SOLO™ Temperature Controllers 1/32 DIN
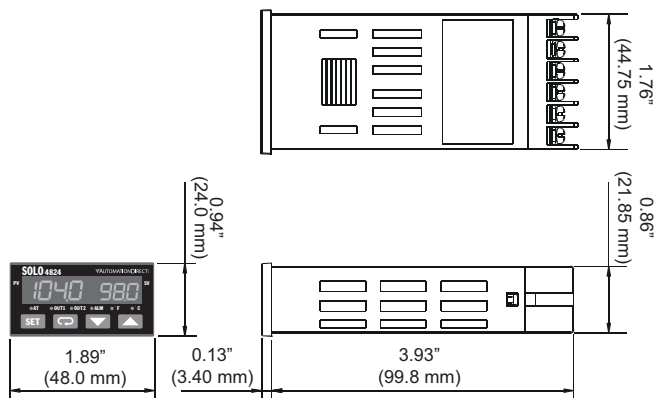
SL4824 Series   <--->

Features
- 1/32 DIN panel size
- PID with Autotune
- Thermocouple, RTD, mA, mV and voltage inputs
- Output #1: Relay, Voltage Pulse, Current or Linear Voltage
- Output #2; Relay or Alarm Relay
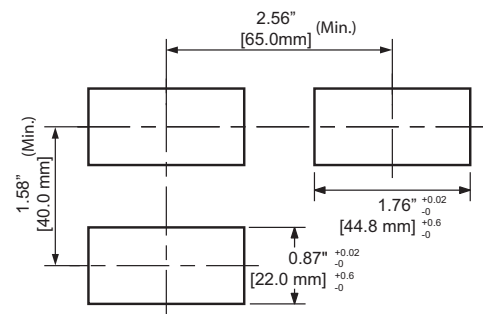- RS-485 communications port
- UL, CUL and CE approvals

Output Specifications			
Part Number	Price	Output #1	Output #2 / Alarm
SL4824-RR	<--->	Relay	Relay
SL4824-VR		Voltage Pulse	Relay
SL4824-CR		Current	Relay
SL4824-LR		Linear Voltage	Relay

Note: The mounting clip and a 249 Ω resistor are included. Extra mounting clips are available (Part Number: SL-CLP-1, Qty: 8 per package)

Dimensions

Minimum Cutout and Spacing

For wiring diagrams go to www.automationdirect.com documentation section.
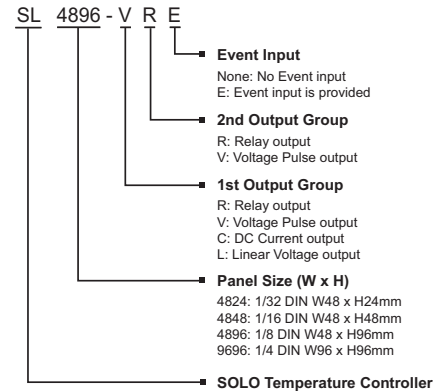
SOLO™ Temperature Controllers

Overview

AutomationDirect's SOLO series includes single-loop dual-output temperature controllers that can control both heating and cooling simultaneously. There are four types of control modes: PID, ON / OFF, Ramp / Soak and Manual. Depending upon the model of controller, the available outputs include relay, voltage pulse, current, and linear voltage. There are up to three alarm outputs available. (The SL4824 series supports only one alarm output.) Select from seventeen alarm types in the initial setting mode. SOLO can accept various types of thermocouple, RTD, or analog inputs. SOLO has a built in RS-485 interface using Modbus slave (ASCII or RTU) communication protocol.

Features

- 1/32 DIN, 1/16 DIN, 1/8 DIN, or 1/4 DIN panel size
- 2 line x 4 character 7-segment LED display for Process value (PV): Red color, and Set Point (SV): Green color
- PID control with Autotune (AT) function
- Accepts eleven types of thermocouples, two types of Pt100 RTD temperature sensors, and DC mA, mV, and Volt signals
- Selectable between°F and °C
- 0°C to 50 °C operating temperature range
- Up to three alarm groups, each with seventeen available alarm types.
- Four possible control output options depending on model; Relay, Voltage Pulse, Current, and Linear Voltage.
- Baud rates up to 38.4K bps.
- Thermocouple and Platinum RTD sample rates at 400 ms per scan
- Analog sample rate at 150 ms per scan
- 64 levels of Ramp / Soak control
- Two optional Event Inputs available in 1/8 DIN and 1/4 DIN sizes
- UL, CUL, and CE agency approvals

SOLO Controller Part Number Key

SL 4896 - V R E

Event Input
None: No Event input
E: Event input is provided

2nd Output Group
R: Relay output
V: Voltage Pulse output

1st Output Group
R: Relay output
V: Voltage Pulse output
C: DC Current output
L: Linear Voltage output

Panel Size (W x H)
4824: 1/32 DIN W48 x H24mm
4848: 1/16 DIN W48 x H48mm
4896: 1/8 DIN W48 x H96mm
9696: 1/4 DIN W96 x H96mm

SOLO Temperature Controller

Specifications	
Input Power Requirements	100 to 240 VAC 50 / 60 Hz
Operation Voltage Range	85% to 110% of rated voltage
Power Consumption	5 VA Max
Memory Protection	EEPROM 4K bit, number of writes 100,000
Control Mode	PID, ON/OFF, Ramp / Soak control or Manual
Input Accuracy	Less than ± 2% full scale (except thermocouple R, S, & B types) Max ± 3° (thermocouple R, S, & B types)
Vibration Resistance	10 to 55 Hz, 10 m/s2 for 10 min, each in X, Y and Z directions
Shock Resistance	Max. 300 m/s2, 3 times in each 3 axes, 6 directions
Ambient Temperature Range	32°F to 122°F (0°C to 50°C)
Storage Temperature Range	-4°F to 149°F (-20°C to 65°C)
Altitude	2000m or less
Relative Humidity	35% to 80% (non-condensing)
RS-485 Communication	Modbus slave ASCII / RTU protocol
Transmission Speed	2400, 4800, 9600, 19.2K, 38.4K bps
IP Rating	IP65: Complete protection against dust and low pressure spraying water from all directions. (inside suitable enclosure)
Agency Approvals	UL, CUL, CE (UL file number E311366)
Input Types	
• **Thermocouple**	K, J, T, E, N, R, S, B, L, U, TXK (400 ms per scan)
• **Platinum RTD**	3-wire Pt100, JPt100 (400 ms per scan)
• **Analog**	0-50 mV, 0-5V, 0-10V, 0-20 mA, 4-20 mA (150 ms per scan)
Control Output Options	
• **Relay (R)**	SPST Max load 250 VAC, 5A resistive load
• **Voltage Pulse (V)**	DC 14V Max, output current 40mA Max
• **Current (C)**	DC 4-20 mA output (Load resistance: Max 600 Ω)
• **Linear Voltage (L)**	DC 0-10V (Load resistance Min 1KΩ)

SOLO™ Temperature Controllers

SOLO Temperature Controller Selection Guide

Series		Part Number	Price	Dimensions	Control Output 1	Control Output 2	Event Inputs	Alarm Outputs	RS-485 Port
SL4824		SL4824-RR	<--->	W - 48mm H - 24mm D - 103mm (1/32 DIN)	Relay	Relay	N/A	Alarm or Output 2	Yes
		SL4824-VR			Voltage Pulse				
		SL4824-CR			Current				
		SL4824-LR			Linear Voltage				
SL4848		SL4848-RR	<--->	W - 48mm H - 48mm D - 90mm (1/16 DIN)	Relay	Relay	N/A		
		SL4848-VR			Voltage Pulse				
		SL4848-CR			Current				
		SL4848-LR			Linear Voltage				
		SL4848-VV			Voltage Pulse	Voltage Pulse			
		SL4848-CV			Current				
		SL4848-LV			Linear Voltage				
SL4896		SL4896-RRE	<--->	W - 48mm H - 96mm D - 92mm (1/8 DIN)	Relay	Relay	Event 1 / Event 2	Alarm 1 Alarm 2 Alarm 3 or Output 2	
		SL4896-VRE			Voltage Pulse				
		SL4896-CRE			Current				
		SL4896-LRE			Linear Voltage				
SL9696		SL9696-RRE	<--->	W - 96mm H - 96mm D - 95mm (1/4 DIN)	Relay	Relay			
		SL9696-VRE			Voltage Pulse				
		SL9696-CRE			Current				
		SL9696-LRE			Linear Voltage				
		SL9696-VVE			Voltage Pulse	Voltage Pulse			
		SL9696-CVE			Current				
		SL9696-LVE			Linear Voltage				

Notes: EVENT1 input is a normally open contact input that controls the output(s) of the controller. All controller outputs are disabled when the contact is closed.

EVENT2 input is a normally open contact input that switches the control parameter group between two control parameter groups based on the state of EVENT2. If the contact is open, the primary control parameter group is used for all parameters and outputs. If the contact is closed, the secondary control parameter group is used for all parameters and outputs. Each temperature setting value has individual control parameters.

User Configurable Output Options

Control Output 1	Control Output 2
Heating	(Alarm)
Cooling	(Alarm)
Heating	Cooling
Cooling	Heating

Mounting Clips

Series	Part Number	Pkg. Qty.	Price
SL4824	SL-CLP-1	8	<--->
SL4848	SL-CLP-2	20	<--->
SL4896			
SL9696			

Available Input Types

All SOLO temperature controllers support these input types.

Thermocouple Type and Range

Input Temperature Sensor Type	Temperature Range
Thermocouple TXK type	-328 to 1472°F (-200 to 800°C)
Thermocouple U type	-328 to 932°F (-200 to 500°C)
Thermocouple L type	-328 to 1562°F (-200 to 850°C)
Thermocouple B type	212 to 3272°F (100 to 1800°C)
Thermocouple S type	32 to 3092°F (0 to 1700°C)
Thermocouple R type	32 to 3092°F (0 to 1700°C)
Thermocouple N type	-328 to 2372°F (-200 to 1300°C)
Thermocouple E type	32 to 1112°F (0 to 600°C)
Thermocouple T type	-328 to 752°F (-200 to 400°C)
Thermocouple J type	-148 to 2192°F (-100 to 1200°C)
Thermocouple K type	-328 to 2372°F (-200 to 1300°C)

RTD Type and Range

Input Temperature Sensor Type	Temperature Range
Platinum Resistance (Pt100)	-328 to 1112°F (-200 ~ 600°C)
Platinum Resistance (JPt100)	-4 to 752°F (-20 ~ 400°C)

Voltage Input Type and Input Range

Voltage Input Type	Engineering Range
0~50mV Analog Input	-999 to 9999
0V~10V Analog Input	-999 to 9999
0V~5V Analog Input	-999 to 9999

Current Input Type and Range

Current Input Type	Engineering Range
4~20mA Analog Input	-999 to 9999
0~20mA Analog Input	-999 to 9999

Automation Direct

PLC Overview
DL05/06 PLC
DL105 PLC
DL205 PLC
DL305 PLC
DL405 PLC
Field I/O
Software
C-more HMIs
Other HMI
AC Drives
Motors
Steppers/ Servos
Motor Controls
Proximity Sensors
Photo Sensors
Limit Switches
Encoders
Current Sensors
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Appendix
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