



# arroyo instruments



# Precision Instrumentation for Lasers and LEDs



# **Do More for Less**

**PERFORMANCE** Arroyo Instruments offers high precision, low noise, low drift instruments that meet the demanding needs of laser diode and LED applications.



**EASE OF USE** Our benchtop instruments feature a high contrast VFD display capable of displaying real text, and an intuitive interface, making them incredibly easy to operate.

**VALUE** Our instruments feature everything you have come to expect in a world-class instrument, but at a price that is much lower than comparable products, giving you the highest value instruments on the market.

**AVAILABILITY** We know that when you need

an instrument, you don't have time to wait weeks or even months because of availability. Most of our products are available for shipment within days.

Knowing that any instrument is only as good as the engineering put into it, all our products go through extensive design, testing and verification. We will not release a product until it exceeds our high standards for precision and performance.

**Neare** passionate about our products, and know that once you try one of our instruments, you'll never go back. We invite you to use this catalog to find the Arroyo Instruments product that best fits your needs, then call or visit our website. There you'll find complete specifications, user's manuals, and more that fully detail the capabilities of our instruments.



# **Latest Products**

#### 7000 SERIES MULTISOURCE MULTI-CHANNEL CONTROLLER

The 7000 Series MultiSource Multi-Channel Controller is designed for applications requiring a large number of channels in a cost-effective and compact solution. With both laser driver and temperature controller options, the MultiSource is an excellent building block for system applications such as device burn-in and characterization.



### **5400 SERIES TECSOURCE** TEMPERATURE CONTROLLER

The 5400 Series TECSource Temperature Controller is a high power, high performance temperature controller capable of providing up to 960W of TEC power to meet even the most demanding TEC application. Includes up to 7 sensor inputs, digital I/O, and interlock functionality.



#### **4400 SERIES LASERSOURCE** LASER DIODE DRIVER

The 4400 Series LaserSource laser diode driver is designed for demanding, high-power laser applications. With up to 100 Amps of drive current and high voltage configurations, the 4400 can meet many high power laser requirements. Add QCW operation, digital I/O, and temperature monitoring, and you have a very capable instrument.



### **586 SERIES TECPAK** TEMPERATURE CONTROLLER

he new **586 Series TECPak** is a high power temperature controller in a small OEM package. With up to 392 watts of TEC power, the **586** can drive even demanding TEC applications. Includes broad sensor support, including 4-wire RTD, two sensor inputs, and

the same, high-quality instrumentation our bench top units are known for in a cost-effective solution for custom systems.



# Multi Channel Controllers 7000 SERIES MULTISOURCE

LASER DIODE DRIVERS & TEMPERATURE CONTROLLERS

he 7000 Series Multi-Source is a rack-mountable multi-channel controller available with either laser diode drivers or temperature controllers, and output powers of over 200W per channel. Designed to be used wherever



high channel density is required, the MultiSource enables high channel counts in a small footprint.

#### **Stable Temperature Control**

The temperature control models of the **MultiSource** feature excellent temperature stability, easy setup, full PID control, and a variety of other features you have come to expect from Arroyo Instruments' products. The **MultiSource** is available in several different power levels, allowing you to match the requirements of your application without over-buying.

## **Fully Adjustable PID Control**

All **TECSources** offer factory defined gain settings for temperature control. Need more control? Switch to PID gain and you have individual adjustment of each value in the PID circuit, providing fine adjustment of the control loop.

#### **Universal AC Input**

All MultiSources are designed with universal AC inputs,

eliminating the requirement to adjust voltage settings as the system moves from one country to the next.

#### **Built-In Fan Controller**

All controllers include a DC power supply which can be used to power external fans often found in test fixtures.

## **Temperature Controller Quick Specifications**

Model	Amps	Volts	Max Watts	# Chan	Size	Output Connector	Therm	RTD & LM335
7154-04-08	4	8	32	4	1U	DB15	•	
7154-05-12	5	12	60	4	1U	DB15	•	
7254-06-56	6	56	282	4	2U	DB15	•	•
7254-10-28	10	28	230	4	2U	DB15	•	•

#### **General Specifications**

Remote Interfaces	USB, Ethernet, and Digital I/O
Size (HxWxD) [in (mm)]	7100: 1.75 (45) x 19 (483) x 14.76 (375) 7200: 3.5 (90) x 19 (483) x 14.76 (375)



1U or 2U Rack-mountable Ethernet and USB Up to 220W per channel 4 channels

#### **Benchtop or Rackmount**

While the **MultiSource** includes integrated ears for rackmounting, it can just as easily fit on your bench. At only 15" deep, it won't get in your way.

#### Safe and Precise Laser Control

The **MultiSource** laser diode driver models feature the same precision and protection found in our benchtop products, giving you a seamless transition from benchtop to high density.

#### **Front Panel Status and Control**

While the **MultiSource** is intended to be remotely operated via a computer, a VFD display allows for local status monitoring and on/off control of each channel. Select the overall view to see the state of every channel at once, or scroll through to view status and measurements of each individual channel.

# Laser Diode Driver Quick Specifications

Model	Amps	Volts	# Chan	Size	Output Connector
7144-0.5-08	0.5	8	4	1U	DB9
7144-01-08	1	8	4	1U	DB9
7144-02-04	2	4	4	1U	DB9
7144-04-04	4	4	4	1U	DB9
7244-05-56	5	56	4	2U	13W3
7244-08-28	8	28	4	2U	13W3
7244-15-14	15	14	4	2U	13W3
7244-30-05	30	5	4	2U	13W3

#### **General Specifications**

Remote Interfaces	USB, Ethernet, and Digital I/O
Size (HxWxD) [in (mm)]	7100: 1.75 (45) x 19 (483) x 14.76 (375) 7200: 3.5 (90) x 19 (483) x 14.76 (375)

#### **Ethernet & USB Connectivity**

With an integrated Ethernet port, multiple **MultiSources** can be quickly and easily connected together to create large multichannel systems. Mix different **MultiSources** together to meet the various requirements of your system. USB is also included.



Temperature Controller models shown



# Laser Diode Controllers 6300 SERIES COMBOSOURCE LASER DIODE CONTROLLERS

he 6300 Series ComboSource Laser Diode Controller offers the best of both worlds: a high accuracy, low noise laser driver and a powerful 60W temperature controller, all in one compact instrument.

#### The 6300 ComboSource

was born from the proven



Error

Remote

arroyo instruments

technology of our LaserSource and TECSource products, and includes several improvements making it our flagship product, providing outstanding performance at a price that does not kill your budget.

usuu kuick specifications					
Model	Milli- Amps	Volts	Laser Connector	QCL	
6301	50 / 100	10	DB9		
6305	250 / 500	10	DB9		
6310	500 / 1000	10	DB9		
6340	2000 / 4000	5	DB9		
6310-QCL	500 / 1000	18	DB9	•	
6340-QCL	2000 / 4000	15	DB9	•	

# 6300 Quick Specifications

#### **General Specifications**

5A / 12V / 60W, DB15				
Thermistor, RTD, LM335, AD590				
USB and RS-232				
3.5 (90) x 8.5 (215) x 12 (305)				

## Easy to Use, Easy to Configure

Like all our products, you'll find the user interface is easy to setup and use. A dot-pixel character display allows for human-readable status, readings, and errors. No longer do you need to get out the manual to figure out how to set the current limit, or to understand what error 114 is; you can read it directly on the display in plain English. Want to see big numbers from across the room? No problem. Want to see actual versus set point, voltage, and current...all at once? You can do that, too. With a configurable display you can make the instrument work the way you want it to. Its compact form factor means the **ComboSource** takes up less room on your test bench, and the USB and RS-232 computer interfaces make it easy to integrate into your existing test systems.



100mA to 4 Amps 60 Watt TEC Low noise, dual range Advanced laser protection Computer Interface

#### **User Function Keys**

The user function keys can be used to quickly select different configuration states or execute a predefined set of commands. Switch between two different experiments or script repetitive actions...anything you can do manually with the instrument can be programmed to the function key.

#### **High Performance Temperature Control**

In addition to being an excellent laser driver, the **Combo-Source** also functions as a high performance temperature controller. Sixty watts of output power and fully adjustable PID control make it suitable for a wide range of applications.

#### **Dual Range Operation & 4-Wire Sense**

The **ComboSource** features dual current operating ranges for improved noise and accuracy for lower current applications without sacrificing headroom for your more power powerful devices. The **ComboSource** also has 4-wire sense for accurate device voltage measurements. This eliminates voltage errors caused by cable and connector resistances.

#### **Full Isolation Means No Ground Loops**

Beyond the expected laser protection features, the **ComboSource** adds something unique to the Arroyo family of products: optical isolation of the modulation and photo diode inputs (the computer interfaces are also isolated). This protects against unwanted ground loops and other electrical disturbances that can plague traditional instruments and damage lasers. No other driver on the market has this capability.

#### **Enhanced QCL Capabilities**

The **6310-QCL** and **6340-QCL** Controllers are designed to operate at the higher compliance voltages required by QCL lasers.

#### **Independent, Isolated Outputs**

With multiple, independent power supplies, the ComboSource operates the laser and temperature controller outputs fully independent of each other, with full electrical isolation.



# **Laser Diode Drivers** 4200-DR, 4300, AND 4400 SERIES LASERSOURCE LASER DIODE DRIVERS

he Arroyo Instruments LaserSource represents the culmination of 23 years of experience developing current sources for laser diode test and measurement. By incorporating industry standard features with important improvements in instrument design, the LaserSource series of products are the most advanced laser diode drivers in the market today.



#### Full Isolation Means No Ground Loops

Remote Interfaces
<u>Size (HxWxD) [in (mm)]</u>

Ground loops can plague instrument setups. In a major design improvement over traditional laser drivers, *every* input & output are optically and electrically isolated from each other, creating a

# **4200-DR Quick Specifications**

Model	Milli- Amps	Volts	Laser Connector		
4201-DR	50 / 100	10	DB9		
4205-DR	250 / 500	10	DB9		
4220-DR	1000 / 2000	5	DB9		
General Specifications					
QCW Operation	No				

USB

1.82 (47) x 8.5 (215) x 11 (280)

# 4300 Quick Specifications

Model	Amps	Volts	Laser Connector
4302	2	15	DB9
4304	4	8	DB9
4308	8	5	DB9
4300-04-24	4	24	DB9
4320	20	5	9W4
4320-14-13	14	13	9W4

Contact factory for other configurations

#### **General Specifications**

QCW Operation	Optional
Remote Interfaces	USB and RS-232
Size (HxWxD) [in (mm)]	3.5 (90) x 8.5 (215) x 12 (305)



Dual Range (4200-DR) Low Noise 100mA to 100 Amps Analog Modulation QCW Operation

versatile instrument that is unaffected by the electrical configuration of your diode or other test equipment. Even the photodiode input is fully optically isolated from the laser output. No other driver on the market has this capability.

#### 4-Wire Sense

The **4200-DR**, **4320** and **4400** drivers feature four-wire voltage sense for accurate device voltage measurements possible.

#### Quasi-CW (QCW) Capable

The **4300** and **4400** offer quasi-CW (QCW) measurements (optional on **4300**), with trigger in and trigger out BNCs for synchronization with other instruments. Pulses can be generated using the internal function generator, or triggered externally. Adding QCW mode does not mean you lose CW operation: QCW-equipped instruments retain all the capabilities of their CW-only cousins.

#### Easy to Use

Unlike other instruments, the LaserSource employs a dotpixel character display provides easy-to-read status, readings, and errors. No digging through the manual to

interpret error codes. No longer do you need to get out the manual to figure out how to set the current limit, or to understand what error 114 is; you can read it directly on the display in plain English.



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Model	Amps	Volts	Laser Connector	
4400-05-56	5	56	13W3	
4400-08-28	8	28	13W3	
4400-10-56	10	56	13W3	
4400-15-14	15	14	13W3	
4400-15-28	15	28	13W3	
4400-20-48	20	48	13W3	
4400-30-05	30	5	13W3	
4400-30-14	30	14	13W3	
4400-30-28	30	28	13W3	
4400-40-24	40	24	13W3	
4400-60-05	60	5	Bus Bar	
4400-60-14	60	14	Bus Bar	
4400-80-12	80	12	Bus Bar	
4400-100-05	100	5	Bus Bar	
4400-100-10	100	10	Bus Bar	
General Specificatio	ns			
OCW Operation	Ves			

QCW Operation	Yes			
Remote Interfaces	USB, RS-232, and Digital I/O			
Size (HxWxD) [in (mm)]	3.5 (90) x 12 (305) x 14 (356)			

#### **Analog Modulation**

All LaserSources support analog modulation, and hardware protection is active during modulation, protecting the laser diode regardless of the modulation input signal.



# **Temperature Controllers** 5240, 5300 & 5400 SERIES TECSOURCE TEMPERATURE CONTROLLERS

he **TECSource Series** of temperature controllers provide a range of capable temperature controllers with very stable control and an easy-to-use interface. With powers ranging from 28W to 960W, a **TECSource** temperature controller is sure to fit your test and measurement needs.



#### **Power to spare**

With up to 960W versions available, buy-

ing temperature control power has never been less expensive. The extra power allows you to push your test setup farther without the typical costly upgrades normally associated with that amount of TEC power.

# 5240/5300 Quick Specifications

Model	Amps	Volts	Output Connector	Therm	RTD & LM335
5240	4	7	DB15	•	
5305	5	12	DB15	•	•
5310	10	12	DB15	•	•
5300-08-24	8	24	DB15	•	•
5300-10-18	10	18	DB15	•	•

#### **General Specifications**

Remote Interfaces	USB (all), RS-232 (5300 only)
Size (HxWxD) [in (mm)]	5240: 1.82 (47) x 8.5 (215) x 11 (280) 5300: 3.5 (90) x 8.5 (215) x 12 (305)

#### **Excellent Stability**

With 0.004°C stability, the **TECSource** becomes a transparent part of the process and not another variable you need to manage.

#### **AutoTune**

Every **TECSource** includes the AutoTune functionality for automatic PID calculation. Use as-is or as a starting point for further process refinements. Either way, you can quickly get to stable system configuration.

## **Built-In Fan Controller**

All controllers include a built-in adjustable DC power supply which can be used to power external fans often found in test fixtures.



Automatic PID Calculation 0.004°C Stability 28W to 960W of TEC Power Built-in Fan Controller

#### **Fully Adjustable PID Control**

All **TECSources** offer factory defined gain settings for temperature control. Need more control? Switch to PID gain and you have individual adjustment of each value in the PID circuit, providing fine adjustment of the control loop.

#### **Easy To Use**

Unlike other instruments in their class, the **TECSource** employs a dot-pixel character display provides easy-to-read status, readings, and errors. No longer do you need to get out the manual to figure out how to set the current limit, or to understand what error 114 is; you can read it directly on the display in plain English. This allows the user interface to be greatly simplified and at the same time easier to use.

# 5400 Quick Specifications

Model	Amps	Volts	Max Watts	Output Connector	Therm	RTD & LM335
5400-15-28	15	28	420	17W2	•	•
5400-20-56	20	56	840	17W2	•	•
5400-30-28	30	28	960	17W2	•	•

#### **General Specifications**

Primary Sensors	3 Primary Sensor Inputs
Auxillary Sensors	4 Auxilliary Sensor Inputs
Remote Interfaces	USB, RS-232, and Digital I/O
Size (HxWxD) [in (mm)]	3.5 (90) x 12 (305) x 14 (356)

#### **Measure Everything**

Unlike many temperature controllers, the **TECSource** measures current, temperature, *and voltage*. Voltage measurement is often omitted in low cost temperature controllers. The **TECSource** is low cost, but not low performance.

#### **Computer Interfaces**

All **TECSources** come standard with a USB interface, and the **5300** and **5400** also include RS-232 interfaces. They are command set compatible with other manufacturers' drivers, allowing you to leverage any existing software you may have already developed.





# **OEM Controllers** Combopak series laser diode controllers tecpak series temperature controllers Laserpak series laser diode drivers

The Pak Series controllers are Arroyo's OEM solution for laser and TEC control. Each offers similar capabilities to the comparable ComboSource, LaserSource or TECSource controller, but in a smaller, lower cost instrument for custom and embedded systems.

# 485 LaserPak Quick Specifications

Model	Amps	Volts	Output Connector
485-0.1-10	0.1	10	DB9
485-0.5-10	0.5	10	DB9
485-01-10	1	10	DB9
485-02-15	2	15	DB9
485-04-08	4	8	DB9
485-08-05	8	5	DB9

#### **General Specifications**

Remote Interfaces	USB, RS-232, and Digital I/O
Size (HxWxD) [in (mm)]	3.0 (76) x 4.5 (114) x 8.5 (216)

#### **Powerful Analog Interface**

All **Paks** include USB computer interfaces for full PC control (485 and 585 Paks also include RS-232). Some **Paks** also feature an analog interface allowing control and monitoring of the Pak without the need for a PC. Configure your Pak over the computer interface during factory setup, and rest assured your device will be properly protected once it's in the field.

# 585/586 TECPak Quick Specifications

# 685 ComboPak Quick Specifications

Model	Amps	Volts	Output Connector
685-0.1	0.1	10	DB9
685-0.5	0.5	10	DB9
685-01	1	10	DB9
685-02	2	3.5	DB9

#### **General Specifications**

<b>TEC Power, Connector</b>	3A / 3.5V / 10.5W, DB15
Sensors Supported	Thermistor
Remote Interfaces	USB and Digital I/O
Size (HxWxD) [in (mm)]	2.6 (66) x 4.5 (114) x 8.5 (216)

Model	Amps	Volts	Max Watts	Output Connector	Therm & RTD	LM335		
585-04-08	4	8	32	DB15	•			
585-05-12	5	12	60	DB15	•			
586-04-56	4	56	224	17W2	•	•		
586-08-26	8	26	190	17W2	•	•		
586-08-56	8	56	392	17W2	•	•		
586-15-28	15	28	345	17W2	•	•		
General Specifications								

Remote Interfaces	USB, RS-232, and Digital I/O
Size (HxWxD) [in (mm)]	585 - 3.0 (76) x 4.5 (114) x 8.5 (216) 586 - 3.2 (82) x 5.1 (130) x 11.5 (292)



# Software **ARROYOCONTROL & LABVIEW DRIVERS**

ver wanted to control your instruments from a PC, but didn't have the programming experience needed to write your own application? Enter ArroyoControl...

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#### **ArroyoControl**

We're excited to have a solution for you! Our Arroyo Control application gives you full control over your laser driver or temperature controller, providing all the settings, limits, and adjustments of the instrument in an easy-to-use Windows application.

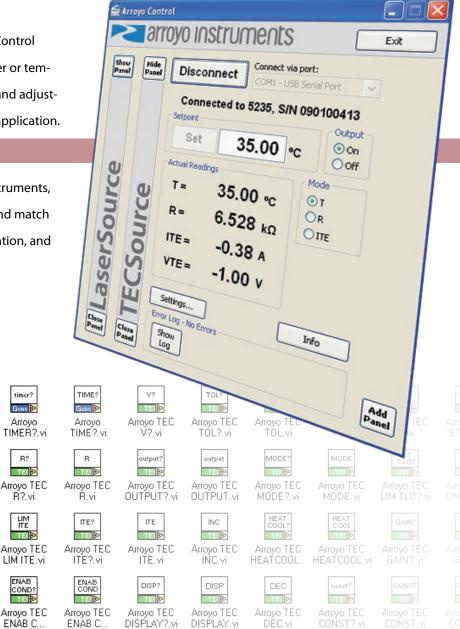
#### Best of all, it's FREE!

With Arroyo Control, you can connect to multiple instruments, limited only by the size of your screen. You can mix and match the types of instruments controlled to fit your application, and all settings are automatically saved.

#### LabVIEW Drivers

Developing applications in LabVIEW? We have a large library of sub-VIs that implement virtually every remote commands our controllers support. Available as a free download off our web site, and included on a CD with every product we ship.







# **Laser & LED Fixtures** 200, 210, 220 & 230 SERIES LASERMOUNTS

he Arroyo Instruments line of LaserMount device fixtures solves the problem of how to best hold and thermally manage a laser diode. From TO-Can to Butterfly to C-mount and beyond, we probably have a LaserMount that will fit your device needs. If you don't see one on this brochure, just ask...we're always adding new device support.

#### **Temperature Control**

Many LaserMounts feature integrated Peltier (TEC) control, giving you a precise ability to thermally control your device. Whether you are trying to characterize device performance over temperature, or using temperature to wavelength tune your laser, you can rely on the LaserMount to give you excellent long term performance.

224 with opto-mech plate	
(cage system not included)	

Quick Specifications								
	203	205	207	213	215	224	226	234
<b>Primary Specifications</b>								
Case TEC Control	No	Yes	Yes	No	Yes	Yes	Yes	Yes
<b>Thermal Capacity</b> Watts, 0°C ∆T at 25°C Ambient	N/A	3.5 or 8*	10	N/A	2 or 3.5*	1.5	2.4	10
Sensor					ermistor			
Nitrogen Purge	No	No	No	No	No	Yes	No	Yes
Laser Connector	DB9							
TEC Connector	DB15							
Fan (12VDC)	Opt	Opt	Opt	Opt	Opt	No	No	Yes





#### 203 & 205 BF LaserMount

- Available with and without external TEC control
- Flexible pin assignmentsOptional fan base for
- increased performance



#### 213 & 215 DIL LaserMount

- Available with and without external TEC control
- Flexible pin assignments



#### 234 TEC To-Can LaserMount

- Nitrogen purge
- 2, 3 & 4 pin devices
- Post mountable
- Toggle-switch configurable anode and cathode assignments



#### 207 TEC LaserMount

- Medium power (10W) fiber pigtailed devices
- TEC control
- Quick-disconnect device
   harness



#### 224 TEC To-Can LaserMount

- Nitrogen purge
- 3 & 4 pin devices
- Post mountable
- Toggle-switch configurable anode and cathode assignments



#### 226 TEC LED LaserMount

- TEC control
- Mounting hole for STAR LEDs and others
- Post-mountable



#### **Accessories to Match**

Many of our LaserMounts have useful accessories to extend the capabilities of the mount. For example, our 224 & 226 have optomechanical interfaces for lens tubes and 30mm cage systems, while our 203, 205, 207, 213, & 215 mounts have fiber management trays to keep your fiber under control and fan bases to significantly improve the performance of the mount.





Fiber tray

205 with fan base



205 with fiber tray





# High Power Fixtures 240 & 260 SERIES LASERMOUNTS

he 240 Series, and 262/264 Laser-Mounts feature a high thermal capacity heat sink and integrated fan to remove waste heat quickly and efficiently. The 242 and 264 LaserMounts also include high power TEC control, allowing you to control the case temperature of the device across a broad temperature range.

#### **High Power**

Supporting 25 watts of thermal load (at ambient, 25°C set point), the 242 is capable of handling even high power C-Mount devices. The 244, 246, and 262 offer low thermal resistances, as low as 0.2°C/Watt on the 262. Our most powerful fixture, the 264, supports up to 30 watts of thermal load.



### **Fits Your Application**

The 242, 244, and 246 LaserMounts are designed to support industry standard C-Mount, HHL, and TO-3 packages right out of the box with no wiring or configuration needed. The 262 and 264 LaserMounts support a wide variety of devices from JDSU, nLight, Jenoptik, Lumics, and others, and can be customized to fit your exact application requirements.

<b>Quick Specifications</b>					
•	242	244	246	262	264
Primary Specifications					
Case TEC Control	Yes	No	No	No	Yes
<b>Thermal Capacity</b> Watts, 0°C <i>ΔT at 25°C Ambient</i>	25	N/A	N/A	N/A	30
Sensor		10K	Thermi	stor	
Nitrogen Purge	Yes	No	No	Opt	Opt
Laser Connector	DB9 DB9 or 9W			or 9W4	
TEC Connector			DB15		
Fan (12VDC)			Yes		

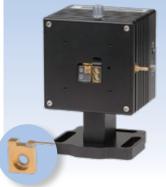






#### 242 TEC C-Mount LaserMount

- Nitrogen purge
- Simple cathode connection
- -5°C to +85°C operation



#### 246 TO-3 LaserMount

• Custom socket to accommodate various lead lengths



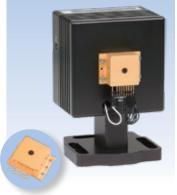
#### 264 LaserMount

- Integrated TEC control
- High power fiber pigtailed devices
- Custom mounting options



#### 244 HHL LaserMount

- Slide-on connector
- Pre-wired for standard devices



#### 262 LaserMount

- High power fiber pigtailed devices
- Custom mounting options
  Low 0.2°C/W thermal
- resistance



#### **Customizing Your Cold Plate**

Many applications and devices have a unique mounting pattern that is incompatible with our standard cold plates.

In these cases, we can often fabricate a custom mounting solution that meets the needs of your device.

Our 207, 262, 264, and 280 mounts support custom tooling options. Simply send us a datasheet or mechanical drawing for the device, and we will review your requirements and provide a quote for your custom application.





# TECMOUNTS 270 & 280 SERIES TECMOUNTS

he 270 & 280 Series TECMounts provide a flexible heating and cooling platform designed to meet demanding temperature control requirements. The 270 Series is our water-cooled fixtures, providing high capacity with a small form factor. The 280 Series are air cooled mounts. Both employ a bread-



board-style mounting system, making them easy to integrate into a broad range of applications.



#### Our Highest Power Mounts, Built for Your Application

The **270 & 280 Series** mounts were designed to provided high thermal capacities in a compact and functional enclosure, precision engineered and ready to go right out of the box. When using the mount with our 5300 or 5400 Series TECSource temperature controllers and cables, setup couldn't be easier: select the appropriate mount from the menu, and the instrument auto-configures limits, gain, and fan settings for you.

#### **Customizing the Cold Plate**

When our standard breadboard plates just don't fit, the cold plate can be custom machined to fit the exact hole pattern of your application. We can put mounting holes just where you need them so your device mounts directly to the plate, without the need for adapters or modification.

## **Quick Specifications**

	2/4	284	280
Primary Specifications			
Thermal Capacity Watts, 25°C Plate and 25°C Ambient or 20°C Water	180	30	100
Sensor (Standard Version)	10K Thermistor		
Plate Size	3.2″	3″Ø	4.2″
Fan (12VDC)	No	Yes	
Water Cooled	Yes	No	

### At a Glance

Large Control Surface High Thermal Capacity Flexible Mounting Plates





## **High Temperature Option**

An optional high temperature configuration is available, allowing for operation up to 150°C, but retaining the temperature range and thermal capacity of the standard mount. Because thermistors do not perform well at high temperatures, the sensor is replaced with a high accuracy Pt 100 RTD sensor.

#### **M-Series Mounting System**

New with the **280 Series** mounts is a series of mounting accessories to accommodate the integration of the **280 Series** mounts onto your optical bread board or other mechanical system. The **286** ships standard with an accessory kit that includes solutions for table and post mounting, and a kit can be ordered separately for the **284**.

### **Flexible Temperature Feedback**

Some devices feature an integrated temperature sensor for



precise temperature feedback. Others don't and require a feedback sensor integrated into the plate. The **270 & 280 Series** mounts handle both of these configurations with ease via an external (device) temperature input right on the side of the mount, and a switch to select between the plate-integrated (internal) temperature sensor and the device (external) temperature sensor. The **286** mount adds an auxiliary temperature sensor input for feedback back temperature measurements to controllers that support two sensor inputs, such as the 5400 TECSource.





