



12 A Thermoelectric Cooler Controller, 216 Watt Total Power



12 Amp, 20 Volt Controller for Laser Diode Thermoelectric Coolers

- o Current up to 12 A, Voltage up to 20 V
- o Optimized for Stacked High Power Peltier Devices Connected in Series
- o Fast Acting Closed-Loop Feedback
- o User-Programmable PID Parameters
- o Highly Versatile Temperature Sensor Inputs Can Be Configured for Many Applications



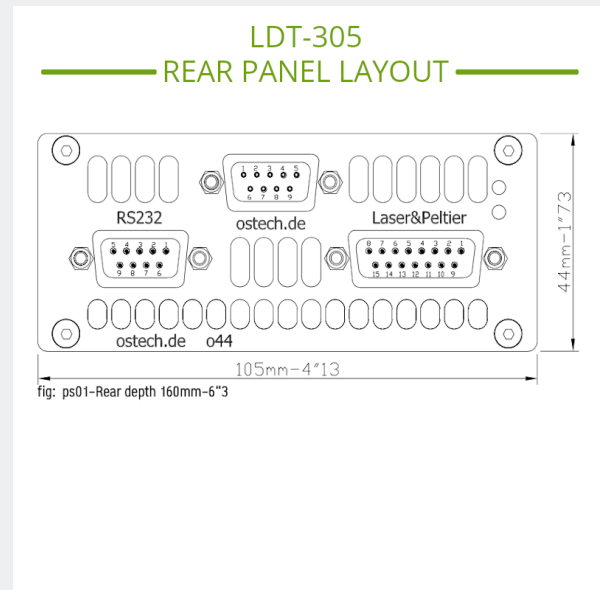
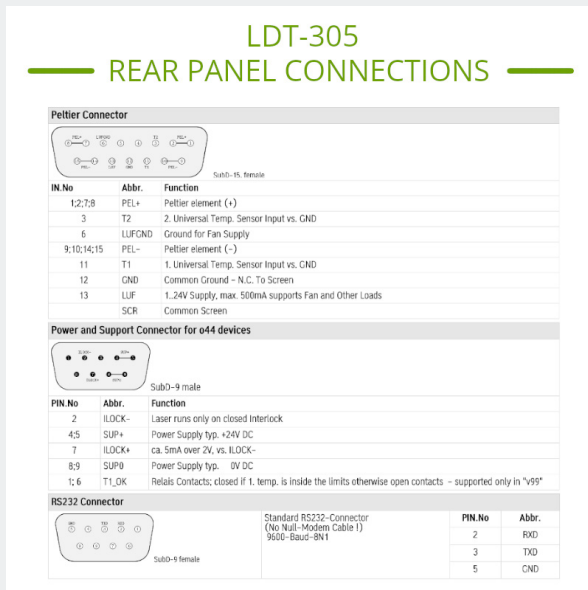
**LASER
DIODE TEC
CONTROLLERS**

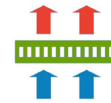
TEC-305 High Power Thermoelectric Cooler Controller Overview

The TEC-305 is a high stability controller for laser diode and non-linear crystal TECs and delivers up to 216 watts of output power to a Peltier cooler: the bipolar TEC current range is ± 12 Amps and the voltage range is ± 20.00 volts.

Temperature Control Application Flexibility

The high voltage range allows the user to control multiple Peltier coolers in series. Designed to protect your laser diode from over-temperature damage, these TEC control modules provide precise temperature control of your laser diode or non-linear crystal based on fast closed-loop feedback from negative thermal coefficient thermistors (ie 10K thermistors) as well as as IC sensors such as PT100 and PT1000 sensors. The full PID control loop keeps your laser diode at your desired temperature set-point with milli-degree stability.



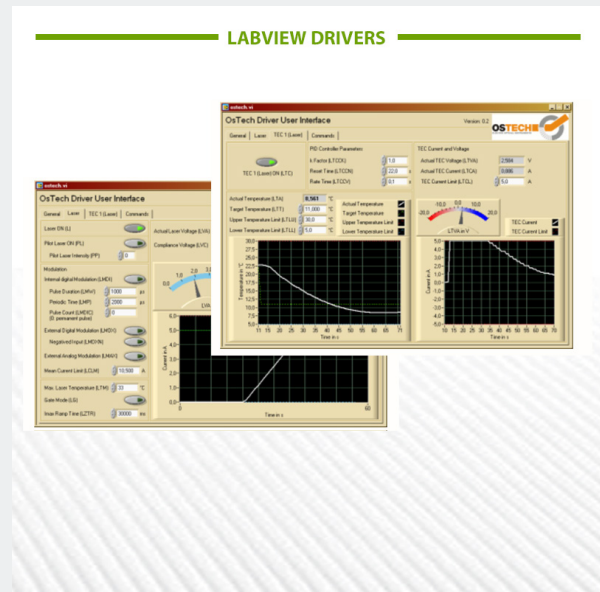


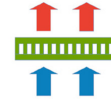
Versatile Controller Features and Built-In Device Protection

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.

User adjustable upper and lower temperature limits can be programmed to protect the laser diode and the Peltier device from over-temperature damage. Additionally, TEC output current limits are user-configured to protect the Peltier device from over-drive damage.

The controller includes an output to control an auxiliary device, such as a heat-sink fan, or an external electro-optical device in laboratory or manufacturing testing applications. The auxiliary control is capable of 24 V and 500 mA output.





TEC-305 High Power Thermoelectric Cooler Controller Specifications

THERMOELECTRIC COOLER - PELTIER / TEC OUTPUT

- TEC Output Power Total: 216 Watts
- TEC Output Current Range (bipolar): ± 12.00 Amps
- TEC Output Voltage Range (bipolar) : ± 20.00 Volts
- TEC Control Loop Algorithm: Full P.I.D.
- P.I.D. Variables: User Adjustable (ships with factory pre-set variables)
- Temperature Control Stability (8 hours @ 25°C) : 0.005°C
- Temperature Range: -25°C to 150°C
- TEC Setpoint Resolution: 0.01°C
- Hardware Design Topology: H-Bridge, Bipolar Peltier Controller

TEC PROTECTION FEATURES

- Peltier Element Protection: User Set Current Limit
- User Set Upper & Lower Temperature Limits
- Electronic Safety Interlock Connection

TEMPERATURE SENSOR

- Dual Temperature Sensor Inputs
- Thermistors: All 2 Wire NTC Types: 10 k Ω , 100 k Ω

AUXILIARY FUNCTIONS

- External Fan Control Circuit, 1 - 24V, 500mA (max)
- Electronic Safety Interlock

USER INTERFACE AND CONNECTORS

- RS232 Standard, LabView Drivers Included
- USB Optional: \$95.00 (Option SVC-USB)
- Peltier Connector: SubD-15, Female
- Power and Support Connector: SubD-9, Male
- RS232 Connector: SubD-9, Female

DIMENSIONS AND POWER

- 44 mm (Height) x 105 mm (Width) x 160 mm (Depth)
- 24V DC Power Input

RECOMMENDED ACCESSORIES

- kab-39 Unterminated Connecting Cable -or- kab-231 Terminated Connecting Cable
- nt-82 24 VDC / 90 W Power Supply
- acc-417 USB-RS232 Converter



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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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