

586 SERIES**TECPAK**
OEM TEMPERATURE CONTROLLER

The 586 TEC Pak OEM temperature controller is a compact, high-power temperature controller that can be used independently or with a LaserPak to form a complete system. The TEC Pak offers the same quality instrumentation as our bench top units, but in a smaller and lower cost solution for custom systems.

**EXCELLENT STABILITY**

The 586 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 586 series automatically calculates PID parameters for your mount.

**FULLY ADJUSTABLE PID VALUES**

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

**DUAL SENSOR INPUTS**

Simultaneously monitor both cold plate and device temperature.

**INTEGRATED FAN POWER SUPPLY**

Provides integrated supply to power a laser mount cooling fan.

AT-A-GLANCE

Power Ranges

- ▶ 190 Watt / 4 Amp / 56 Volt
- ▶ 190 Watt / 8 Amp / 26 Volt
- ▶ 392 Watt / 8 Amp / 56 Volt
- ▶ 345 Watt / 15 Amp / 28 Volt

Works With

- ▶ Thermistors
- ▶ RTD (2- or 4-wire)
- ▶ LM335

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

**DRIVE ANY ARROYO LASERMOUNT.**

The 586 Series TEC Pak will drive any Arroyo Instruments laser fixture and many compatible fixtures. Connections are easy, and we offer purpose-built cables.

Plug and play compatibility.

586 SERIES

TECPAK

SPECIFICATIONS

	586-04-56	586-08-26	586-08-56	586-15-28	
Drive Channel	Current				
	Range (A)	±4	±8	±8	±15
	Compliance Voltage (V)	±56	±26	±56	±28
	Max Power (W)	190	190	392	345
	Resolution (A)	0.01			
	Accuracy (± [% set point + A])	0.5 + 0.01			
	Noise/Ripple (mA, rms)	< 15	< 15	< 20	< 25
	Temperature Control				
	Range (°C) ¹	-99 to 250			
	Resolution (°C)	0.001 ²			
	Thermistor Accuracy (± °C) ³	0.05 ⁴			
	LM335 Accuracy (± °C) ³	0.05			
	100Ω RTD Accuracy (± °C) ³	0.33			
	1kΩ RTD Accuracy (± °C) ³	0.40			
Short Term Stability (1hr) (± °C) ⁵	0.004				
Short Term Stability (24hr) (± °C) ⁵	0.01				

Measurement Channels	Current				
	Resolution (mA)	10			
	Accuracy (± mA)	10	20	20	30
	Voltage				
	Resolution (mV)	10			
	Accuracy (±V)	0.05			
	Sensor⁶				
	10µA Thermistor				
	Range (kΩ) / Resolution (kΩ)	0.1 - 450 / 0.01			
	Sensor 1 Accuracy (± [% reading + kΩ])	0.05 + 0.05			
	Sensor 2 Accuracy (± [% reading + kΩ])	0.20 + 0.05			
	100µA Thermistor				
	Range (kΩ) / Resolution (kΩ)	0.05 - 45 / 0.001			
	Sensor 1 Accuracy (± [% reading + kΩ])	0.05 + 0.005			
	Sensor 2 Accuracy (± [% reading + kΩ])	0.20 + 0.005			
	LM335				
	Bias (mA)	1			
	Range (mV) / Resolution (mV)	1730 - 4250 / 0.1			
	Accuracy (± [% reading + mV])	0.3 + 1			
	100Ω RTD				
	Range (Ω) / Resolution (Ω)	20 - 192 / 0.01			
Accuracy (± [% reading + Ω])	0.03 + 0.1				
1kΩ RTD					
Range (Ω) / Resolution (Ω)	100 - 4500 / 0.1				
Accuracy (± [% reading + Ω])	0.05 + 1				
Current Limit					
Resolution (A)	0.1				
Accuracy (± A)	0.2				

1. Software limits. Actual range dependent on sensor type and system dynamics.
2. RTD and auxiliary sensor resolution 0.01°C
3. Accuracy figures are the additional error the 586 TECPak adds to the measurement, and does not include the sensor uncertainties.
3. 25°C, 100 µA thermistor.
4. Stability measurements done at 25°C using a 10 kΩ thermistor on the 100 µA setting. The number is ½ the peak-to-peak deviation from the average over the measurement period.
6. Specifications apply to both primary and auxiliary sensors unless otherwise indicated.

General	TEC Connector	17W2, female		
	Fan Supply	8 - 12V, 350mA max		
	Computer Interface	USB 2.0 Full Speed (Type B)		
	Power	Universal, 90V to 240V, 50/60 Hz		
		250W	250W	600W
	Size (H x W x D) [inches (mm)]	3.5 (89) x 12 (305) x 14 (356)		
	Weight [lbs (kg)]	11.6 (5.3)		
	Operating Temperature	+10°C to +40°C		
	Storage Temperature	-20°C to +60°C		

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