

Zelio[®] Temperature Controllers

Catalog
2010





The A to Z of Temperature Control

Superior in quality, the new **Zelio® ControlREG** relays are a key component for a temperature regulation solution (solid-state relays, electromechanical relays, PLCs, variable speed drives, and displays). Featuring Modbus® communication and advanced functions as standard, they offer simplicity of installation and use.

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Make the most of your energySM



Combine Simplicity, Performance and Economy

Zelio® Control REG relays provide a temperature control solution for the following domains: industrial machines, HVAC, packaging, and textile.

The temperature controllers are available in three industry standard sizes.



IP66 NEMA 4X

High degree of protection on front face enabling use in severe environments.

24 x 48 mm (1/32 DIN)

> Cost-effective for basic temperature control needs.

48 x 48 mm (1/16 DIN)

> Optimal balance of price and functionality.

96 x 48 mm (1/8 DIN)

> Full-featured for maximum performance and function.

Enhanced visual display

High luminosity LED display providing excellent clarity in all lighting conditions.

> Additional Add-ons and/or Modules are not Required

Modbus® communication and advanced functions are integrated as standard on many products.

> Key Features:

- Modbus communication for an increase in efficiency, consistency, and the ability to interface with PCs and other automation products
- Simple parameter settings
- Flash memory (saves configurations)
- Compatible with a wide range of sensors
- Advanced functions (standard): PID, fuzzy logic, auto-tuning, soft start
- IP66 resistance to dust

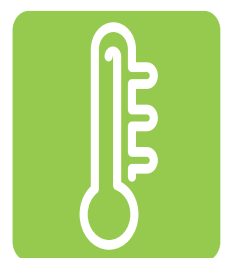


Modbus®
Communications

> Zelio® Control Soft Software

Optimizes setup

- Common software for all products in the temperature relay range (available free of charge from www.schneider-electric.us)
- Ability to jumper multiple temperature controllers together
- Intuitive GUI interface
- Save and load configurations
- Compatible with a wide range of sensors



Zelio Control Soft
Software

+70%

Modbus communication
advantage

time savings when
configuring multiple units.

90 mm

Shallow depth of product
reduces size of enclosures.

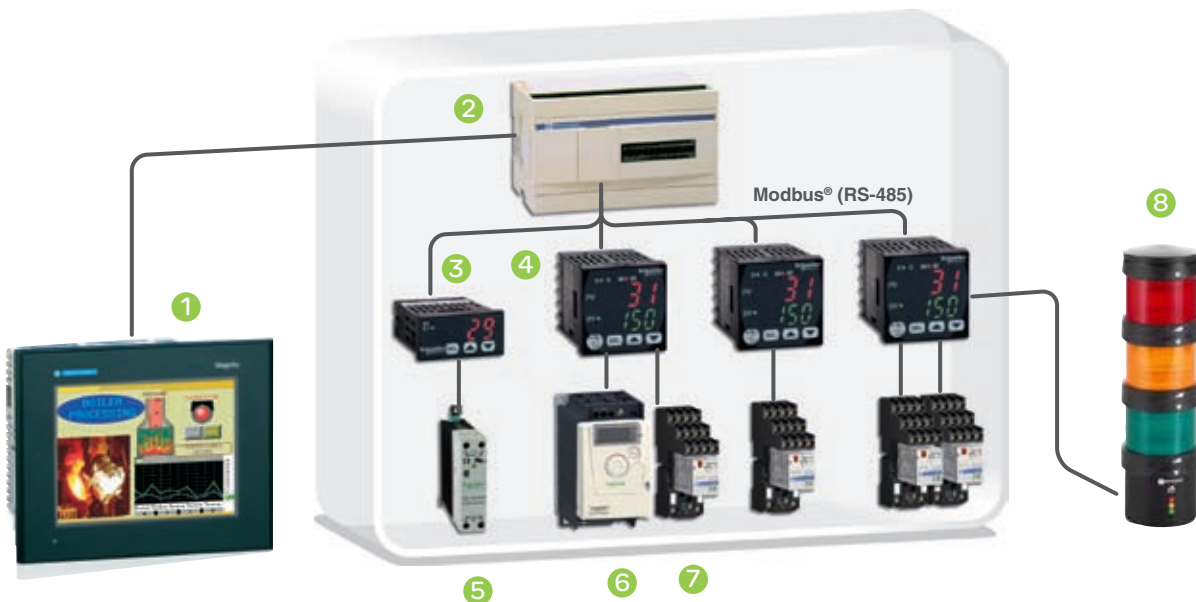


Decide on an Efficient Solution!

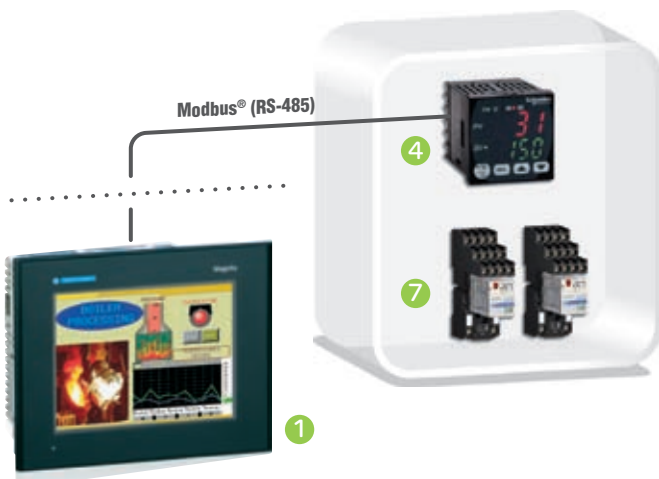


The Schneider Electric advantage: we offer a complete solution, from solid-state relays to controllers, that lives up to your expectations. With Schneider Electric offices in over 100 countries, you can be assured of service and product availability wherever you are.

Complete installation



Simple installation

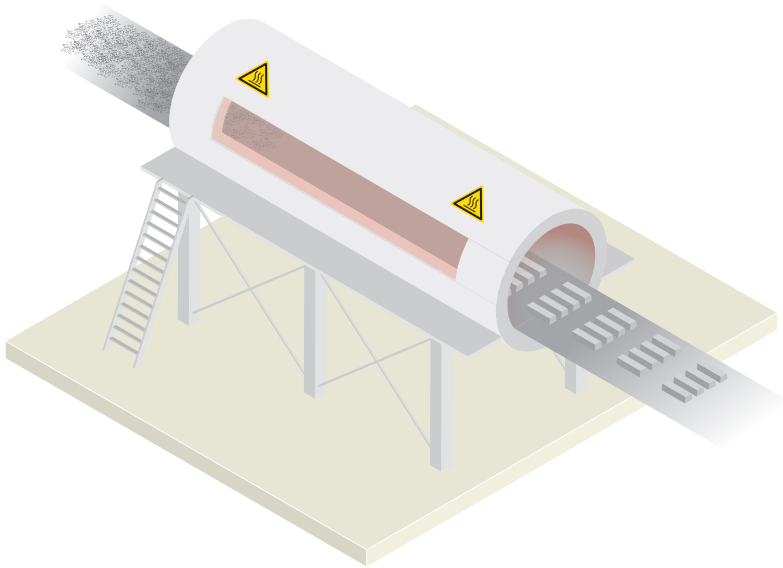


- 1 Display unit **Magelis® XBT GT**
- 2 Programmable controllers **Twido® TWD LC**
- 3 Temperature controllers **Zelio® REG 24**
- 4 Temperature controllers **Zelio REG 48**
- 5 Solid-state relay **Zelio Relay SSR**
- 6 Variable speed drive **Altivar® 12**
- 7 Electromechanical relay **Zelio Relay RXM**
- 8 Illuminated indicator bank **Harmony® XVB**

> Simple Integration in all Types of Applications

Application examples:

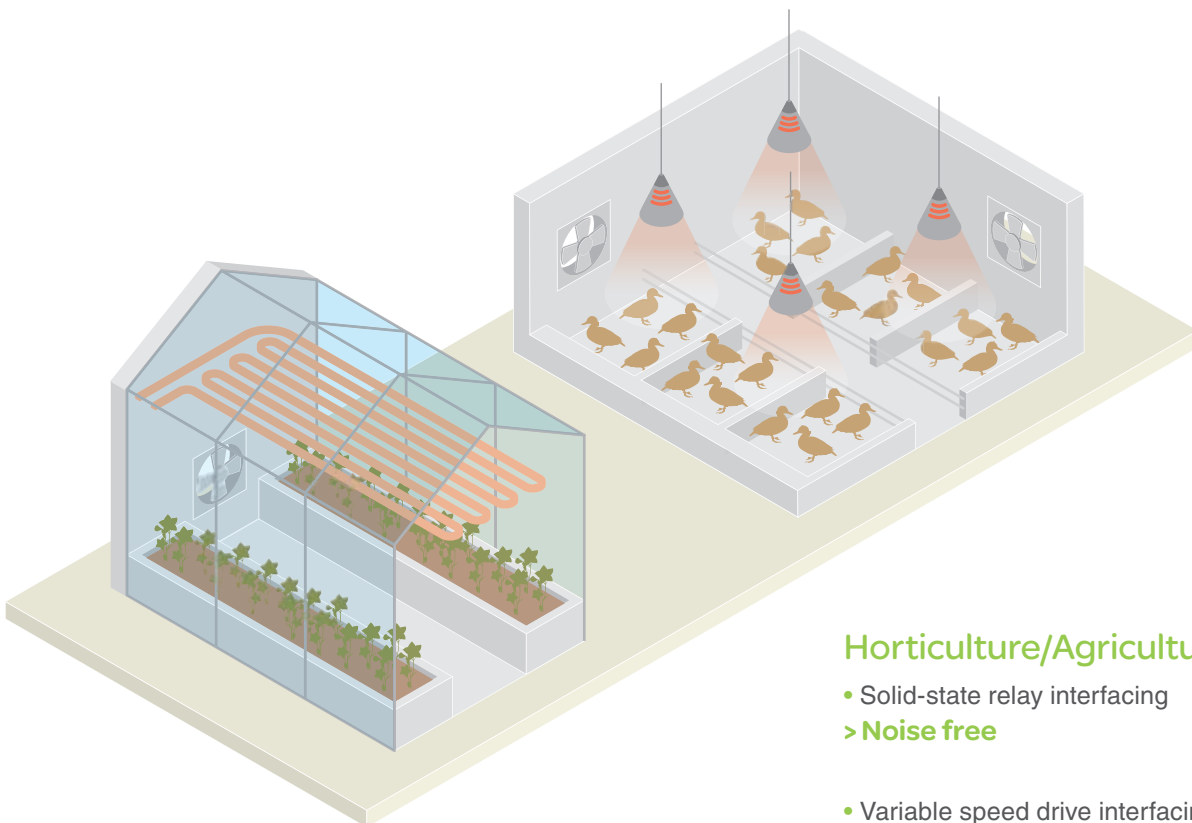
(for all application domains see page 10)



Industrial ovens

- Modbus® communication
- 2 alerts

> Continuous process control



Horticulture/Agriculture

- Solid-state relay interfacing

> Noise free

- Variable speed drive interfacing

> Progressive ventilation

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

Zelio® Measurement and Control Relays

REG Temperature Controllers

Size (mm) - Standard		48 x 48 – 1/16 DIN	96 x 48 – 1/8 DIN
			
Inputs		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)
Sampling Time		200 ms	200 ms
Communication on Modbus® bus		Yes, except for REG 48PUNL1●HU	Yes, except for REG96PUNL1●HU
Dust and Watertight Front Panel	IP66 (conforming to NEMA 4X)	Yes	Yes
Functions	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
Alarm Outputs		2	3
Display	7 segment LED, 4 digits	2, red and green, configurable	2, red and green, configurable
	Operating indicators	5	6
Process Outputs (number - type)	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)	■	■
Supply Voltage	~ 100...240 V	REG48PUN●●HU	REG96PUN●●HU
	~ 24 V	REG48PUN●●LU	REG96PUN●●LU
Temperature Controller		REG 48	REG 96
Page		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

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
- 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

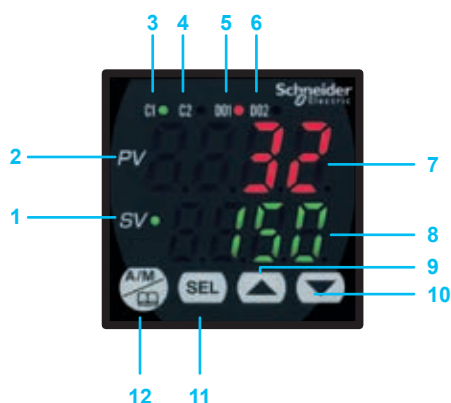
Zelio® Measurement and Control Relays REG Temperature Controllers



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® 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

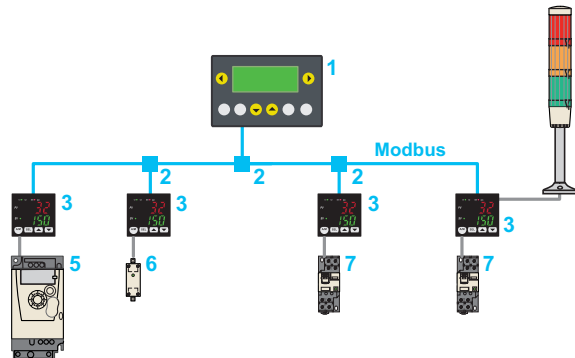
REG Temperature Controllers

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.

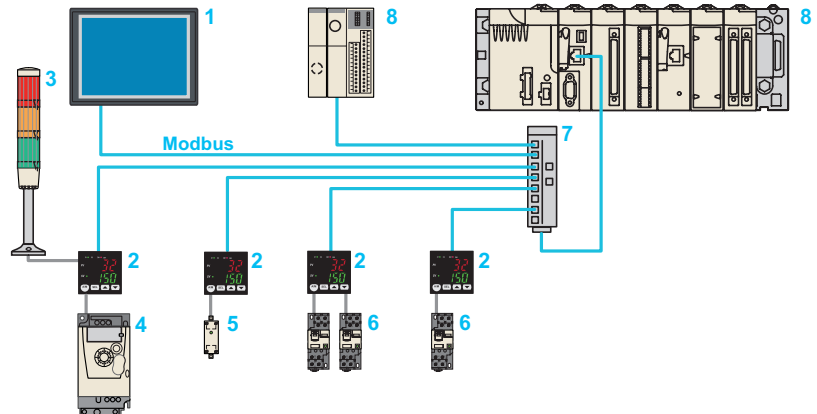
These temperature controllers can be incorporated in intelligent architectures supervised by Magelis® terminals or controlled by PLCs (Twido®, M340™ or Premium™) for the exchange and transmission of data such as set-point values, present values, and alarms.

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® Bus					
Serial Port	Number and type		1 x RS-485		
Flow Rate		Kbits/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)
	Voltage/Current	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)



RXM2AB2●●



SSRDCDS10A1



ATV12H075M2

Accessories for Temperature Controllers ⁽¹⁾

Description	For use with Temperature Controller Size	Sold in Lots of	Catalog Number	Weight g (oz)
Bracket for Mounting on 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)
≡ 12	10	RXM2AB2JD	0.037 (0.08)
≡ 24	10	RXM2AB2BD	0.037 (0.08)
≡ 48	10	RXM2AB2ED	0.037 (0.08)
≡ 110	10	RXM2AB2FD	0.037 (0.08)
~ 24	10	RXM2AB2B7	0.037 (0.08)
~ 48	10	RXM2AB2E7	0.037 (0.08)
~ 120	10	RXM2AB2F7	0.037 (0.08)
~ 230	10	RXM2AB2P7	0.037 (0.08)

Solid State Relays with 1 N/O Contact, for mounting on rail

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

Part Number: D17A0ED000004EN-00					
Switching	Voltage Range		Load Current (A)	Catalog Number	Weight kg (lb)
	Input (V)	Output (V)			
SCR output					
Zero Voltage	≡ 4...32	~ 24...280	10	SSRDCDS10A1	0.272 (0.60)
			20	SSRDCDS20A1	0.272 (0.60)
			30	SSRDCDS30A1	0.272 (0.60)
			45	SSRDCDS45A1	0.482 (1.06)

Altivar® 12 Variable Speed Drives with Heat Sink

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

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

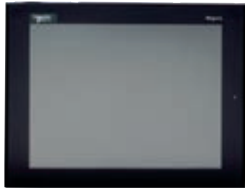
(1) To be ordered separately.

Zelio® Measurement and Control Relays

REG Temperature Controllers



XBTN400/N401



XBTGT630●0

Magelis® Terminals for Supervision on Modbus® Network

Description	Downloadable Exchange Protocol	Compatible with PLC Types	Supply Voltage	Screen Type	Catalog Number	Weight kg (lb)
Compact Terminals						
Terminals with 4 Lines of 20 Characters matrix screen	Modbus	Twido®, Nano™, TSX Micro™, Premium™, Modicon® M340™	— 5 V by terminal port on PLC	LCD backlit green (122 x 32 pixels)	XBTN400	0.360 (0.79)
				LCD backlit green (122 x 32 pixels)	XBTN410	0.380 (0.84)
				LCD backlit green, orange and red (122 x 32 pixels)	XBTN401	0.380 (0.84)
	Modbus	TeSys® U motor starters Altivar® variable speed drives	— 24 V external source	LCD backlit green (122 x 32 pixels)	XBTNU400	0.380 (0.84)

Color Graphic Terminal with Tactile Screen

Multifunction Terminal 12.1" with TFT Screen	Modbus (RS-485) on RJ45 connector	Twido, Nano, TSX Micro, Premium, Modicon M340	— 5 V by terminal port on PLC	LCD backlit green	XBTGT6330	3.000 (6.61)
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Description	Compatibility	Physical Link	Connector Type	Protocol	Catalog Number	Weight kg (lb)
Cable for Direct Connection of XBTN Terminals to PLCs length 2.5 m	Twido, Nano, TSX Micro, Premium	RS-485	Mini-DIN	Modbus	XBTZ9780	—
	Modicon M340	RS-485	RJ45	Modbus	XBTZ9980	—



TWDLC-E 40DRF



TSXCUSB 485



VW3A8117



TWDXCAISO



TWDXCAT3RJ



ABL8MEM24003/24006

Twido® Programmable Controllers

Controllers

Item	No. of Discrete I/O	Supply Voltage	Catalog Number	Weight kg (lb)
Compact Base Controllers with Integrated Ethernet Port Transparent Ready® Class A10 web technology	24 ~ 24 V inputs 14 relay outputs	~ 100...240 V	TWDLCAE40DRF	0.525 (1.16)
	2 ~ 24 V solid state relay outputs	~ 24 V	TWDLCDE40DRF	0.525 (1.16)

Tap-off, Adapter and Connection Components for RS-485 Serial Link

Item	Description	Length (m)	Catalog Number	Weight kg (lb)
USB/RS-485 Converter	Allows connection of the REG temperature controller's built-in port to the USB port on the programming PC (for software configuration)	0.4	TSXCUSB485	0.144 (0.32)
	To be used with RJ45 cable/free wires	—	VW3A8117 (1)	—
RS-485 Cable To be used with the USB / RS-485 converter	Fitted with a mini-DIN connector and an RJ45 connector	2.5	TSXCRJMD25	0.150 (0.33)
Tap Isolation Box Screw terminal block for main cable 2 x RJ45 for tap-off	RS-485 line isolation (2) Line end adapter (RC 120 Ω, 1nF) Line pre-polarisation (2 R 620Ω) Power supply ~ 24 V (screw terminals) Mounting on 35 mm (1.38 in) rail	—	TWDXCAISO	0.100 (0.22)
Tap Junction Box 1 x RJ45 for main cable 2 x RJ45 for tap-off	Line end adapter (RC 120 Ω, 1nF), Line pre-polarisation (2 R 620Ω) Mounting on 35 mm (1.38 in) rail	—	TWDXCAT3RJ	0.080 (0.18)
Modbus® RS-485 Cables	1 RJ45 connector and 1 end with free wires	1	TWDXCAFJ010	0.060 (0.13)

Tap-off, Adapter and Connection Components for RS-485 Serial Link

Item	Description	Length (m)	Catalog Number	Weight kg (lb)
Modbus Hub	10 RJ45 connectors and one screw terminal	—	LU9GC3	0.500 (1.10)
Modbus RS-485 Cables	1 RJ45 connector and 1 end with free wires	3	VW3A8306D30	0.150 (0.33)
	1 RJ45 connector at each end	0.3	VW3A8306R03	0.025 (0.06)
		1	VW3A8306R10	0.060 (0.13)
		3	VW3A8306R30	0.130 (0.29)

Phaseo® Regulated Switch Mode Power Supplies with automatic reset

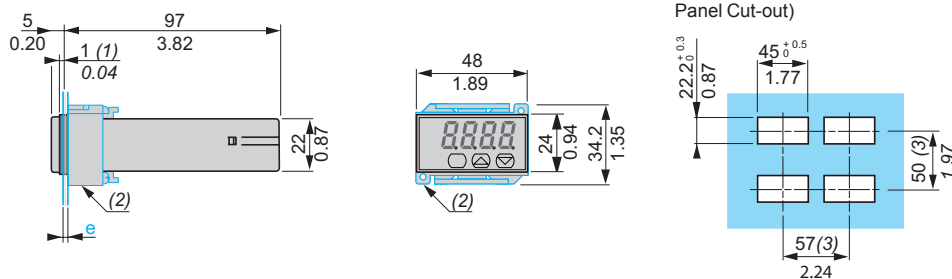
Input Voltage	Secondary			Catalog Number	Weight kg (lb)
	Output Voltage	Nominal Power	Nominal Current		
Single-phase (N-L1) or 2-phase (L1-L2) Connection					
100...240 V -15 %, + 10 % 50/60 Hz	~ 24 V	7 W	0.3 A	ABL8MEM24003	0.100 (0.22)
		15 W	0.6 A	AB8MEM24006	0.100 (0.22)
		30 W	1.2 A	ABL8MEM24012	0.195 (0.43)
		60 W	2.5 A	ABL7RM24025	0.255 (0.56)

(1) Does not run under Windows NT4, or with ATV28, ATV38, and ATV58 drives, or with ATS48 soft starters.

(2) Line isolation recommended for distances > 10 m.

24 x 48 size– 1/32 DIN standard

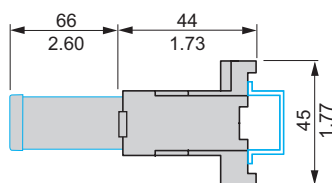
Panel Mounting (bracket supplied)



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

n: number of devices mounted side-by-side

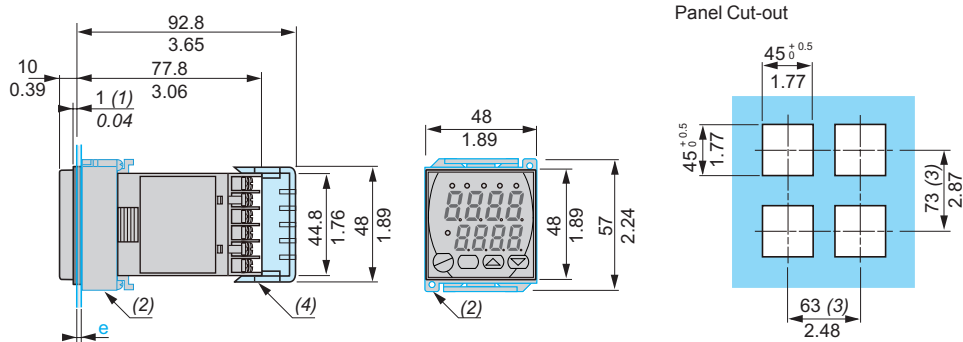
Mounting on L Rail with Accessory REG24PSOC (to be ordered separately, see page 15)



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

48 x 48 size – 1/16 DIN standard

Panel Mounting (bracket supplied)

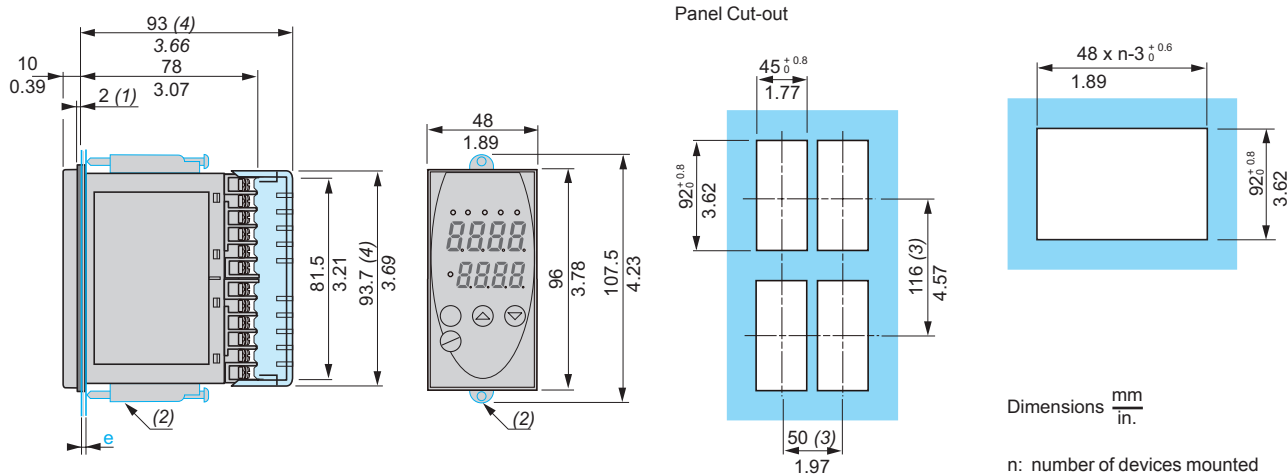


Dimensions $\frac{\text{mm}}{\text{in.}}$

n: number of devices mounted side-by-side

96 x 48 – 1/8 DIN standard

Panel Mounting (bracket supplied)



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

n: number of devices mounted side-by-side

e: panel thickness

(1) Seal.

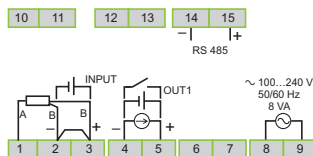
(2) Mounting brackets supplied with REG temperature controllers.

(3) Minimum value.

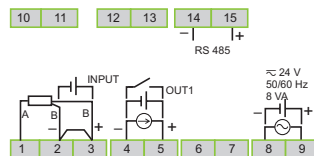
(4) Terminal block cover, to be ordered separately, see page 15.

REG 24

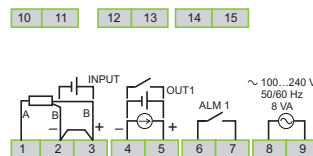
REG24PTP1RHU, REG24PUJ1RHU,
REG24PTP1LHU, REG24PUJ1LHU,
REG24PTP1JHU



REG24PTP1RLU, REG24PUJ1RLU,
REG24PTP1LLU, REG24PUJ1LLU,
REG24PTP1JLU

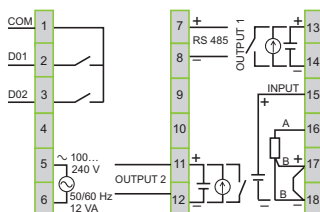


REG24PTP1ARHU, REG24PTP1ALHU

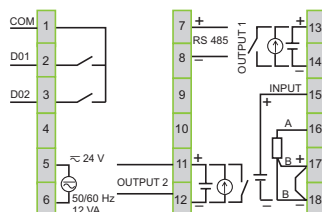


REG 48

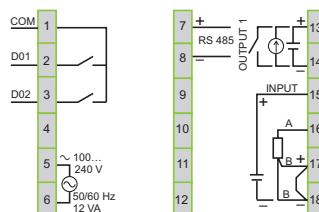
REG48PUN2RHU, REG48PUN2LRHU,
REG48PUN2LJHU



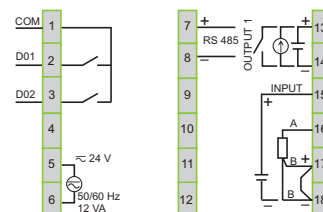
REG48PUN2RLU, REG48PUN2LRLU,
REG48PUN2LJLU



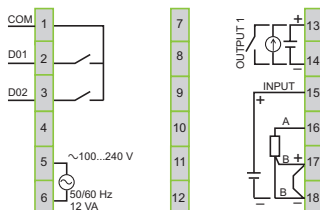
REG48PUN1RHU, REG 48PUN1LHU,
REG48PUN1JHU



REG48PUN1RLU, REG48PUN1LLU,
REG48PUN1JLU

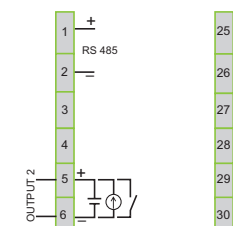


REG 48PUN1RHU, REG48PUN1LHU

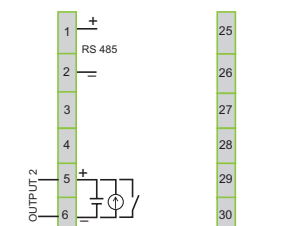


REG 96

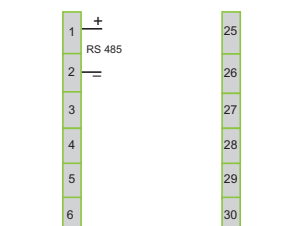
REG96PUN2RHU, REG 96PUN2LRHU,
REG96PUN2LJHU



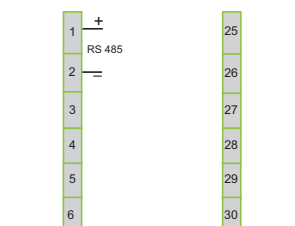
REG96PUN2RLU, REG96PUN2LRLU,
REG96PUN2LJLU



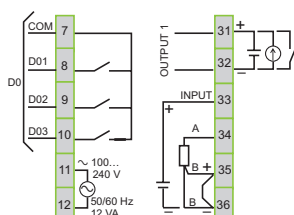
REG96PUN1RHU, REG96PUN1LHU,
REG96PUN1JHU



REG96PUN1RLU, REG96PUN1LLU,
REG96PUN1JLU



REG96PUN1RHU, REG96PUN1LHU



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