arroyo instruments

7154 SERIES MULTISOURCE

MULTICHANNEL TEMPERATURE CONTROLLER

The 7154 MultiSource temperature controllers feature the same precision and protection found in our benchtop products, giving you a seamless transition from benchtop to high density. Excellent stability, high precision, and fully adjustable PID control provides flexibility to fit into a wide range of applications, and Ethernet and USB provide easy computer connectivity options.

EXCELLENT STABILITY

The 7154 offers ± 0.004°C temperature stability over 1 hour, and only ± 0.01°C fluctuation over 24 hours.

AUTO-TUNE AUTOMATIC PID CALCULATION

The 7154 automatically calculates PID parameters for your mount.

FULLY ADJUSTABLE PID VALUES

Eight factory-set gain settings, along with the option to choose your own.

INTEGRATED FAN POWER SUPPLY

Provides 12 Volts DC to power a laser mount cooling fan.

ETHERNET INTERFACE

The built-in Ethernet interface allows the 7154 to be easily accessed via a network and integrated into larger system applications.

SIMPLE USER INTERFACE

Operational summary and individual channel information on an easy-to-read VFD display.

AT-A-GLANCE

Power Ranges (per channel):

- 32 Watt / 4 Amp / 8 Volt
- 60 Watt / 5 Amp / 12 Volt

Works With

- Thermistors

Heat & Cool

- Bipolar Outputs
- TEC Modules & Resistive Heaters

Remote Operation via PC

- Use your existing control code. Our command set is compatible with other manufactuers.
- USB
- Ethernet

DIGITAL CONTROL LOOP

The digital control loop in the 7154 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 7154.

7154 MULTISOURCE TEMPERATURE CONTROLLER SPECIFICATIONS

		7154-04-08	7154-05-12
Drive Channel	**Current**		
	Range (A)	±4	±5
	Compliance Voltage (V)	±8	±12
	Max Power (W)	32	60
	Resolution (A)	0.01	0.01
	Accuracy (± [% set point + mA])	0 + 30	0 + 30
	Noise/Ripple (mA, rms)	< 5	< 5
	Temperature Control		
	Range (°C)[1]	-99 to 250	
	Resolution (°C)	0.001	
	Thermistor Accuracy (± °C)[2]	0.05[3]	
	Short Term Stability (1hr) (± °C)[4]	0.004	
	Short Term Stability (24hr) (± °C)[4]	0.01	
Measurement Channels	**Current**		
	Resolution (mA)	10	
	Accuracy (± [% reading + mA])	0 + 30	
	Voltage		
	Resolution (mV)	10	
	Accuracy (± [% reading + V])	0 + 0.05	
	Sensor		
	Type	Thermistor (100µA bias)	
	Range (kΩ)	0.05 – 45	
	Resolution (kΩ)	0.001	
	Accuracy (± [% reading + kΩ])	0.05 + 0.005	
	Current Limit		
	Resolution (mA)	10	
	Accuracy (± mA)	50	
General	Display Type	2x20 VFD	
	TEC Connector	4 x DB-15, female	
	Fan Supply	12V, 350mA max	
	Computer Interface	USB 2.0 Full Speed and Ethernet	
	Power	Universal, 90V to 240V, 50/60 Hz	
	Size (H x W x D) [inches (mm)]	1.75 (45) x 19 (483) x 14.76 (375)	
	Weight [lbs (kg)]	7.4 (3.4)	
	Operating Temperature	+10°C to +40°C	
	Storage Temperature	-20°C to +60°C	

1. Software limits. Actual range dependent on sensor type and system dynamics.
2. Accuracy figures are the additional error the 7154 adds to the measurement, and does not include the sensor uncertainties.
3. At 25°C
4. Stability measurements done at 25°C using a 10 kΩ thermistor. The number is ½ the peak-to-peak deviation from the average over the measurement period.

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