

# RE01 TEMPERATURE CONTROLLER

## FEATURES:



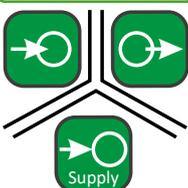
## INPUTS:



## OUTPUTS:

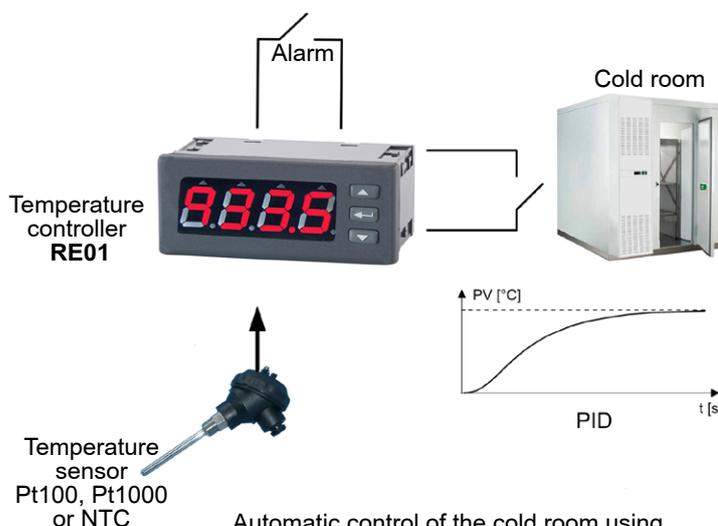


## GALVANIC ISOLATION:



- Control acc. to the PID or ON/OFF algorithm
- Direct co-operation with resistance thermometer or NTC (*option available on request*).
- Automatic selection of PID parameters.
- One control relay output and alarm relay.
- Manual control mode.
- One binary input for remote control of control functions.
- Defrost function with programmable automatic or manual mode.

## EXAMPLE OF APPLICATION



Automatic control of the cold room using the PID algorithm with autotuning function.

## INPUTS

Sensor type	Range [°C]	Basic error [°C]	Remarks	Additional error	
Resistance thermometer (acc. EN 60751), measuring current 1 mA					
Pt100	-50...100	± 0.8	Resistance of the sensor line < 10 Ω; one must connect with wires of the same section and length	Additional errors in rated operating conditions caused by: • change of the ambient temperature ≤100% of the basic error/10K	
	0...250	± 1.3			
	0...600	± 3.0			
Resistance thermometer (acc. to EN 60751), measuring current 0.1 mA					
Pt1000 (on request)	-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			
NTC 2.7 k (on request)	-40...100	± 0.7			
Binary voltage			without isolation from the sensor		

## OUTPUTS

Output kind	Properties	Notes
Voltageless relay	switching contact, overload capacity: 8 A/ 230 V 10 A/250 V a.c., 10 A/30 V d.c.,	minimum of 100 thousand switching cycles for maximum load
Voltageless relay	NO contact, overload capacity: 5 A/250 V a.c., 5 A/28 V d.c	

## PARAMETERS OF WORK

Detection of error in the measurement circuit:	thermocouple Pt100, Pt1000, NTC	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	

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## EXTERNAL FEATURES

Weight	< 0.25 kg	
Dimensions	76 x 34 x 80 mm	
Protection grade (acc. to EN 60529)	ensured by the housing: IP65	from the terminal side: IP20

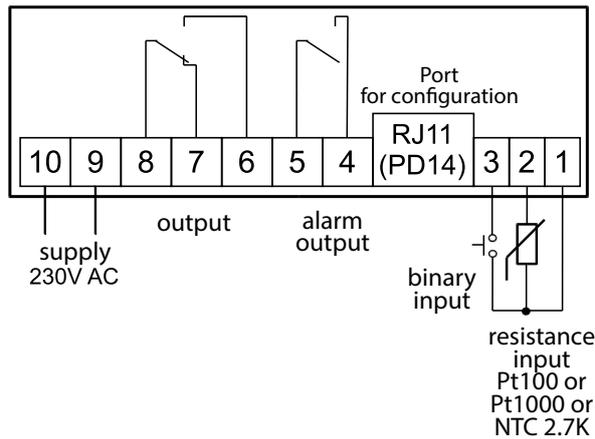
## RATED OPERATING CONDITIONS

Supply voltage	230 V a.c. $\pm$ 10%, 50/60 Hz	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 circuit: 50 V	
Altitude above sea level	< 2000 m	

## CONNECTION DIAGRAMS



## ORDERING

Ordering Code	Description
<b>RE01 100M0*</b>	Controller RE01 1x input Pt100, 2x relay output, supply 230VAC, documentation and descriptions in Polish and English, test certificate

\* Upon agreement, an option to order a calibration certificate for the product is available against payment. Then, in the execution code, in the place of the last character, enter the digit **2**, e.g. **RE01 100M2**. The customer will then receive a standard test certificate and a calibration certificate (against payment).

For more information about LUMEL's products please visit our website: [www.lumel.com.pl](http://www.lumel.com.pl)

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