

<b>Size (mm) - Standard</b>		24 x 48 – 1/32 DIN
		
<b>Inputs</b>		Thermocouple PT 100 probe - Voltage/current, depending on model
<b>Sampling Time</b>		500 ms
<b>Communication on Modbus® bus</b>		Yes, except for REG24PTP1A●HU
<b>Dust and Watertight Front Panel</b>	IP66 (conforming to NEMA 4X)	Yes
<b>Functions</b>	Hysteresis	Yes
	PID	Yes
	Auto-tuning	Yes
	Fuzzy logic	Yes
	Ramps	8 steps
	Controlled start-up	No
	Operating mode	Automatic
<b>Alarm Outputs</b>		1 on REG24PTP1A●HU only
<b>Display</b>	7 segment LED, 4 digits	1
	Operating indicators	4
<b>Process Outputs (number - type)</b>	1 relay	■
	2 relays	—
	1 solid state relay interface	■
	1 relay + 1 solid state relay interface	—
	1 current (4-20 mA)	■
	1 solid state relay interface + 1 current (4-20 mA)	—
<b>Supply Voltage</b>	~ 100...240 V	REG24P●●●●HU
	~ 24 V	REG24P●●●●LU
<b>Temperature Controller</b>		<b>REG 24</b>
<b>Page</b>		14

# Zelio<sup>®</sup> Measurement and Control Relays

## REG Temperature Controllers

Size (mm) - Standard		48 x 48 – 1/16 DIN	96 x 48 – 1/8 DIN																					
																								
<b>Inputs</b>		Universal (Thermocouple, PT100, Voltage: 1-5 Vdc, 0-5 Vdc, 0-10 Vdc, 2-10 Vdc, 0-100 mVdc, Current: 0-20 mA, 4-20 mA)	Universal (Thermocouple, PT100, Voltage: 1-5 Vdc, 0-5 Vdc, 0-10 Vdc, 2-10Vdc, 0-100 mVdc, Current: 0-20 mA, 4-20 mA)																					
<b>Sampling Time</b>		200 ms	200 ms																					
<b>Communication on Modbus<sup>®</sup> bus</b>		Yes, except for <b>REG 48PUNL1●HU</b>	Yes, except for <b>REG96PUNL1●HU</b>																					
<b>Dust and Watertight Front Panel</b>	IP66 (conforming to NEMA 4X)	Yes	Yes																					
<b>Functions</b>	<table border="1"> <tr><td>Hysteresis</td><td>Yes</td><td>Yes</td></tr> <tr><td>PID</td><td>Yes</td><td>Yes</td></tr> <tr><td>Auto-tuning</td><td>Yes</td><td>Yes</td></tr> <tr><td>Fuzzy logic</td><td>Yes</td><td>Yes</td></tr> <tr><td>Ramps</td><td>16 steps</td><td>16 steps</td></tr> <tr><td>Controlled start-up</td><td>Yes</td><td>Yes</td></tr> <tr><td>Operating mode</td><td>Automatic and manual</td><td>Automatic and manual</td></tr> </table>	Hysteresis	Yes	Yes	PID	Yes	Yes	Auto-tuning	Yes	Yes	Fuzzy logic	Yes	Yes	Ramps	16 steps	16 steps	Controlled start-up	Yes	Yes	Operating mode	Automatic and manual	Automatic and manual		
Hysteresis	Yes	Yes																						
PID	Yes	Yes																						
Auto-tuning	Yes	Yes																						
Fuzzy logic	Yes	Yes																						
Ramps	16 steps	16 steps																						
Controlled start-up	Yes	Yes																						
Operating mode	Automatic and manual	Automatic and manual																						
<b>Alarm Outputs</b>		2	3																					
<b>Display</b>	7 segment LED, 4 digits Operating indicators	2, red and green, configurable 5	2, red and green, configurable 6																					
<b>Process Outputs (number - type)</b>	<table border="1"> <tr><td>1 relay</td><td>■</td><td>■</td></tr> <tr><td>2 relays</td><td>■</td><td>■</td></tr> <tr><td>1 solid state relay interface</td><td>■</td><td>■</td></tr> <tr><td>1 relay + 1 solid state relay interface</td><td>■</td><td>■</td></tr> <tr><td>1 current (4-20 mA)</td><td>■</td><td>■</td></tr> <tr><td>1 solid state relay interface + 1 current (4-20 mA)</td><td>■</td><td>■</td></tr> </table>	1 relay	■	■	2 relays	■	■	1 solid state relay interface	■	■	1 relay + 1 solid state relay interface	■	■	1 current (4-20 mA)	■	■	1 solid state relay interface + 1 current (4-20 mA)	■	■					
1 relay	■	■																						
2 relays	■	■																						
1 solid state relay interface	■	■																						
1 relay + 1 solid state relay interface	■	■																						
1 current (4-20 mA)	■	■																						
1 solid state relay interface + 1 current (4-20 mA)	■	■																						
<b>Supply Voltage</b>	<table border="1"> <tr><td>~ 100...240 V</td><td><b>REG48PUN●●HU</b></td><td><b>REG96PUN●●HU</b></td></tr> <tr><td>~ 24 V</td><td><b>REG48PUN●●LU</b></td><td><b>REG96PUN●●LU</b></td></tr> </table>	~ 100...240 V	<b>REG48PUN●●HU</b>	<b>REG96PUN●●HU</b>	~ 24 V	<b>REG48PUN●●LU</b>	<b>REG96PUN●●LU</b>																	
~ 100...240 V	<b>REG48PUN●●HU</b>	<b>REG96PUN●●HU</b>																						
~ 24 V	<b>REG48PUN●●LU</b>	<b>REG96PUN●●LU</b>																						
<b>Temperature Controller</b>		<b>REG 48</b>	<b>REG 96</b>																					
<b>Page</b>		14	14																					



24 x 48 mm size



48 x 48 mm size



96 x 48 mm size



Zelio Control Soft software  
available free of charge from  
[www.schneider-electric.us](http://www.schneider-electric.us)

### Introduction

#### Product

The range of **REG** temperature controllers provides a solution with 3 product sizes (DIN standard):

- 24 x 48 mm (1/32 DIN)
- 48 x 48 mm (1/16 DIN)
- 96 x 48 mm (1/8 DIN)

The range includes 40 models which offer the following characteristics (depending on model):

- Supply voltage ~ 100...240 V or ~ 24 V
- Input: Thermocouple, PT 100 probe
- Voltage/current: depending on model
- Configurable display: red and green display colors and possibility of flashing display in the event of an alarm
- 1, 2 or 3 alarm outputs, depending on model
- Advanced functions, depending on model

#### Operation

- One or two dedicated outputs for heating, cooling, or heating/cooling of processes based on PID algorithms
- Advanced functions:
  - ramps
  - fuzzy logic to avoid over/under temperature
  - auto-tuning
  - controlled start-up, depending on model
  - automatic or manual operating mode, depending on model

#### Applications

**REG** temperature controllers are designed for system integrators and machine manufacturers. They provide a solution for temperature control in the following applications: industrial machines, HVAC, packaging, and textile industry.

#### Application examples:

- Boilers and furnaces
- Extrusion lines
- Plastic and rubber injection presses
- Thermo-forming
- Production of synthetic fibers and polymerization
- Food and drink processing lines
- Molding presses
- Environmental test chambers, overhead furnaces, and test benches
- UV and laser technologies
- Maintaining the temperature of a color bath
- Cold rooms
- Paint booths
- Horticultural and livestock farms

### Software Configuration

**Zelio Control Soft** software is used to configure the parameter settings of **REG** temperature controllers (except for REG24PTP1A●HU).

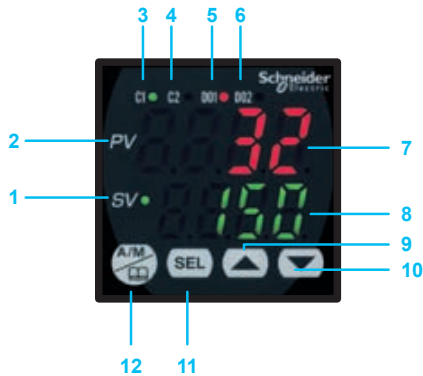
- This software is available free of charge and can be downloaded from [www.schneider-electric.us](http://www.schneider-electric.us)
- It runs on a PC, with a Windows 98, XP, or Vista operating system
- It allows modification of parameter settings, saving, and downloading of configurations



### Description

#### 24 x 48 size – 1/32 DIN standard

- 1 C1: indicator showing output 1 ON
- 2 SV: set-point value indicator; ON = SV, OFF = PV present value indicator, if parameter entry
- 3 SEL: selector button
- 4 Display of parameter value entered, 4 red digits, 10 mm (0.39 in) high
- 5 UP (increment) arrow
- 6 DOWN (decrement) arrow
- 7 AL1: relay output alarm on REG24PTP1A●HU only
- 8 AL2: Modbus<sup>®</sup> communication alarm



#### 48 x 48 size – 1/16 DIN standard

- 1 SV: set-point value indicator
- 2 PV: present value indicator
- 3 C1: indicator showing output 1 ON
- 4 C2: indicator showing output 2 ON
- 5 D01: Alarm 1 output ON
- 6 D02: Alarm 2 output ON
- 7 Display of process value, 4 red digits, 12 mm (0.47 in) high
- 8 Display of parameter value entered, 4 green digits, 10 mm (0.39 in) high
- 9 UP (increment) arrow
- 10 DOWN (decrement) arrow
- 11 SEL: selector button
- 12 A/M: automatic/manual mode or configuration key



#### 96 x 48 size – 1/8 DIN standard

- 1 SV: set-point value indicator
- 2 PV: present value indicator
- 3 C1: indicator showing output 1 ON
- 4 C2: indicator showing, output 2 ON
- 5 D01: Alarm 1 output ON
- 6 D02: Alarm 2 output ON
- 7 D03: Alarm 3 output ON
- 8 Display of process value, 4 red digits, 12 mm (0.47 in) high
- 9 Display of parameter value entered, 4 green digits, 10 mm (0.39 in) high
- 10 UP (increment) arrow
- 11 DOWN (decrement) arrow
- 12 A/M: automatic/manual mode or configuration key
- 13 SEL: selector button

# Zelio® Measurement and Control Relays

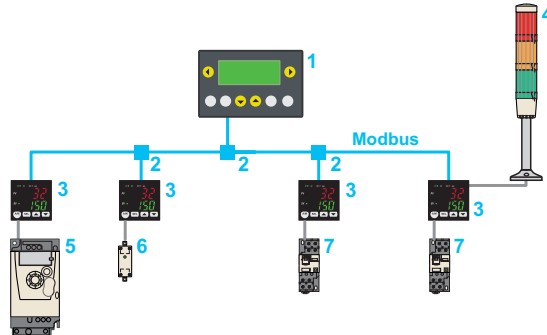
## REG Temperature Controllers

### Examples of Architectures with Communication Over a Modbus® Serial Port

Temperature controllers **REG 24**, **REG 48** and **REG 96** (1) have a communication port for data exchange and parameter entry on the Modbus® bus.

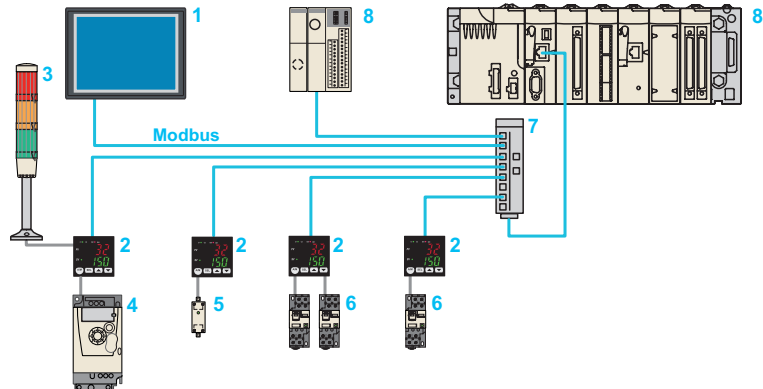
These temperature controllers can be incorporated in intelligent architectures supervised by Magelis® terminals or controlled by PLCs (Twido®, M340™ or Premium™) for the exchange and transmission of data such as set-point values, present values, and alarms.

#### REG Temperature Controllers Supervised by a Magelis Compact Terminal



- 1 Compact terminal **XBT N**, master on the Modbus communication network
- 2 Junction box **TWDXCATR3RJ**
- 3 Temperature controllers **REG24/48/96**
- 4 Alarm: illuminated indicating banks **XVC** (2)
- 5 Current output: variable speed drive **ATV12H075M2** (3)
- 6 Solid state relay interface output **SSR**
- 7 Electromechanical relay output **RXM2AB2●●**

#### REG Temperature Controllers Controlled by PLCs



- 1 Graphic terminal **XBTG**, slave on the Modbus communication network, for regular reading of values, recording of curves (ramps), and changes in presets
- 2 Temperature controllers **REG 24/48/96**
- 3 Alarm: illuminated indicating banks **XVC** (2)
- 4 Current output: variable speed drive **ATV12H075M2** (3)
- 5 **SSR** solid state relay interface output
- 6 **RXM2AB2●●** electromechanical relay output
- 7 Modbus hub **LU9GC3**
- 8 PLCs with sequential processing of instructions: Twido programmable controller or Modicon® M340™ automation platform, or masters on the Modbus communication network

(1) Except on **REG24PTP1A●HU**, **REG48PUNL1●HU** and **REG96PUNL1●HU**.

(2) Illuminated indicating banks **XVC**, preassembled and pre-wired with a buzzer incorporated in the base. Please see our "Control and Signaling Components" catalog.

(3) Variable speed drive **ATV12H075M2**: frequency converter for 3-phase asynchronous motors, 200...240 V from 0.18 kW to 4 kW.

Environment characteristics					
Size (mm) - Standard			24 x 48 - 1/32 DIN	48 x 48 - 1/16 DIN	96 x 48 - 1/8 DIN
Conforming to Standards			EMC EN 61326-1, LVD EN 61010-1		
Product Certifications			cURus (873), CSA C22.2 n° 24-93, Gost		
Product Marking			CE		
Ambient Air Temperature Around the Device	Operation	°C (°F)	- 10...+ 50 (+ 14...+ 122)		
	Storage	°C (°F)	- 20...+ 60 (- 4...+ 140)		
Relative Humidity			90% without condensation		
Altitude	Operation	m	2000		
	Storage	m	3000		
Vibration Resistance			1 gn (10...70 Hz)		
Shock Resistance			5 gn		
Input Type	PT100 probe		Yes	Yes	Yes
	Thermocouple J, K, R, B, S, T, E, N, PLII		Yes	Yes	Yes
	Voltage/current	V	1...5	0...5, 1...5, 0...10, 2...10, 0...0.1	
		mA	4...20	0...20, 4...20	
Precision of Information Displayed		%FS	0.5	0.3	0.3
Number of Process Outputs			1	1 or 2	1 or 2
Sampling Time		ms	500	200	200
Max. Number of Recording Operations to Memory (EEPROM)			100,000	100,000	100,000
Power Supply					
Voltage Range	~ 100...240 V	V	85...264		
	~ 24 V	V	21.6...26.4		
Power Consumption	~ 100...240 V	VA	6 for 100 V 8 for 240 V	12	12
	~ 24 V	VA	8	12	12
Communication on Modbus <sup>®</sup> Bus					
Serial Port	Number and type		1 x RS-485		
Flow Rate		K bits/s	9600 and 19,200		
Isolation Between Internal Circuit and Serial Port			Non isolated		
Communication Protocol			Modbus slave RTU, half duplex		
Built-in Functions					
Hysteresis			Yes	Yes	Yes
PID			Yes	Yes	Yes
Auto-tuning			Yes	Yes	Yes
Fuzzy Logic			Yes	Yes	Yes
Ramps		Steps	8	16	16
Controlled Start-up			No	Yes	Yes
Operating Mode			Automatic	Automatic and manual	Automatic and manual
Output Characteristics					
Relays			SPDT ~ 220 V, ~ 30 V / 3 A	SPST ~ 220 V, ~ 30 V / 3 A	
Solid State Relay Interface			~ 24 V, 20 mA, 850 Ω		
Current			4...20 mA, load resistance 600 Ω max		
Alarm Outputs	SPDT	~ V	100...220, load capacity 1 A	100...220, load capacity 3 A	
		~ V	30, load capacity 1 A	30, load capacity 3 A	

# Zelio® Measurement and Control Relays

## REG Temperature Controllers



REG24PTP1 ●●●●●  
REG24PUJ1 ●●●●●



REG48PUN ●●●●●●



REG96PUN ●●●●●●

Temperature Controllers								
24 x 48 size – 1/32 DIN standard								
Input type	Supply Voltage	Number and type of outputs	Alarm	Communication on Modbus® Bus	Catalog Number	Weight kg (lb)		
Thermocouple PT100 Probe	~ 100/240 V	1 relay	No	Yes	REG24PTP1RHU	0.200 (0.44)		
		1 relay	1	No	REG24PTP1ARHU	0.200 (0.44)		
		1 solid state relay interface	No	Yes	REG24PTP1LHU	0.200 (0.44)		
		1 solid state relay interface	1	No	REG24PTP1ALHU	0.200 (0.44)		
		1 current (4-20 mA)	No	Yes	REG24PTP1JHU	0.200 (0.44)		
	~ 24 V	1 relay	No	Yes	REG24PTP1RLU	0.200 (0.44)		
		1 solid state relay interface	No	Yes	REG24PTP1LLU	0.200 (0.44)		
		1 current (4-20 mA)	No	Yes	REG24PTP1JLU	0.200 (0.44)		
		1 relay	No	Yes	REG24PUJ1RHU	0.200 (0.44)		
		1 solid state relay interface	No	Yes	REG24PUJ1LHU	0.200 (0.44)		
Voltage/Current	~ 100/240 V	1 relay	No	Yes	REG24PUJ1RHU	0.200 (0.44)		
		1 solid state relay interface	No	Yes	REG24PUJ1LHU	0.200 (0.44)		
	~ 24 V	1 relay	No	Yes	REG24PUJ1RLU	0.200 (0.44)		
		1 solid state relay interface	No	Yes	REG24PUJ1LLU	0.200 (0.44)		
48 x 48 size – 1/16 DIN standard								
Universal	~ 100/240 V	1 relay	2	Yes	REG48PUN1RHU	0.300 (0.66)		
				No	REG48PUNL1RHU	0.300 (0.66)		
		2 relays	2	Yes	REG48PUN2RHU	0.300 (0.66)		
			1 solid state relay interface	2	Yes	REG48PUN1LHU	0.300 (0.66)	
				No	REG48PUNL1LHU	0.300 (0.66)		
		1 solid state relay interface + 1 relay	2	Yes	REG48PUN2LRHU	0.300 (0.66)		
		1 current (4-20 mA)	2	Yes	REG48PUN1JHU	0.300 (0.66)		
		1 solid state relay interface + 1 current (4-20 mA)	2	Yes	REG48PUN2LJHU	0.300 (0.66)		
	~ 24 V	1 relay	2	Yes	REG48PUN1RLU	0.300 (0.66)		
		2 relays	2	Yes	REG48PUN2RLU	0.300 (0.66)		
		1 solid state relay interface	2	Yes	REG48PUN1LLU	0.300 (0.66)		
		1 solid state relay interface + 1 relay	2	Yes	REG48PUN2LRLU	0.300 (0.66)		
		1 current (4-20 mA)	2	Yes	REG48PUN1JLU	0.300 (0.66)		
		1 solid state relay interface + 1 current (4-20 mA)	2	Yes	REG48PUN2LJLU	0.300 (0.66)		
		96 x 48 size – 1/8 DIN standard						
		Universal	~ 100/240 V	1 relay	3	Yes	REG96PUN1RHU	0.300 (0.66)
	No				REG96PUNL1RHU	0.300 (0.66)		
2 relays	3			Yes	REG96PUN2RHU	0.300 (0.66)		
	1 solid state relay interface			3	Yes	REG96PUN1LHU	0.300 (0.66)	
				No	REG96PUNL1LHU	0.300 (0.66)		
1 solid state relay interface + 1 relay	3			Yes	REG96PUN2LRHU	0.300 (0.66)		
1 current (4-20 mA)	3			Yes	REG96PUN1JHU	0.300 (0.66)		
1 solid state relay interface + 1 current (4-20 mA)	3			Yes	REG96PUN2LJHU	0.300 (0.66)		
~ 24 V	1 relay		3	Yes	REG96PUN1RLU	0.300 (0.66)		
	2 relays		3	Yes	REG96PUN2RLU	0.300 (0.66)		
	1 solid state relay interface		3	Yes	REG96PUN1LLU	0.300 (0.66)		
	1 solid state relay interface + 1 relay		3	Yes	REG96PUN2LRLU	0.300 (0.66)		
	1 current (4-20 mA)		3	Yes	REG96PUN1JLU	0.300 (0.66)		
	1 solid state relay interface + 1 current (4-20 mA)		3	Yes	REG96PUN2LJLU	0.300 (0.66)		

### Accessories for Temperature Controllers <sup>(1)</sup>

Description	For use with Temperature Controller Size	Sold in Lots of	Catalog Number	Weight g (oz)
Bracket for Mounting on $\perp$ Rail	24 x 48	4	REG24PSOC	14.93 (0.53)
Terminal Block Cover	48 x 48	2	REG48PCOV	7.77 (0.27)
	96 x 48	2	REG96PCOV	13.17 (0.46)

### Miniature Plug-in Relays with Lockable Test Button and LED

2 C/O Contacts - Thermal Current (Ith): 12 A

Control Circuit Voltage V	Sold in Lots of	Catalog Number	Weight kg (lb)
$\overline{\text{---}}$ 12	10	RXM2AB2JD	0.037 (0.08)
$\overline{\text{---}}$ 24	10	RXM2AB2BD	0.037 (0.08)
$\overline{\text{---}}$ 48	10	RXM2AB2ED	0.037 (0.08)
$\overline{\text{---}}$ 110	10	RXM2AB2FD	0.037 (0.08)
$\sim$ 24	10	RXM2AB2B7	0.037 (0.08)
$\sim$ 48	10	RXM2AB2E7	0.037 (0.08)
$\sim$ 120	10	RXM2AB2F7	0.037 (0.08)
$\sim$ 230	10	RXM2AB2P7	0.037 (0.08)



RXM2AB2●●

### Solid State Relays with 1 N/O Contact, for mounting on $\perp$ rail

For more information, please consult our *Electromechanical and Solid-State Zelio Relays Catalog*, Part Number: DIA3ED2090304EN-US

Switching	Voltage Range		Load Current (A)	Catalog Number	Weight kg (lb)	
	Input (V)	Output (V)				
SCR output	Zero Voltage	$\overline{\text{---}}$ 4...32	$\sim$ 24...280	SSRDCDS10A1	0.272 (0.60)	
				20	SSRDCDS20A1	0.272 (0.60)
				30	SSRDCDS30A1	0.272 (0.60)
				45	SSRDCDS45A1	0.482 (1.06)



SSRDCDS10A1

### Altivar® 12 Variable Speed Drives with Heat Sink

For more information, please consult our *Altivar® 12 Variable Speed Drives catalog*

Motor Power Indicated on Rating Plate	Network				Altivar 12				Catalog Number	Weight kg (lb)
	Maximum Line Current		Apparent Power at U2	Pro-spective Maximum Line Isc	Maximum Continuous Output Current (In) at U2	Maximum Transient Current for 60 s	Power Dissipated at Maximum Output Current (In)			
	at U1	at U2						A		
kW	HP	A	A	kVA	kA	A	A	W		kg (lb)
<b>Single-phase Supply Voltage: 100...120 V 50/60 Hz</b>										
0.75	1	18.9	15.7	3.3	1	4.2	6.3	48	ATV12H075M2	1.300 (2.87)
<b>Single-phase Supply Voltage: 200...240 V 50/60 Hz</b>										
0.75	1	10.2	8.5	3.5	1	4.2	6.3	44	ATV12H075M2	0.800 (1.76)
<b>3-phase Supply Voltage: 200...240 V 50/60 Hz</b>										
0.75	1	6.3	5.3	2.2	5	4.2	6.3	41	ATV12H075M3	0.800 (1.76)



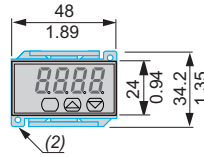
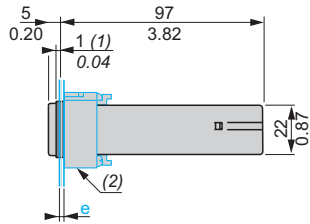
ATV12H075M2

(1) To be ordered separately.

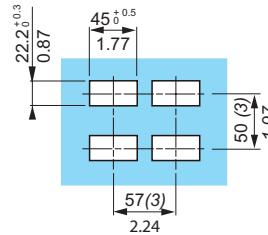


**24 x 48 size – 1/32 DIN standard**

Panel Mounting (bracket supplied)



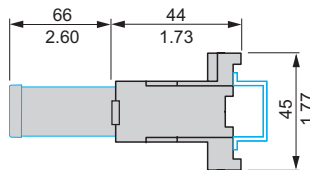
Panel Cut-out



Dimensions  $\frac{\text{mm}}{\text{in.}}$

n: number of devices mounted side-by-side

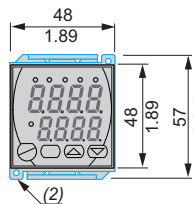
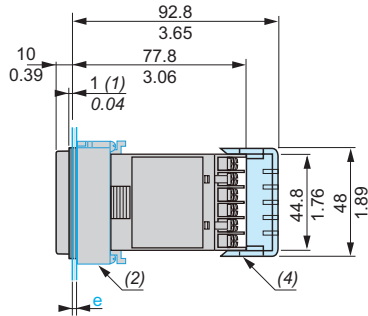
**Mounting on L Rail with Accessory REG24PSOC (to be ordered separately, see page 15)**



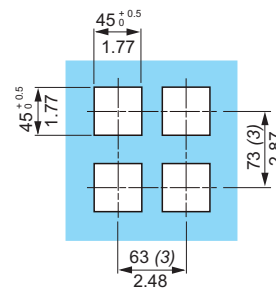
Dimensions  $\frac{\text{mm}}{\text{in.}}$

**48 x 48 size – 1/16 DIN standard**

Panel Mounting (bracket supplied)



Panel Cut-out

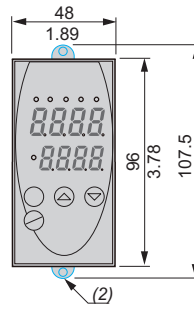
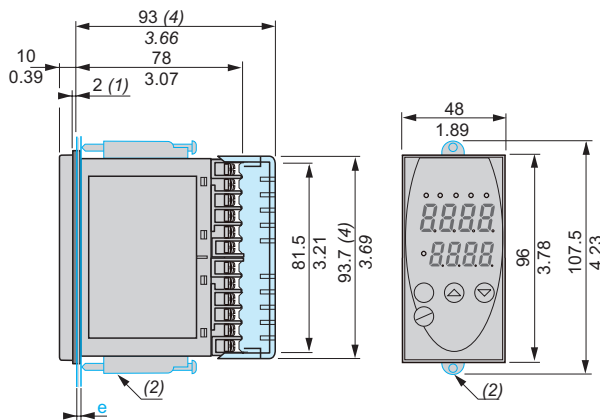


Dimensions  $\frac{\text{mm}}{\text{in.}}$

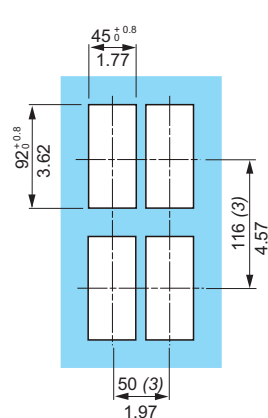
n: number of devices mounted side-by-side

**96 x 48 – 1/8 DIN standard**

Panel Mounting (bracket supplied)



Panel Cut-out



Dimensions  $\frac{\text{mm}}{\text{in.}}$

n: number of devices mounted side-by-side

e: panel thickness

(1) Seal.

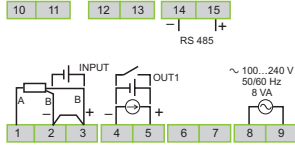
(2) Mounting brackets supplied with REG temperature controllers.

(3) Minimum value.

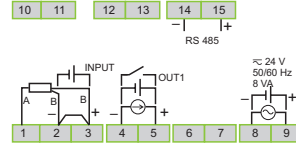
(4) Terminal block cover, to be ordered separately, see page 15.

### REG 24

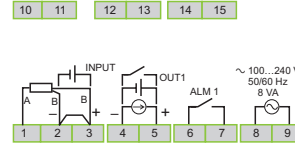
REG24PTP1RHU, REG24PUJ1RHU,  
REG24PTP1LHU, REG24PUJ1LHU,  
REG24PTP1JHU



REG24PTP1RLU, REG24PUJ1RLU,  
REG24PTP1LLU, REG24PUJ1LLU,  
REG24PTP1JLU

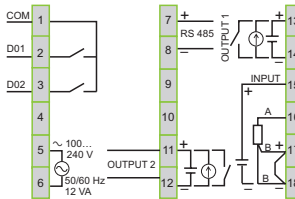


REG24PTP1ARHU, REG24PTP1ALHU

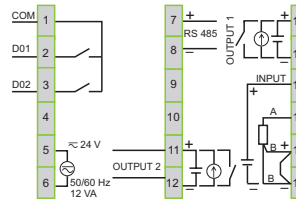


### REG 48

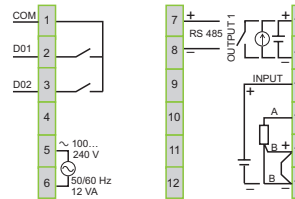
REG48PUN2RHU, REG48PUN2LRHU,  
REG48PUN2LJHU



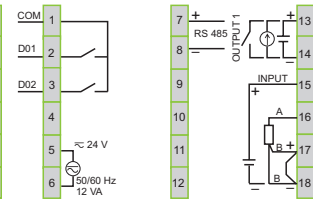
REG48PUN2RLU, REG48PUN2LRLU,  
REG48PUN2LJLU



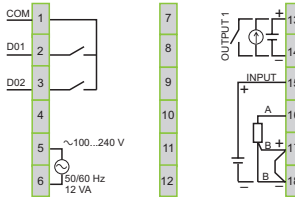
REG48PUN1RHU, REG 48PUN1LHU,  
REG48PUN1JHU



REG48PUN1RLU, REG48PUN1LLU,  
REG48PUN1JLU

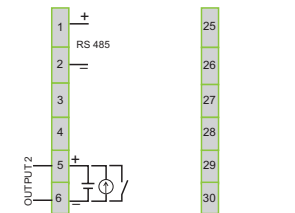


REG 48PUNL1RHU, REG48PUNL1LHU

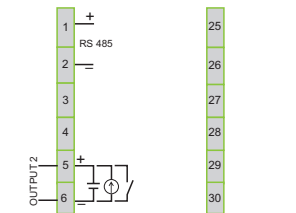


### REG 96

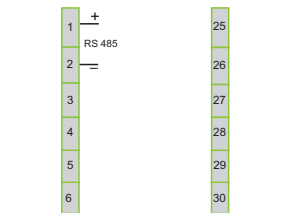
REG96PUN2RHU, REG 96PUN2LRHU,  
REG96PUN2LJHU



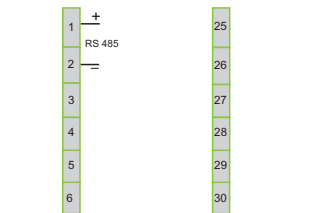
REG96PUN2RLU, REG96PUN2LRLU,  
REG96PUN2LJLU



REG96PUN1RHU, REG96PUN1LHU,  
REG96PUN1JHU



REG96PUN1RLU, REG96PUN1LLU,  
REG96PUN1JLU



REG96PUNL1RHU, REG96PUNL1LHU

