

Temperature Controller IntraCon Series IA-RE81



Technical Information

03/2011



Accessories

Intra-Automation
Technical Information
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Technical details subject to be changed without notice.

For comments regarding this brochure, please contact:
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IA-RE81 IntraCon Temperature Controller

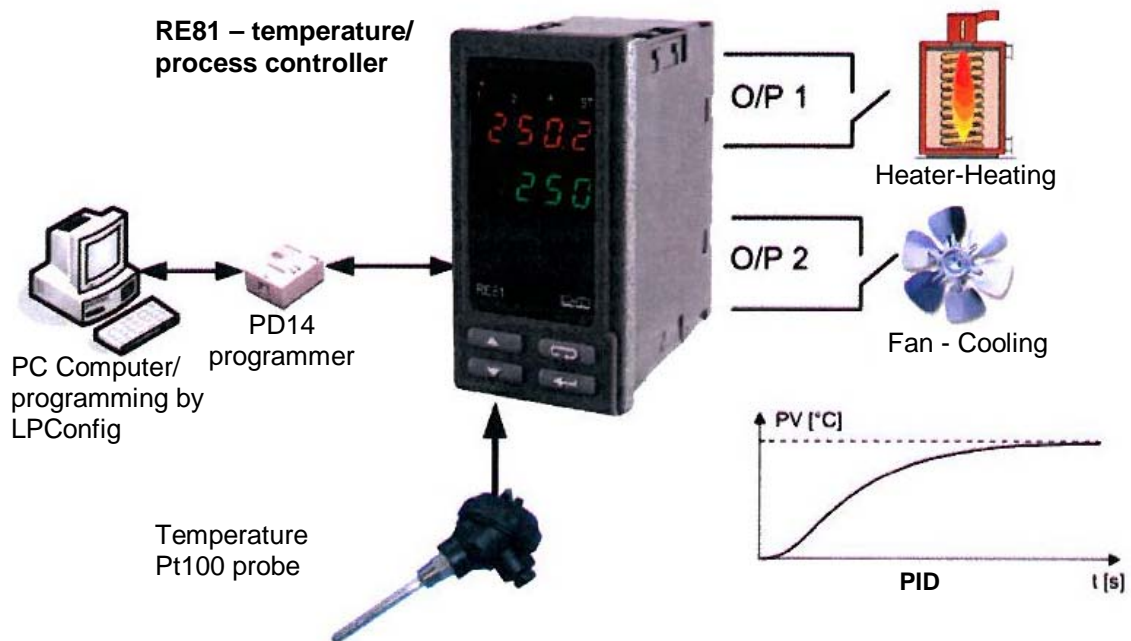
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1 Features

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

2 Application example



Automatic control of heating and cooling with PID algorithm and auto-tuning

3 Technical data

Inputs					
Sensor type	Range [°C]	Basic error [°C]	Remarks	Additional error	
Resistance thermometer (acc. to EN 60751), measuring current 0.25 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 error in rated operating conditions caused by: Compensation of reference junction temperature changes: ≤ 2°C Change of ambient temp.: ≤ 100% of the basic error / 10 K	
	0...250	± 1.3			
	0...600	± 3.0			
Thermocouple of J type (acc. to EN 60584-1)					
Fe-CuNi	0...250	± 2.0			
	0...600	± 3.0			
	0...900	± 4.0			
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	
Kind of output	Properties
voltageless relay	switching contact, overload capacity: 5 A/230 V
Binary voltage	voltage 6 V, 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.	

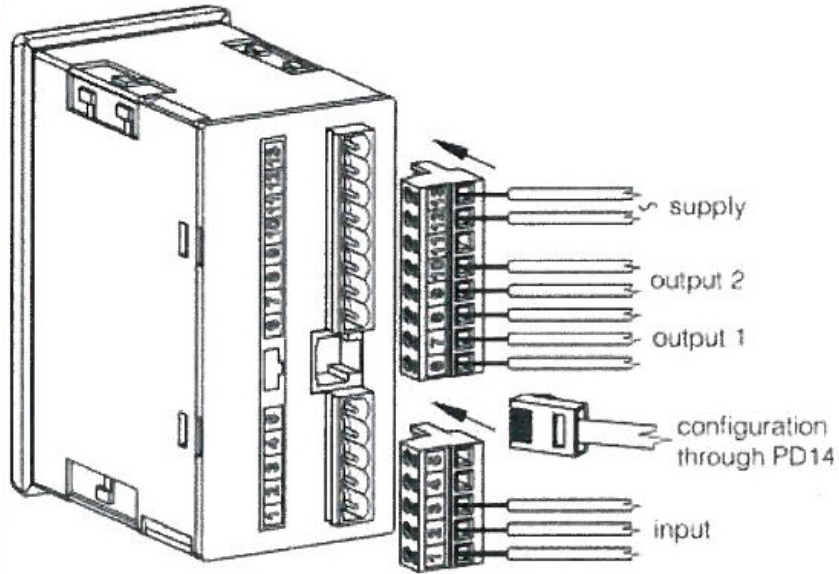
External features		
Weight	< 0,25 kg	
Dimensions	48 x 96 x 93 mm	
Protection grade (acc. to EN 60529)	IP65 (housing/front side)	IP20 (terminal side)

Rated operation conditions		
Supply voltage	230 V AC ± 10 %, 50/60 Hz	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	

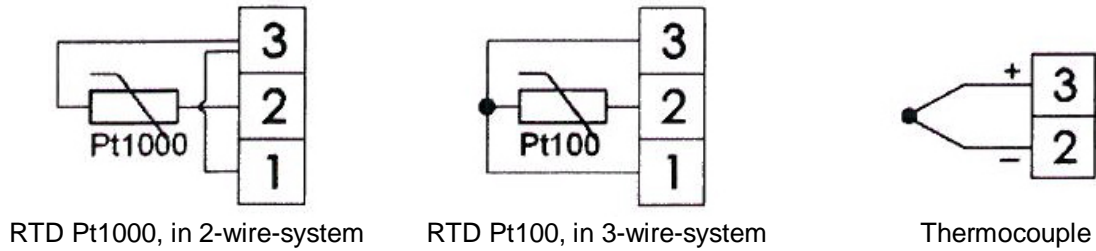
Safety and compatibility requirements			
Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2	
	noise emissions	acc. to EN 61000-6-4	
Pollution grade	2		
Installation category	III		
Maximal phase-to-earth operating voltage	supply circuit, output: 300 V	acc. to EN 61010-1	
	input circuit: 50 V		
Altitude above sea level	< 2000 m		

4 Electrical connection

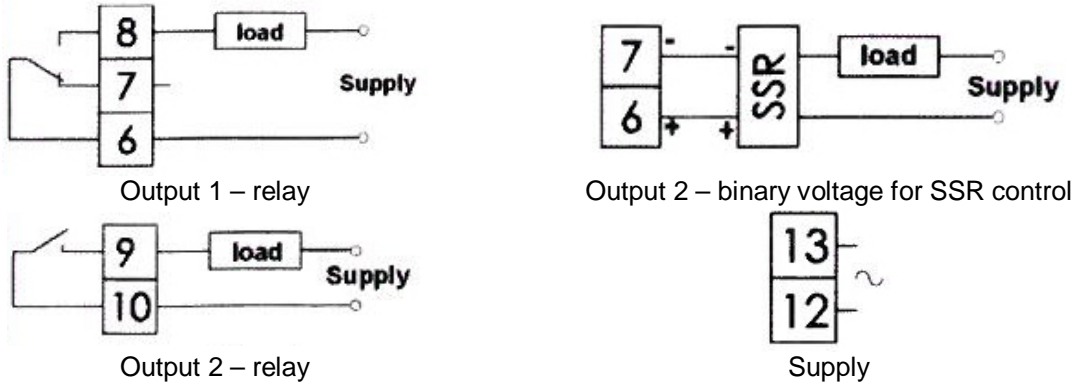
Controller connection terminals:



Input signal connections:



Connections of supply and load circuit



5 Order codes	
Code	Description
IA-RE81	Temperature Controller
	Input
01	resistance thermometer Pt100 -50...100 °C
02	resistance thermometer Pt100 0...250 °C
03	resistance thermometer Pt100 0...600 °C
04	thermocouple J 0...250 °C
05	thermocouple J 0...600 °C
06	thermocouple J 0...900 °C
07	thermocouple K 0...600 °C
08	thermocouple K 0...900 °C
09	thermocouple K 0...1300 °C
10	thermocouple S 0...1600 °C
	Main output
1	relay
2	logic 0/5 V for SSR control
	Version
00	Standard
XX	custom-made
	Language
E	English
X	Other*
	Certification
8	without additional quality inspection certificate
7	with additional quality inspection certificate
X	on request*
IA-RE81	

*Please contact manufacturer

Besides the products covered by this brochure, Intra-Automation GmbH also manufactures other high-quality and high precision instruments for industrial measurement tasks. For more information, please contact us (contact details on the backside of this brochure).

Flow measurement



Itabar®-Flow Sensor



IntraSonic IS210 Ultrasonic Flow Meter

Level measurement



ITA-mag. Level Gauge



MAGLINK Level Indicator

Other Measurement Tasks:



DigiFlow Flow and Level Computers



IntraCon Digital Controllers



IntraDigit Digital Indicators / Meters



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