - ✓ control or alarm output. The control is carried out acc. to PID or ON-OFF algorithm,
 - ✓ relay output with make-and-break configuration, allows to the direct control of low power objects,
 - ✓ the relay output fulfils the alarm function.
- ✓ Controller configuration available by means of the LPCon program.
- ✓ Error signaling by means of character messages.
- ✓ Frontal protection grade ensured by the casing: IP65

EXAMPLE OF APPLICATION



Automatic control of heating and cooling with PID with autotuning.

INPUTS

Sensor type	Range [°C]	Basic error [°C]	Remarks	Additional error	
Resistance thermometer (acc. to EN 60751+A2:1997), measuring current 0.25mA					
Pt100*)	-50..100	±0.8	Resistance of the sensor line <10Ω; one must connect with wires of the same section and length	Additional errors in rated operating conditions caused by: <ul style="list-style-type: none"> • compensation of reference junction temperature changes ≤2°C • line resistance change of the RTD sensor ≤50% of the basic error value • change of the ambient temperature ≤100% of the basic error/10K 	
	0..250	±1.3			
	0..600	±3.0			
Thermocouple of J type (acc. to PN-EN 60584-1:1997)					
Fe-CuNi	0..250	±2.0			
	0..600	±3.0			
	0..900	±4.0			
Thermocouple of K type (acc. to PN-EN 60584-1:1997)					
NiCr-NiAl	0..600	±3.0			
	0..900	±4.0			
	0..1300	±6.0			
Thermocouple of S type (acc. to PN-EN 60584-1:1997)					
PtRh10-Pt	0..1600	±8.0			

OUTPUTS

Output kind	working mode	Properties
voltageless relay	control	switching contact, overload capacity: 5A/230V
binary voltage		voltage 6V, resistance limiting the current : 10Ω (without isolation fro the sensor side)
voltageless relay	alarm	NOC contact, overload capacity 1A/230V

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 of:	active output, display of set point value, self-tuning	

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EXTERNAL FEATURES

Weight	<0,25 kg	
Dimensions	96 x 48 x 93 mm	
Protection level(acc. to EN 60529)	ensured by the housing: IP65	from the terminal side: IP20
Fitting	panel mounted	

RATED OPERATING CONDITIONS

Supply voltage	230 V a.c. \pm 10%, 50/60Hz	power consumption: <4 VA
Temperature	ambient: 0..23..55 °C	storage: -20..70 °C
Relative humidity	\leq 85%	condensation inadmissible
Working position	any	
Preheating time	30 min	
Avarging time	\geq 0,33 s	
External magnetic field	< 400 A/m	

SAFETY AND COMPATIBILITY REQUIREMENTS

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

CONNECTION DIAGRAMS

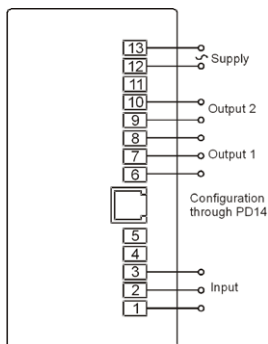


Fig. 1 View of the controller connection strips

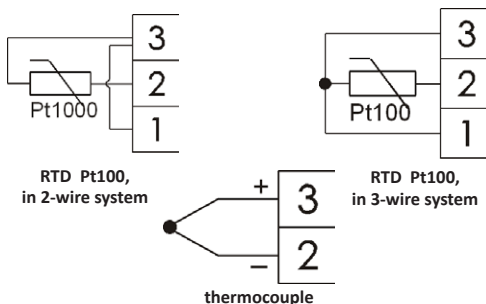


Fig. 2. Connection of input signals

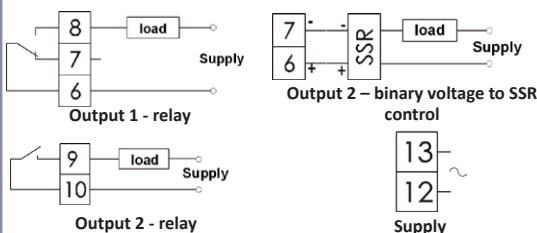


Fig. 3. Supply connection and load circuit

ORDERING

ORDERING CODES:

	RE81 - XX	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		
Kind of execution				
standard			00	
custom-made*			XX	
Acceptance tests:				
without extra quality inspection requirements				8
with an extra quality inspection certificate				7
acc. to customer's agreements				X

* - the code will be established by the manufacturer

Order example:

The code **RE81 - 06 2 00 8** means
RE81 - temperature controller of RE71 type
06 - input: TC J, (0..900°C)
2 - output: binary 0/6 V for SSR control
00 - standard execution
8 - without extra quality inspection requirements

SEE ALSO:



Free LPConfig software for easy programming of LUMEL's products. Available on our website



PD14 programmer - unit for programming LUMEL's products, with USB connection, LPCon compatible. For more details check DIGITAL METERS catalogue or our website.



Check our offer of different controllers in TEMPERATURE CONTROLLERS and POWER CONTROLLERS catalogue or on our website.



For more information about products check Product Guide 2009 catalogue or visit our website.

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