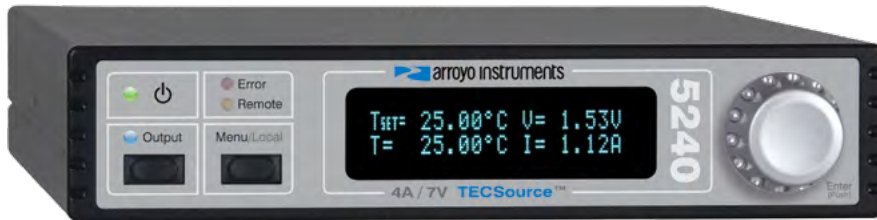


# 5240 SERIES

## TECSOURCE TEMPERATURE CONTROLLER



The 5240 Series TECSOURCE supplies precision temperature control with thermistor sensor support and 28W of TEC power. This temperature controller fits in a compact enclosure, powers both TEC and resistive heater modules, and is flexible enough to meet the demands of your temperature control applications.



### EXCELLENT STABILITY

The 5240 offers  $\pm 0.004^{\circ}\text{C}$  temperature stability over 1 hour, and only  $\pm 0.01^{\circ}\text{C}$  fluctuation over 24 hours.



### AUTO-TUNE AUTOMATIC PID CALCULATION

The 5240 automatically calculates PID parameters for your mount.



### FULLY ADJUSTABLE PID VALUES

Every TECSOURCE has eight factory-set gain settings, along with the option to choose your own.



### INTEGRATED FAN POWER SUPPLY

Provides 4.5 – 8.5 Volts DC to power a laser mount cooling fan.



### SIMPLE USER INTERFACE

Easy to Read, High Contrast VFD Display with all messages and settings in plain English.

View All 4 At Once: 

- Temperature Set Point
- Current
- Actual Temperature
- Voltage

## AT-A-GLANCE

Power Range

- ▶ 28 Watt / 4 Amp / 7 Volt

Works With

- ▶ Thermistors

Heat & Cool

- ▶ TEC Modules & Resistive Heaters

Save Space

- ▶ Compact Enclosure

Remote Operation via PC

- ▶ Use your existing control code. Our command set is compatible with other manufacturers.
- ▶ USB Connection



## DIGITAL CONTROL LOOP

The digital control loop in the 5240 TECSOURCE uses temperature - not sensor resistance - as its control variable. That means variations in sensor sensitivity, such as those seen in thermistors, will not affect performance.

*Achieve superior temperature accuracy with the 5240.*

# 5240 SPECIFICATIONS

		5240
Drive Channel	<b>Current</b>	
	Range (A)	4
	Compliance Voltage (V)	> 7
	Max Power (W)	28
	Resolution (A)	0.01
	Accuracy ( $\pm$ [% set point + mA])	0 + 30
	Noise/Ripple (mA, rms)	< 3
	<b>Temperature Control</b>	
	Range ( $^{\circ}$ C) <sup>1</sup>	-99 to 250
	Resolution ( $^{\circ}$ C)	0.01
	Thermistor Accuracy ( $\pm$ $^{\circ}$ C) <sup>2</sup>	0.05 <sup>3</sup>
Short Term Stability (1hr) ( $\pm$ $^{\circ}$ C) <sup>4</sup>	0.004	
Short Term Stability (24hr) ( $\pm$ $^{\circ}$ C) <sup>4</sup>	0.01	

Measurement Channels	<b>Current</b>	
	Resolution (mA)	10
	Accuracy ( $\pm$ [% reading + mA])	0 + 30
	<b>Voltage</b>	
	Resolution (mV)	10
	Accuracy ( $\pm$ [% reading + V])	0 + 0.05
	<b>Sensor</b>	
	<i>10<math>\mu</math>A Thermistor</i>	
	Range (k $\Omega$ )	0.1 – 450
	Resolution (k $\Omega$ )	0.01
	Accuracy ( $\pm$ [% reading + k $\Omega$ ])	0.05 + 0.05
	<i>100<math>\mu</math>A Thermistor</i>	
	Range (k $\Omega$ )	0.05 – 45
	Resolution (k $\Omega$ )	0.001
	Accuracy ( $\pm$ [% reading + k $\Omega$ ])	0.05 + 0.005
<b>Current Limit</b>		
Resolution (mA)	10	
Accuracy ( $\pm$ mA)	50	

General	Display Type	2x20 VFD
	TEC Connector	DB-15, female
	Fan Supply	4 – 8.5V, 350mA max
	Computer Interface	USB 2.0 Full Speed (Type B)
	Power	Universal, 90V to 240V, 50/60 Hz
	Size (H x W x D) [inches (mm)]	1.82(47) x 8.5 (215) x 11.13 (283)
	Weight [lbs (kg)]	3.4 (1.54)
	Operating Temperature	+10 $^{\circ}$ C to +40 $^{\circ}$ C
	Storage Temperature	-20 $^{\circ}$ C to +60 $^{\circ}$ C

1. Software limits. Actual range dependent on sensor type and system dynamics.

2. Accuracy figures are the additional error the 5240 adds to the measurement, and does not include the sensor uncertainties.

3. 25 $^{\circ}$ C, 100  $\mu$ A thermistor.

4. Stability measurements done at 25 $^{\circ}$ C using a 10 k $\Omega$  thermistor on the 100  $\mu$ A setting. The number is 1/2 the peak-to-peak deviation from the average over the measurement period.

[www.arroyoinstruments.com](http://www.arroyoinstruments.com)



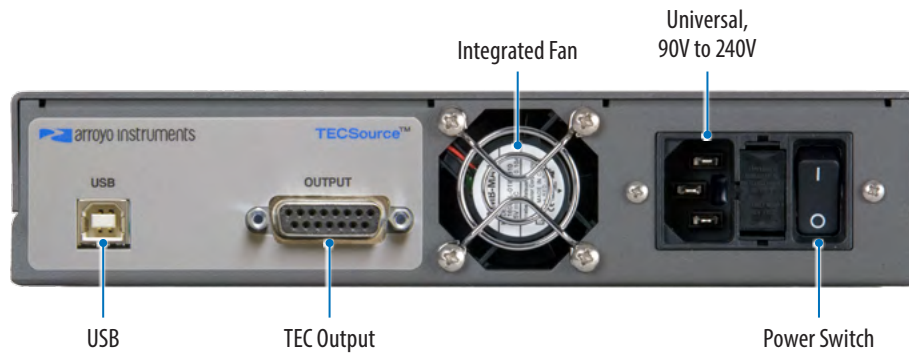
arroyo instruments

800-644-0416

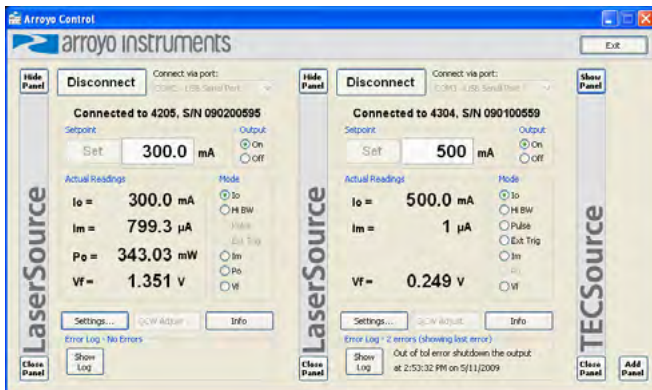
624 Clarion Court, San Luis Obispo, CA 93401

[sales@arroyoinstruments.com](mailto:sales@arroyoinstruments.com)

## REAR VIEW



## ARROYO CONTROL



Control any Arroyo laser driver or temperature controller directly from your PC. Simply connect to your Arroyo device via USB or RS-232 and gain direct access to settings, device limits, and adjustments from an easy-to-use Windows interface. You can even connect to multiple instruments at the same time.

Download ArroyoControl for free from [www.arroyoinstruments.com](http://www.arroyoinstruments.com).

LabView drivers available.



## ACCESSORIES



### 1400-RM

#### 5200 SERIES 2U RACK MOUNT KIT, 2 BAY

This rack mount kit is designed to work with any 5200 Series TECSource or 4200 Series LaserSource, and is machined out of a single piece of aluminum for excellent rigidity and strength. One or two instruments can be racked into a 2U high space.



### 1400-BL

#### 1 BAY BLANK FOR 1400-RM

The 1400-BL is used to fill the unused opening in a 1400-RM when only rack mounting a single instrument. Machined from solid aluminum and black anodized, it is designed to match the cosmetic style of the 4200 and 5200 instruments.

[www.arroyoinstruments.com](http://www.arroyoinstruments.com)



arroyo instruments

800-644-0416