

## TEC-020 HIGH POWER TEC CONTROLLER



### High Power TEC Controller, 180W Output, Temperature Control Stability 0.005°C

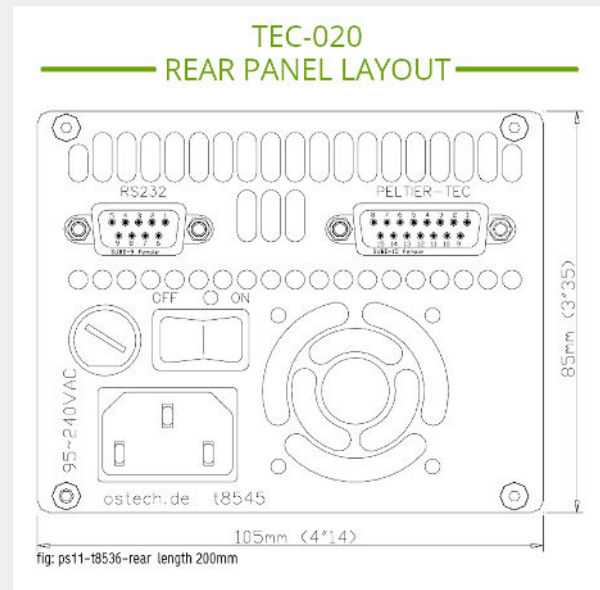
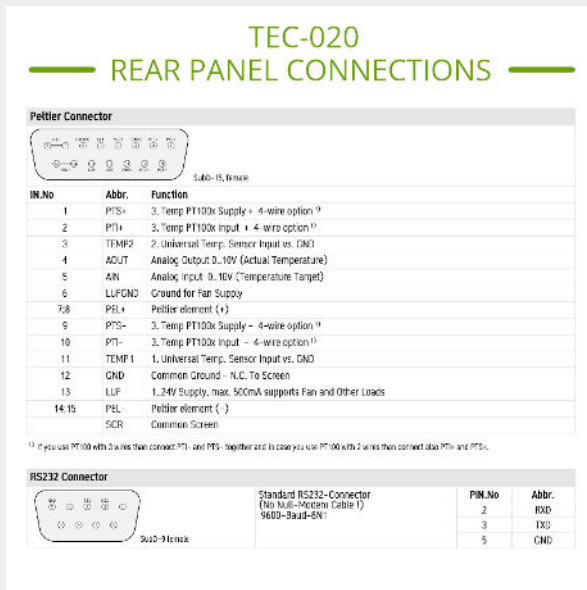
- Accurate, fast temperature stabilization of high power laser diodes and thermal loads
- Works with all thermistors (ie 10 k $\Omega$ ), 4-wire RTD sensors (ie pt 100), K-type thermocouples
- LCD front panel display with key pad
- USB and RS232 Interface, LabVIEW Drivers, GUI Virtual Front Panel
- TEC Output Power Total: 180 Watts
- TEC Output Current Range (bipolar):  $\pm 10.00$  Amps
- TEC Output Voltage Range (bipolar) :  $\pm 18.00$  Volts

## TEC-020 Laser Diode Thermoelectric Cooler Controller Overview

The TEC-20 model 180 Watt TEC controller provides fast and accurate temperature stabilization of Peltier devices used for cooling high power laser diodes. The controller drives up to 10 amps and 18 volts of bipolar power to the Peltier element being used to cool your laser or other temperature-critical device. The full PID loop provides millidegree temperature stability, and can quickly stabilize high heat loads to the temperature set-point to reduce the risk of damage to your laser.

## Simple GUI Interface and Powerful Programming Tools

Controller setup is fast and intuitive via the front panel LCD display and alphanumeric interface, with a simple to use menu structure and key pad. These systems come with standard an RS-232 interface. The included LabView driver GUI makes set-up and control of the system fast and simple. The controller can be ordered with a USB interface; contact us for more information.



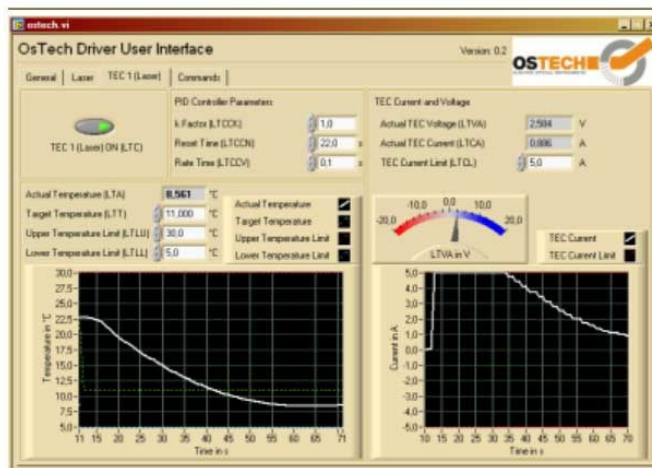
## Versatile Controller Features and Built-In Device Protection

The TEC-020 includes thoughtfully designed safety features to protect your laser diode.

- o Output to drive an external cooling fan, capable of supplying up to 500 mA at 24 V.
- o Programmable temperature and current limits.

The TEC controller is equipped with two universal temperature sensor inputs, suitable for use with 10k Ohm NTC thermistors, and an additional 4-wire sensor input is available for use with a PT100 RTD temperature sensor. These additional sensor inputs are used to control an auxiliary device, such as a heat-sink fan, or an external electro-optical device in laboratory or manufacturing testing applications.

**Includes LabVIEW™ virtual front panel / graphical user interface software.**  
**Works over USB or RS232.**





## TEC-020 Laser Diode Thermoelectric Cooler Controller Specifications

### TEC CONTROLLER OUTPUT

- TEC Output Power Total: 180 Watts
- TEC Output Current Range (bipolar):  $\pm 10.00$  Amps
- TEC Output Voltage Range (bipolar) :  $\pm 18.00$  Volts
- TEC Control Loop Algorithm: Full P.I.D.
- P.I.D. Variables: User Adjustable (ships with factory pre-set variables)
- Temperature Accuracy:  $0.01^{\circ}\text{C}$
- Temperature Control Stability (1 hour @  $25^{\circ}\text{C}$ ):  $0.005^{\circ}\text{C}$
- TEC Setpoint Resolution:  $0.01^{\circ}\text{C}$
- Temperature Range:  $-25^{\circ}\text{C}$  to  $150^{\circ}\text{C}$
- Hardware Design Topology: H-Bridge, Bipolar Peltier Controller

### RECOMMENDED ACCESSORIES

- kab-39 Unterminated Connecting Cable -or- kab-231 Terminated Connecting Cable
- acc-417 USB-RS232 Converter

### TEC PROTECTION FEATURES

- Peltier Element Protection: User Set Current Limit
- User Set Upper & Lower Temperature Limits

### TEMPERATURE SENSOR

- 4-Wire RTD Capability (PT100, PT1000)
- Dual Universal Temperature Sensor Inputs
- Thermistors: All 2 Wire NTC Types:  $10\text{ k}\Omega$ ,  $100\text{ k}\Omega$

### AUXILIARY FUNCTIONS

- External Fan Control Circuit, 1 - 24V, 500mA (max)
- Actual Temperature Monitor, Analog Output (0 - 10 V)
- Temperature Setpoint, Analog Input (0 - 10 V)

### USER INTERFACE AND CONNECTORS

- Front Panel LCD, Full Alphanumeric Display with Key Pad
- RS232 Standard, LabView Drivers Included
- USB Optional: \$95.00 (Option SVC-USB)
- Peltier Connector: SubD-15, Female
- RS232 Connector: SubD-9, Female

### DIMENSIONS AND POWER

- 85 mm (Height) x 105 mm (Width) x 200 mm (Depth)
- 95 ~ 240 VAC, 50/60 Hz Universal Power Input


### Product Sales and Service

Orders for this product are fulfilled by LaserDiodeControl.com, part of the Laser Lab Source group. It is manufactured for Laser Lab Source by OsTech, GmbH.

### Product Warranty

This product is sold with a full one-year warranty. It is warranted to be free from defects in material and/or workmanship for a period of one year from the date of shipment.



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### Technical Support and Sales in North America by:



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