

# Zelio RTC48

## Measurement and control solutions Zelio RTC48 temperature controller

### Cost effective general purpose temperature control

The Zelio RTC48 is a general purpose temperature controller combining superb performance with ease of use and innovative display functions. This user-friendly, highly compact and cost effective device is easy to commission and integrate into a very wide range of thermal processing solutions.

No compromises have been made on performance or capabilities, with two control outputs for heat and cool, up to two alarm outputs, and Modbus communications option available.

The RTC48 temperature controller is an ideal solution for OEMs, system integrators and machine building, offering temperature control solutions for industries such as Plastics, small ovens, HVAC, industrial machines, packaging, and textiles.

#### Easy to commission

Zelio RTC48 is designed with the operator in mind. The set-up is intuitive and can be completed in a few simple steps. Schneider Electric's powerful PID and auto-tuning algorithm makes device set up faster and simplifies operation.

The Zelio RTC48 can also be configured from a PC loaded with Zelio Temperature Control Soft software via an USB cable.

- Ideal for OEMs and Machine Builders
- Supply voltage: 100-240V ac or 24V ac or dc
- Compact 1/16 DIN format – 54.5mm depth behind panel
- Configurable via Zelio Temperature Controller Soft Software
- Modbus Communications option
- Auto Tuning
- Universal Input: thermocouple, RTD, Linear Current, Linear Volts
- Independent Heat/Cool outputs with relay or SSR drive
- 1 or 2 alarm outputs



#### Applications

- **Plastics**
  - Extrusion, injection presses, Thermo-forming
- **Food and beverages**
  - Drying, sterilisation, packaging
- **Heat treatment**
  - Cold rooms, paint booths, small ovens, overtemperature
- **UV- and laser technology**
- **Production of synthetic fibres and polymerization**

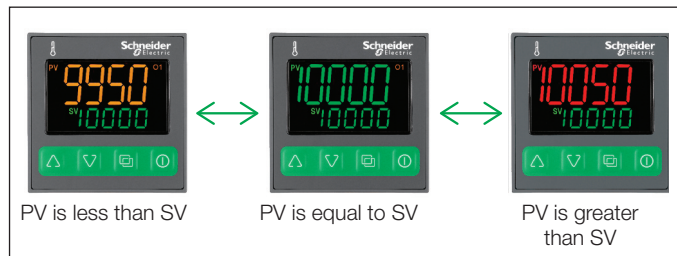
Connect Control Improve

**Eurotherm**<sup>®</sup>

by **Schneider** Electric

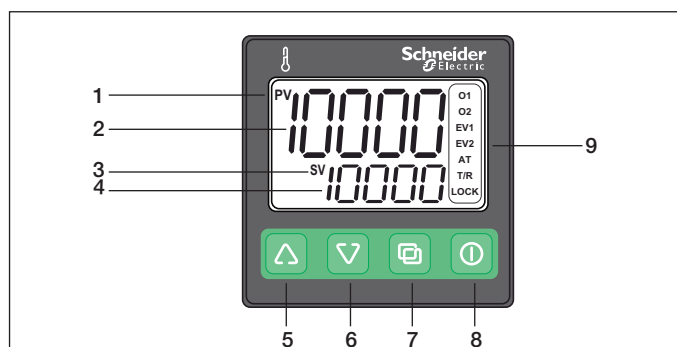
## Adaptive display

The minimalistic design of Zelio RTC48 makes the display panel simple and user friendly. The clear 11-segment LCD display offers the important process and operating data at one glance. The intelligent PV (Process Value) display may be configured to change colour to red, green or orange in alarm or on deviation from setpoint. The high quality 3 colour display with full status indication can be easily viewed and read from a distance.



## User interface

The Zelio RTC48 offers four buttons on the front fascia to set up all available operations and configuration parameters. A range of action indicators informs the user about the current displayed value, the active output and active alarms.



Item/Name	Function	
1	PV indicator	Lights when the PV (Process Value) is indicated in PV/SV display mode
2	PV display	Indicates the Process Value
3	SV indicator	Lights when the SV (Setpoint Value) is indicated in PV/SV
4	SV display	Indicates the Setpoint Value
5	Increase key	Increases the numeric value
6	Decrease key	Decreases the numeric value
7	Page key	Selects the setting mode or registers the set value
8	ON/OFF key	Switches control output ON/OFF or Auto/Manual control function
9	Action indicators	O1(OUT1): Lights when control output is ON or when heating output is ON
		O2(OUT2): Lights when cooling output is ON
		EV: Lights when Alarm 1 output is ON
		EV: Lights when Alarm 2 output (A2 option) is ON or when Heater burnout alarm is ON
		AT: Flashes during AT (Auto-tuning)
		T/R: Lights during Serial communication (TX output)
		LOCK: Lights when Lock 1, Lock 2, or Lock 3 is selected

## Software

### Zelio Temperature Control Soft



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'Zelio Temperature Control Soft' software is used to configure the parameter settings of RTC temperature controller with Modbus communication option.

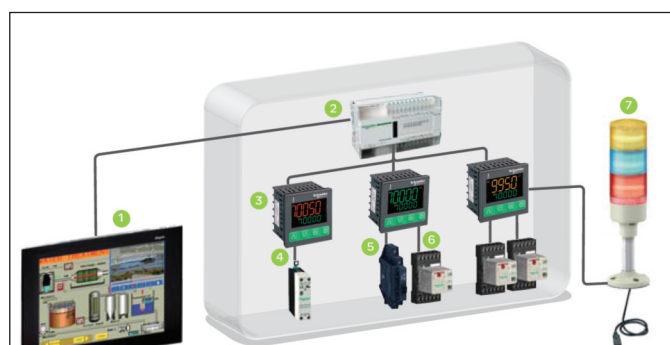
It allows the user to modify and save parameter settings in the PC and upload the configurations to RTC48.

Available as freeware and can be downloaded from the web site: [www.eurotherm.com/rtc48](http://www.eurotherm.com/rtc48)

The software runs on a PC with Microsoft Windows 7 or 8 operating system.

## Open communication

The Zelio RTC48 is built to be Modbus communication ready. By connecting to a central monitoring system, up to 31 temperature controllers can be daisy-chained in a single loop and monitored easily.



- 1 Display unit Magelis XBT GT
- 2 Programmable controllers Twido TWDLC
- 3 Temperature controller Zelio RTC48
- 4 Solid-state relay Zelio SSR
- 5 Solid-state relay Zelio SSM
- 6 Electromechanical relay Zelio RUM
- 7 Illuminated indicator bank Harmony XVGU

## Specification

### Certificates

Certificates: UR (UL873), CSA C22.2 No 24-93. CU- EAC

### Condition of use

Temperature: 0 to 50°C  
 Storage temperature: -25°C to 80°C (max)  
 Relative Humidity: 35 to 85% RH  
 Atmosphere: Not to use in corrosive, explosive or dusty (salty air or air containing high concentrations of metal particles) environment  
 Shock: 10gn conforming to IEC 60068-2-27  
 Vibration: 1gn at 10 to 55Hz conforming to IEC 60068-2-6  
 Altitude: Below 2000m  
 Protection: IP66/NEMA4X

### Electrical safety

EMC EN61326-1: Immunity and emission  
 Low voltage EN61010-1: Pollution degree 2; Installation category II

### Mechanical details

Panel mount: 1/16 DIN (48mm x 48mm)  
 Dimensions: 48mm (W) x 48mm (H) x 62mm (D)  
 Depth behind panel: 54.5mm; with terminal cover: 59.5mm  
 Weight: 135g, units with communications and SSR on output 2: 150g  
 Mounting: Panel  
 Panel cut out: 45mm x 45mm

### Power

Power supply: 100 to 240V ac, 24V ac or 24V dc  
 Power consumption: App. 8VA  
 Frequency: 50/60Hz

### User interface

Display: PV: 11-segment green, red, orange backlight LCD; 12.0mm (H) x 5.0mm (W)  
 SV: 11-segment green backlight LCD; 6.0mm (H) x 3.5mm (W)  
 Action indicators: Orange backlight  
 Operation: 4 buttons (increase, decrease, page, ON/OFF)

### Communications

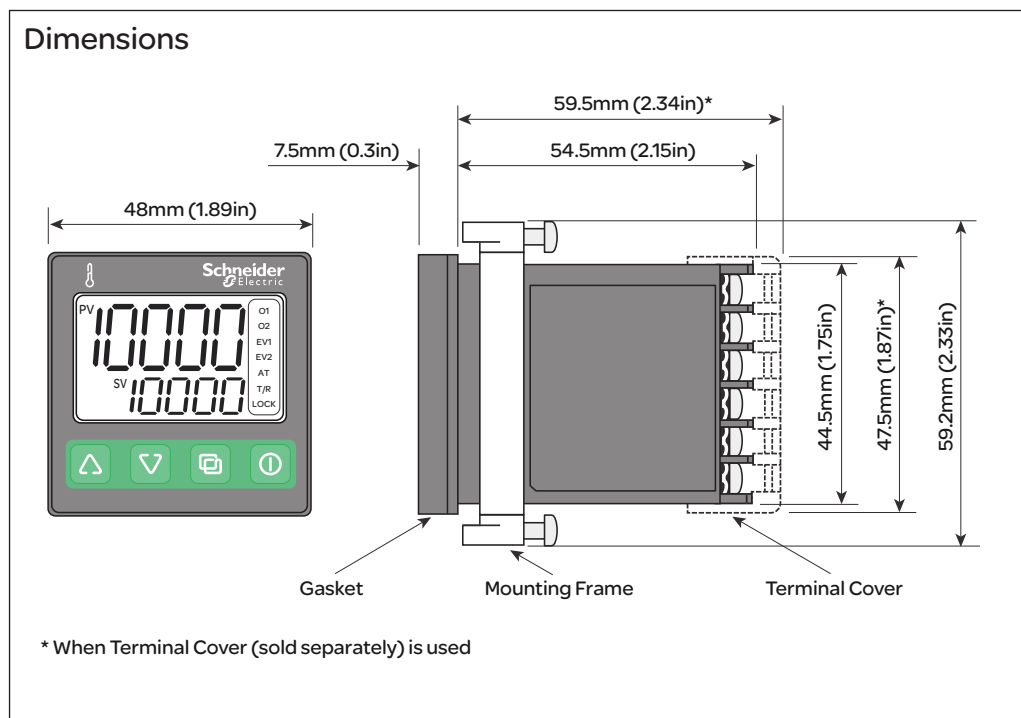
Protocol: Modbus RTU  
 Baud rate: 2400 to 19200 Baud  
 Transmission method: Half-duplex bit serial communication  
 Transmission distance: Max. 1.2km total length

### Input

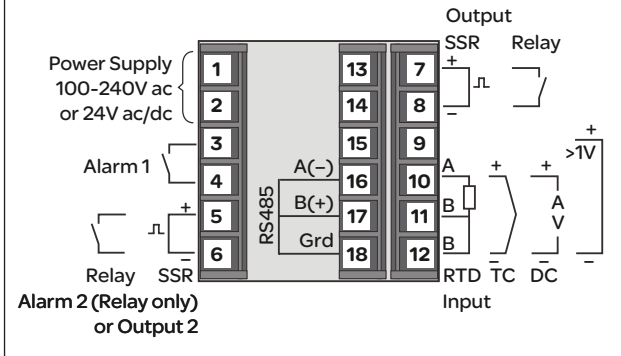
Thermocouple Type: C, R, S, B, K, J, E, T, N; PL2  
 RTD: Pt100, JPt100, 3-wire system  
 DC current: 0/4 to 20mA with 50 Ohm Shunt  
 DC voltage: 0 to 1V dc, 5V dc or 10V dc, 1 to 5V dc  
 Input accuracy T/C: Within ± 0.2% of each input span ±1 digit or within ±2°C (4°F), whichever is greater  
 Type R, S, 0 to 200°C: within ±6°C  
 Type B, 0 to 300°C: Accuracy is not guaranteed  
 Type K, J, E, T and N, less than 0°C (32°F): Within ±0.4% of input span ±1 digit  
 RTD: Within ±0.1% of input span ±1 digit or within ±1°C: whichever is greater  
 DC-current/voltage: Within ±0.2% of input span ±1 digit  
 Input impedance: 50 Ohm (0/4 to 20mA)  
 Input filter: 0 to 10s  
 Zero offset: Yes  
 Sampling period: 250 ms

### Output

Output: 2 outputs, relay or SSR  
 Relay: 3 A/250V ac (resistive load)  
 1 A/250V ac (inductive load)  
 life cycle: 100000 operations  
 SSR/logic: 12V dc +15%, max. 40mA dc with short circuit protection  
 Function: Heating or cooling  
 Alarms: Max. 2 (with option communications only 1 Alarm possible)



## Wiring



## Order code



### 1 Control Type

P PID controller

### 2 Input Type

UN Universal TC/PT100/Analog

### 3 Alarm and Communication

1 1 alarm  
2 2 alarms\*  
C 1 alarm and Modbus communications

\* With 2 alarms only one output is possible

### 4 Output 1

R Relay  
S SSR/logic output

### 5 Output 2

N None fitted  
R Relay  
S SSR/logic output

### 6 PSU

HU 100 to 240V  
LU Low voltage 24V ac/dc

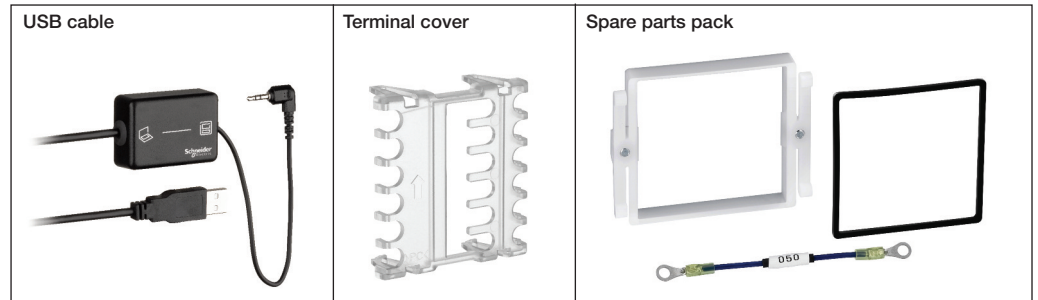
Combine to form on reference e.g. **RTC48PUNCSRHU**

## Accessories

RTCCBL	USB cable
RTCCOV	Terminal cover x 2
RTCACC	Spare parts pack (gasket, shunt resistor, mounting frame)*

All parts: 0.135kg.

\*RTCACC only required if additional parts required. Gasket, shunt resistor, mounting frame supplied as standard with each controller.



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