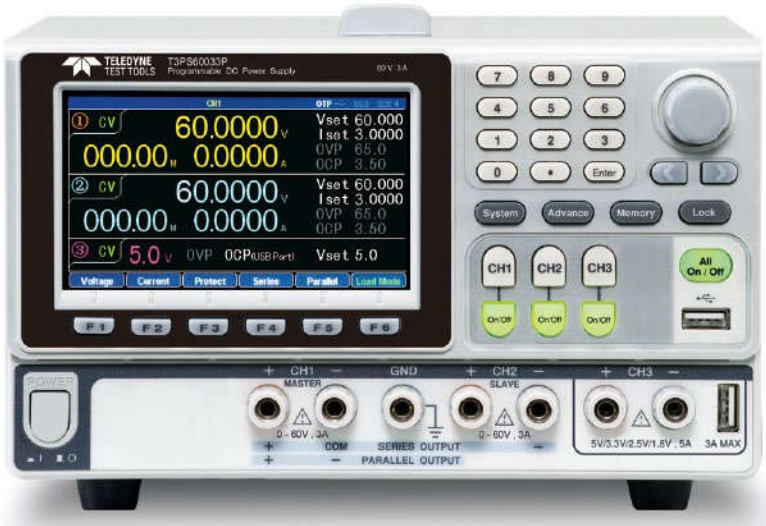
TELEDYNE TEST TOOLS
Everywhereyoulook™

T3PS30063P/T3PS60033P Datasheet

Triple Output Power Supplies

Broad Product Range

Current: Up to 12 Amps
Voltage: Up to 120 Volts
Power: Up to 385 Watts



Tools for Improved Debugging

• Supports Series and Parallel operations on Ch1 and Ch2 without the need for external wiring.	✓ Single unit covers wide Voltage and Current Ranges.
• Fully programmable via USB, RS- 232, LAN and Ext I/O.	✓ Full remote control extends the usability from the bench to automated systems.
• Low Ripple Noise ≤ 1 mVrms and transient recovery time ≤ 100 µs.	✓ Improved power supply specifications meets your low noise power needs.
• Ch1 and Ch2 support Constant Voltage and Constant Current Operation.	✓ Flexible voltage and current output configurations for a broader application coverage.
• Ch1 and Ch2 support Electronic Load functionality as CV, CC or CR.	✓ Use for charge/discharge testing (e.g. batteries) without the need for an Electronic Load.
• 3 years warranty as standard.	✓ Reliable product gives peace of mind.

Models and Characteristics

T3PS30063P	Ch1 / Ch2	0–30 V / 0–6 A	Ch1 / Ch2 support for C.V. and C.C. Modes
	Ch3	1.8 V / 2.5 V / 3.3 V / 5 V / 0–5 A	
T3PS60033P	Ch1 / Ch2	0–60 V / 0–3 A	Ch1 / Ch2 support for C.V. and C.C. Modes
	Ch3	1.8 V / 2.5 V / 3.3 V / 5 V / 0–5 A	



Front Panel



Rear Panel

T3PS Series

- 4.3" TFT LCD Display
- Supports Setting Value, Measurement Value and Output Waveform Display
- Load Function (CC, CV, CR Mode)
- Setting Resolution: 1 mV / 0.1 mA; Read Back Resolution: 0.1 mV / 0.1 mA
- Low Ripple Noise: ≤ 1 mVrms / ≤ 2 mArms
- Transient Response Time: ≤ 100 ms
- Utilizing Hardware to Realize Over Voltage Protection/ Over Current Protection/ Over Temperature Protection
- Delay Function/ Output Monitoring Function/ Output Recorder Function
- Intelligent Temperature Control Fan Effectively Reduces Noise
- Sequential Output Function and Built-in 8 Template Waveforms
- The Output Recorder Function Records The Output Voltage & Current Parameters with A Minimum Recording Interval of 1 Second
- Provides 10 Sets of Memory for Each Sequence/Delay/Recorder/ Panel Setting Condition
- Supports USB (Type A) Output Terminal
- Standard: RS- 232, USB, Ext I/O; LAN

With the maximum output power of 385 W, the new T3PS Series multi-channel programmable DC power supply, offers two models: T3PS30063P (Ch1 & Ch2: 0–30 V/0-6 A, CH3: 1.8 V, 2.5 V, 3.3 V, 5.0 V/5 A) and T3PS60033P (Ch1 & Ch2: 0–60 V/0-3 A, CH3: 1.8 V, 2.5 V, 3.3 V, 5.0 V/5 A)

This series not only provides high programming resolution (1 mV/0.1 mA) and read back resolution (0.1 mV/0.1 mA), but also features optimal low-ripple noise characteristics ≤ 1 mVrms/≤ 2 mArms and output transient recovery capability ≤ 100 μS. Independent output on-off switch is provided for each channel.

For series and parallel applications of CH1 and CH2, the tracking function of the T3PS Series utilizes the internal circuit to automatically switch the output to serial or parallel output without additional external wiring, providing users with convenience not only in operating procedures but also a more stable output. The tracking function design of other brands requires additional external wiring connections for the output in series or parallel. However, excessively long, thin or inconsistent external wiring may cause inaccurate voltage or current output.

The T3PS Series offers a variety of display modes, including single or multi-channel setting values, measurement values, and waveform displays. The Monitor function of the T3PS Series allows users to set monitoring conditions according to requirements, sound alarms or stop output during the measurement process, and stop measurement and protect the customer's DUT. The T3PS Series provides output recorder function, which records the voltage/current of the output process to the internal memory, and the result can be stored as a (*.REC) or (*.CSV) file, which can then be transferred to the USB flash drive and be exported to the PC for PC software or Excel to conduct future analysis.

The CH1/CH2 of the T3PS Series are designed with the load function. A single power supply can set one channel as the power output, and one channel for the load function to consume the power of the DUT to meet the basic charging and discharging test requirements for battery. Channel 1 and channel 2 not only provide rated power output, but also feature built-in rated constant voltage load (CV), rated constant current load (CC) and maximum 1 kΩ constant resistance load (CR) function.

The T3PS Series provides the sequential output function on Channel 1 and Channel 2. This function not only allows users to edit the power output waveform, but also allows users to set the sequential constant voltage (CV) or constant current (CC) load waveform, i.e. a serial power output or a simulation test of a dynamic load. In order to simplify the setting of waveform editing, the T3PS Series has 8 built-in template waveforms in the sequence output function for users to directly apply for output, including Sine, Pulse, Ramp, Stair Up, Stair Dn, Stair UpDn, Exp Rise, Exp Fall waveforms.

The internal protection functions include OVP/OCP/OPP/OTP, in which the protection mechanism for OVP/OCP/OTP is implemented by hardware circuit that has the advantage of faster response time compared with competitors who adopt software to achieve protections.

The OVP/OCP functions allow users to set the protection action point according to the conditions of the DUT. The OPP is only activated during the operation of the load function. The Delay Function sets the length of time during channel 1 or channel 2 power output on or during power output off.

In addition, the Trigger In/Trigger Out functions synchronize external devices. Ch3 on the T3PS offers a 3 A USB (Type A) output terminal for USB charging test. The intelligent temperature controlled fan can adjust the speed according to the temperature of the power transistor so as to reduce unnecessary noise. The output value setting and the Sequence/Delay/Recorder functions provide 10 sets of internal memory for use, and can be loaded/stored using a USB flash drive. In addition to the standard RS-232 and USB remote interfaces, the T3PS Series also has LAN interface to facilitate different requirements. The commands of the T3PS Series conform to SCPI requirements.

Applications

- **School and Research Institute**
- **Energy Storage Device Industry**
- **Semiconductor Industry**
- **Consumer Electronics Industry**

SPECIFICATIONS

Model	T3PS30063P			T3PS60033P		
Output Mode						
Number of Channel	CH1	CH2	CH3	CH1	CH2	CH3
Voltage	0 V to 30 V	0 V to 30 V	1.8/2.5/3.3/5 V, ±5 %	0 V to 60 V	0 V to 60 V	1.8/2.5/3.3/5 V ±5 %
Current	0 A to 6 A	0 A to 6 A	5 A (max), 3 A (max, USB Port)	0 A to 3 A	0 A to 3 A	5 A (max), 3 A (max, USB Port)
Tracking Series Voltage	0 V to 60 V		–	0 V to 120 V		–
Tracking Parallel Current	0 A to 12 A		–	0 A to 6 A		–
Constant Voltage Operation						
Line Regulation	≤ 0.01 % + 3 mV		≤ 3 mV	≤ 0.01 % + 3 mV		≤ 3 mV
Load Regulation	≤ 0.01 % + 5 mV (rated current ≤ 10 A)		≤ 5 mV	≤ 0.01 % + 5 mV (rated current ≤ 10 A)		≤ 5 mV
Ripple & Noise (5 Hz to 1 MHz)	≤ 1 mVrms		≤ 2 mVrms	≤ 1 mVrms		≤ 2 mVrms
Recory Time	≤ 100 µs		≤ 100 µs	≤ 100 µs		≤ 100 µs
Constant Current Operation						
Line Regulation	≤ 0.01 % + 3 mV		–	≤ 0.01 % + 3 mV		–
Load Regulation	≤ 0.01 % + 3 mV		–	≤ 0.01 % + 3 mV		–
Ripple & Noise	≤ 2 mV		–	≤ 2 mV		–
Tracking Operation (CH1, CH2)						
Tracking Error	≤ 0.1 % + 10 mV of Master (T3PS30063P), ≤ 0.2 % + 20 mV of Master (T3PS60033P) (with load: add load regulation ≤ 200 mV)					
Parallel Regulation	Line: ≤ 0.01 % + 3 mV Load: ≤ 0.01 % + 5 mV (rated current ≤ 10 A): ≤ 0.02 % + 5 mV (rated current > 10 A)					
Series Regulation	Line: ≤ 0.01 % + 5 mV; Load: ≤ 200 mV					
Ripple & Noise (5 Hz 1 MHz)	≤ 2 mVrms (5 Hz to 1 MHz)					
Meter						
Voltage Programming Resolution	1 mV		–	2 mV		–
Current Programming Resolution	0.2 mA		–	0.1 mA		–
Voltage Readback Resolution	0.1 mV		–	0.1 mV		–
Current Readback Resolution	0.1 mA		–	0.1 mA		–
Voltage Setting Accuracy	≤ ±(0.03 % of reading + 10 mV)		–	≤ ±(0.03 % of reading + 10 mV)		–
Current Setting Accuracy	≤ ±(0.3 % of reading + 10 mA)		–	≤ ±(0.3 % of reading + 10 mA)		–
Voltage Readback Accuracy	≤ ±(0.03 % of reading + 10 mV)		–	≤ ±(0.03 % of reading + 10 mV)		–
Current Readback Accuracy	≤ ±(0.3 % of reading + 10 mA)		–	≤ ±(0.3 % of reading + 10 mA)		–

Model	T3PS30063P		T3PS60033P	
DC Load Characteristic				
Channel	CH1/CH2	–	CH1/CH2	–
Display Power	0 W to 50 W	–	0 W to 50 W	–
Display Voltage	1 V to 32 V	–	1 V to 62 V	–
Display Current	0 A to 6.2 A	–	0 A to 3.2 A	–
CV Mode Setting Range	1.5 V to 32 V	–	1.5 V to 62 V	–
Resolution	10 mV	–	10 mV	–
Set Accuracy	≤ 0.1 % + 30 mV	–	≤ 0.1 % + 30 mV	–
Read Accuracy	≤ 0.1 % + 30 mV	–	≤ 0.1 % + 30 mV	–
CC Mode Setting Range	0 A to 6.2 A	–	0 A to 3.2 A	–
Resolution	1 mA	–	1 mA	–
Set Accuracy	≤ 0.3 % + 10 mA	–	≤ 0.3 % + 10 mA	–
Read Accuracy	≤ 0.3 % + 10 mA	–	≤ 0.3 % + 10 mA	–
CR Mode Setting Range	1 Ω to 1 kΩ	–	1 Ω to 1 kΩ	–
Resolution	1 Ω	–	1 Ω	–
Set Accuracy	≤ 3 % + 1 Ω (Voltage ≤ 0.1 V, Current ≤ 0.1 A)	–	≤ 3 % + 1 Ω (Voltage ≤ 0.1 V, Current ≤ 0.1 A)	–
Read Accuracy	≤ 3 % + 1 Ω (Voltage ≤ 0.1 V, Current ≤ 0.1 A)	–	≤ 3 % + 1 Ω (Voltage ≤ 0.1 V, Current ≤ 0.1 A)	–

Insulation

Chassis and Terminal	20 MΩ or above (DC 500 V)
Chassis and AC Power Cord	30 MΩ or above (DC 500 V)

Environment Condition

Operating Temperature	0 °C to 40 °C
Storage Temperature	–10 °C to 70 °C
Operating Humidity	≤ 80 % RH
Storage Humidity	≤ 70 % RH
Interface	Standard: RS-232, USB, LAN, Ext I/O
Power Source	AC 100 V/120 V/220 V/230 V ± 10 %, 50/60 Hz
Power Consuption	900 VA, 680 W
Dimension & Weight	213 (W) x 145 (H) x 362 (D) mm; Approx. 10 kg

Ordering Information

Model	**T3PS30063P**	385 W Three-Output Programmable DC Power Supply
	T3PS60033P	385 W Three-Output Programmable DC Power Supply
Accessories	Quick Start Guide x 1, Power cord x 3, Short Bar x 1, Terminal 13P x 1, Test Lead x 3	

Warranty: 3 Years return to Teledyne LeCroy.

ABOUT TELEDYNE TEST TOOLS

TELEDYNE TEST TOOLS
Everywhereyoulook™

Company Profile

Teledyne LeCroy is a leading provider of oscilloscopes, protocol analyzers and related test and measurement solutions that enable companies across a wide range of industries to design and test electronic devices of all types. Since our founding in 1964, we have focused on creating products that improve productivity by helping engineers resolve design issues faster and more effectively. Oscilloscopes are tools used by designers and engineers to measure and analyze complex electronic signals in order to develop high-performance systems and to validate electronic designs in order to improve time to market.

The Teledyne Test Tools brand extends the Teledyne LeCroy product portfolio with a comprehensive range of test equipment solutions. This new range of products delivers a broad range of quality test solutions that enable engineers to rapidly validate product and design and reduce time-to-market. Designers, engineers and educators rely on Teledyne Test Tools solutions to meet their most challenging needs for testing, education and electronics validation.

Location and Facilities

Headquartered in Chestnut Ridge, New York, Teledyne Test Tools and Teledyne LeCroy has sales, service and development subsidiaries in the US and throughout Europe and Asia. Teledyne Test Tools and Teledyne LeCroy products are employed across a wide variety of industries, including semiconductor, computer, consumer electronics, education, military/aerospace, automotive/industrial, and telecommunications.

Distributed by:

Teledyne LeCroy (US Headquarters)

700 Chestnut Ridge Road
Chestnut Ridge, NY. USA 10977-6499

Phone:	800-553-2769 or 845-425-2000
Fax Sales:	845-578-5985
Phone Support:	1-800-553-2769
Email Sales:	contact.corp@teledynelecroy.com
Email Support:	support@teledynelecroy.com
Web Site:	http://teledynelecroy.com/

World wide support contacts can be found at:
https://teledynelecroy.com/support/contact

World wide instrument service can be found at:
https://teledynelecroy.com/support/service.aspx

RoHS and WEEE information can be found at:
https://teledynelecroy.com/support/rohs.aspx

Teledyne LeCroy (European Headquarters)

Teledyne GmbH
Im Breitspiel 11c
D-69126 Heidelberg, Germany

Phone:	+49 6221 82700
Fax:	+49 6221 834655
Phone Service:	+49 6221 8270 85
Phone Support:	+49 6221 8270 28
Email Sales:	contact.gmbh@teledynelecroy.com
Email Service:	service.gmbh@teledynelecroy.com
Email Support:	tlc.t3.appsupport.eu@teledyne.com
Web Site:	http://teledynelecroy.com/

© 2022 Teledyne Test Tools is a brand and trademark of Teledyne LeCroy Inc. All rights reserved. Specifications, prices, availability and delivery subject to change without notice. Product brand or brand names are trademarks or requested trademarks of their respective holders.

T3 stands for Teledyne Test Tools.

15nov22