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## TPS001 - DEC 09, 2015

Item # TPS001 was discontinued on DEC 09, 2015. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

### T-CUBE POWER SUPPLY OPTIONS

- ▶ 1-, 2-, or 8-Unit T-Cube Power Supplies
- ▶ 6-Unit T-Cube Controller Hub with Power Supply



#### OVERVIEW

Thorlabs' line of compact controllers requires an external power supply. We offer three options for powering our T-Cubes.



- 1) Individual Power Supplies:** A simple power supply for individual T-Cubes.
- 2) Multiple T-Cube Power Supplies:** The TPS008 power supply for up to eight T-Cubes, and the TPS002 for up to two T-Cubes.
- 3) TCH002 T-Cube Controller Hub:** A combined power supply and USB control hub for up to six T-Cubes.

Please note that apart from the TCH002 controller hub, the power supplies are not compatible with all T-cubes, and care must be taken when choosing the correct option. See below for more details.

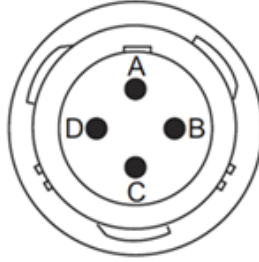
T-Cube Motion Control Modules
Single-Channel Brushed DC Servo Control Module
Single-Channel Brushless DC Servo Control Module
Single-Channel Stepper Control Module
Single-Channel Piezo Control Module
Single-Channel Strain Gauge Reader Module
Dual-Channel NanoTrak Auto-Alignment Module <sup>a</sup>
Quadrant Detector Module
Single-Channel Solenoid Control Module
T-Cube Laser Modules
Laser Diode Driver Module
Laser Source Modules
T-Cube Temperature Control & LED Modules
Temperature Controller Module <sup>b</sup>
High Power LED Driver Module

- T-Cube Piezo Driver(s) (TPZ001) sold separately
- The TTC001 temperature controller is sold with an individual power supply. It may also be powered by the TCH002 Hub (sold separately).

## PIN DIAGRAMS

## TCH002

## Power Connector Pin Identification



Pin	Description	Minimum	Maximum	Max Operating Current
A	0 V	-	-	-
B	-15 V	-14.5 V	-15.5 V	1 A
C	+15 V	+14.5 V	+15.5 V	6A
D	+5 v	+4.9 V	+5.1 V	5A

## Power Supplies for Single T-Cubes



The TPS001, TPS101, and TPS003 offer a simple power supply for individual T-Cubes. The T-Cubes still need to be hooked up individually to a computer via a USB cable. A location-specific power adapter is provided based on your location.

Item #	Max Number of T-Cubes Powered	Compatible T-Cubes	Power Supply Output Details
TPS001	One	TDC001, TST101, TSC001, and LEDD1B	1.3 mm Jack Plug
TPS101	One	TLS001-635, TLS001-1550	2.1 mm Jack Plug
TPS003	One	TBD001	1.3 mm Jack Plug

Part Number	Description	Price	Availability
TPS001	15 V Power Supply Unit for a Single T-Cube	\$25.80	Today
TPS101	5 V Power Supply Unit for a Single Laser Source T-Cube, 1.6 A	\$25.00	Today
TPS003	15 V, 2 A Power Supply for Brushless DC Servo T-Cube	\$82.40	Today

## Power Supplies for Multiple T-Cubes



The TPS002 supplies power for one or two T-Cubes. The TPS008 Power Hub will provide power for up to eight T-Cubes. The individual T-Cubes still need to be hooked up to a computer individually. Please refer to the table below for compatible T-Cubes.

The TCH002 Controller Hub has been designed specifically with multiple T-Cube operation in mind. Specifically, the hub aims to simplify issues such as cable management, power supply routing, multiple USB device communications, and different optical table mounting scenarios. This controller consists of a slim base-plate-type carrier measuring 375 mm x 86 mm x 21.5 mm (14.75" x 3.4" x 0.85"); the electrical connections, which are located on the upper surface, accept up to six T-Cubes. Internally the Controller Hub contains a fully compliant USB 2.0 hub circuit, which provides communications for all six connected T-Cubes. A single USB connection to the Controller

Hub is all that is required for PC control. The hub also provides power distribution for up to six T-Cubes, requiring only a single power connection. The T-Cube Controller Hub can power every T-Cube module. In addition, the Hub routes digital and analogue signals between T-Cubes, thereby allowing deterministic inter-Cube operation in certain applications.

For example, the TPZ001 Piezo Driver can receive (via the hub) an analogue feedback voltage generated from a neighboring TSG001 Strain Gauge Reader to facilitate closed-loop piezo control.

Item #	Max Number of T-Cubes Powered	Compatible T-Cubes	Power Supply Output Details
TPS002	Two	TLD001, TPZ001, TSG001, TPA101, and TNA001/IR	8-Pin Mini Din Plug (2 Places)
TCH002	Six	All T-Cube Variants	26 Way 1.27 mm Pitch, ERNI Connector (6 Places)
TPS008	Eight	TDC001, TST101, TSC001, and TBD001	1.3 mm Jack Plug (8 Places)

Part Number	Description	Price	Availability
TPS002	<b>±15 V/5 V Power Supply Unit for up to 2 T-Cubes</b>	<b>\$105.00</b>	<b>Today</b>
TCH002	<b>T-Cube Controller Hub and Power Supply Unit</b>	<b>\$749.00</b>	<b>Today</b>
TPS008	<b>15 V Power Supply Unit for up to 8 T-Cubes</b>	<b>\$180.00</b>	<b>3-5 Days</b>

Visit the *T-Cube Power Supply Options* page for pricing and availability information:  
[https://www.thorlabs.com/newgrouppage9.cfm?objectgroup\\_id=1710](https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=1710)