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T-Cube TEC Controller

- ▶ Microcontroller-Based PID Temperature Controller
- ▶ ±1 A and 4 W TEC Output
- ▶ USB Plug-and-Play with Full Software Control Suite

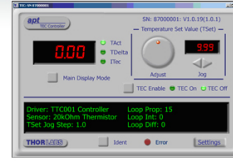


TTC001 Power Supply and TEC Cable Included



CAB420-15

apt™ Software Included



Related Items

- Laser Diodes
- USB Controller Hubs
- 12 W TEC Controller
- 20 mA to 4 A LD Drivers

[Overview](#) | [Specs](#) | [Pin Diagrams](#) | [PID Tutorial](#) | [Motion Control Software](#) | [APT Tutorials](#) | [Feedback](#)

Features

- Compact T-Cube Footprint
- ±1 Amp/4 W TEC Output
- Microcontroller-Based PID Temperature Control
- 5-Digit LED Display
- Display Modes Include Temperature and TEC Current
- Temperature and Current Limit Set Points
- Compatible with Thermistor AD590 and AD592 Sensors
- Remote Control via USB, Local Control via Buttons and Adjustment Pot
- Monitor Output Connection, Analog Control Input Connection



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 Back View of the TTC001 T-Cube (See the [Pin Diagrams](#) Tab for More Information)

The TTC001 T-Cube TEC Controller is designed for high-precision thermal control of small temperature sensitive components. It is designed to drive an external Peltier effect thermoelectric heater/cooler coupled to a standard thermistor or IC sensor. The highly precise, closed-loop control is suitable for many applications.

The various parameters, such as temperature set point, current limit, temperature sensor type, and PID parameters, are adjustable from the front panel interface for quick and easy local control. The unit can be interfaced to a PC using a USB cable and all of the parameters can be set using the included software. The unit is equipped with a 5-digit, 7-segment illuminated display. The user-selectable display modes can be set to show actual temperature, set point temperature, TEC current, and TEC current limit. The bipolar output stage allows both cooling and heating with currents up to 1 A. The TEC T-Cube is compatible with the [LM1452](#), and our [High-Power Laser Mounts](#) in addition to the Thorlabs' [TEC3-2.5](#) - [TH10K](#) combination (TEC element - thermistor respectively).

The TTC001 may be mounted directly onto an optical table and operated as a stand-alone unit with the included 5 V power supply. Included with the unit is very user friendly APT™ software, which allows quick setup and control of the TTC001 and is the same software used to control all of our other T-Cube products. Advanced custom control sequences are also possible using the extensive ActiView programming environment.

Connection Cables

A CAB420-15 is required to connect the TTC001 T-Cube TEC Controller to a Thorlabs' [Laser Diode Mount](#). This cable is included with the TTC001 and has a length of 1.5 m. Additional cables can be ordered below.

T-Cube TEC Controller

Based on your currency / country selection, your order will ship from **Newton, New Jersey**

+1 Qty	Docs	Part Number - Universal	Price	Available / Ships
<input type="text" value="1"/>		TTC001 T-Cube TEC Controller, 4W, Power Supply Included	\$749.70	✓ Today

[Add To Cart](#)

Compatible Power Supplies

The TPS101 supplies power for one T-Cube Laser Source or T-Cube TEC Controller. It provides 5 V and 2.0 A. A location-specific adapter plug is shipped with the power supply based on your location. The KCH301 and KCH601 USB Controller Hubs each consist of two parts: the hub, which can support up to three (KCH301) or six (KCH601) K-Cubes or T-Cubes, and a power supply that plugs into a standard wall outlet and powers the hub and any connected cubes. In addition, the hub provides USB connectivity to any docked K-Cube or T-Cube through a single USB connection.

A KAP101 or KAP102 Adapter Plate (sold separately) is required for each T-Cube to operate on the KCH301 or KCH601 controller hub. The KAP101 is designed to adapt 60 mm wide T-Cubes to the hubs, while the KAP102 is designed to adapt 120 mm wide T-Cubes to the hubs. For more information on the USB Controller Hubs, see the [full web presentation](#).

Based on your currency / country selection, your order will ship from **Newton, New Jersey**

+1 Qty	Docs	Part Number - Universal	Price	Available / Ships
<input type="text" value="1"/>		TPS101 5 V, 2.0 A Power Supply Unit for One TTC001 Module	\$37.33	✓ Today
<input type="text" value="1"/>		KCH301 USB Controller Hub and Power Supply for Three K-Cubes or T-Cubes	\$494.70	✓ Lead Time
<input type="text" value="1"/>		KCH601 USB Controller Hub and Power Supply for Six K-Cubes or T-Cubes	\$598.74	✓ 3-5 Days
<input type="text" value="1"/>		KAP101 Adapter Plate for KCH Series Hubs and 60 mm Wide T-Cubes	\$57.38	✓ Today
<input type="text" value="1"/>		KAP102 Adapter Plate for KCH Series Hubs and 120 mm Wide T-Cubes	\$82.48	✓ Today

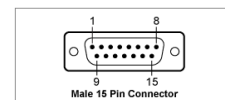
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CAB420-15 Connection Cables



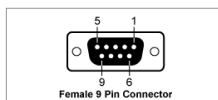
[Zoom](#)

The pin descriptions shown in the first two tables below denote the typical pin assignments used by Thorlabs' family of laser diode temperature controllers and laser diode mounts. The third table gives the physical pin connections between the 15-pin and 9-pin sides of the CAB420-15 cable.



- 1) Status LED (+) (for TEC On/Off Indication)^a
- 2) TEC Voltage Measurement^b
- More[+]

a. TTC001: No Connection
b. TED200C Series and TTC001: No Connection



- 1) Status LED (+) (for TEC On/Off Indication)^a
- 2) Thermistor (+)
- More[+]

a. TTC001: No Connection

Pin Connections	
15-Pin Side	9-Pin Side
1	1
2	4
3	3
4	2
5	4
6	4
More[+]	

Based on your currency / country selection, your order will ship from **Newton, New Jersey**

+1 Qty	Docs	Part Number - Universal	Price	Available / Ships
<input type="text" value="1"/>		CAB420-15 Temperature Controller Cable with 15-Pin D-Sub Connector, 1.5 m	\$74.97	✓ Today

[Add To Cart](#)

Additional Temperature Controllers

- [T-Cube Temperature Controller](#)
- [12 W Temperature Controller](#)

- [225 W Temperature Controller](#)
- [PRO8 Rack Controllers](#)

[Dual Current & Temperature Controllers](#)