TELEDYNE TEST TOOLS
Everywhereyoulook™

T3PS40381P, T3PS60251P, T3PS062001P Data Sheet

Programmable Switching DC Power Supply

Power With Confidence

Voltage: Up to 60 Volts
Current: Up to 200 Amps
Power: Up to 360 Watts



Tools for Improved Debugging

• Dual measurement display.	✓ Clear visibility of your power settings
• Switched mode high efficieny Power Supply Design.	✓ Small footprint whilst maintaining high power density.
• Constant Voltage and Constant Current Operation	✓ Wider application coverage for a more complete solution.
• Remote sensing to compensate for voltage drop in load leads.	✓ Ensure that the full voltage gets to your DUT. Sense compensates for wiring losses.
• Supports various interfaces like USB, LAN, RS-232, RS-485	✓ Support for the maximum control flexibility.
• 1U Height and 19” Rack Mount Size	✓ Provides more flexible system integration

Key Specifications

Model	Voltage Rating	Current Rating	Power
T3PS062001P	6V	200A	1200W
T3PS40381P	40V	38A	1520W
T3PS60251P	60V	25A	1500W

PRODUCT OVERVIEW

Teledyne Test Tools new T3PS series is a single power output DC programmable power supply, which outputs 1200W to 1520W. This rack mount power supply is suitable for electric components manufacturers to verify withstanding current tests of 100A and above. Such tests incude micro-resistor, relay, shunt resistors etc. The standard 1U form factor of the power supply not only satisfy the extensive voltage demands but also provides system integrators the flexiblity of system integration.

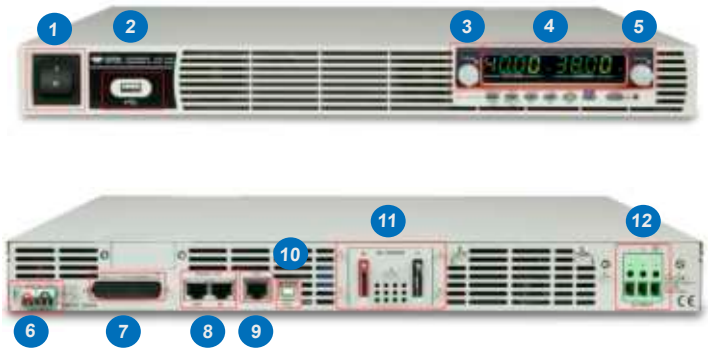
The T3PS series allows settings for CC priority or CV priority. Under CC or CV mode, users can adjust slew rate for output voltage or current based upon test requirements. There are two kinds of slew rate settings: high speed priority and slew rate priority. High speed priority sets slew rate at the maximum speed to reach CC or CV mode. Slew rate priority allows users to set slew rate for CC or CV mode in order to control rise or fall slew rate. Slew rate priority mode is ideal for motor tests because it can protect DUT from being damaged by inrush current occurred at turn-on.

Comparing with other 1U power supplies available in the market, T3PS series supports a most complete array of interfaces, including USB, LAN, RS-232, RS-485, analog control interface, isolated analog interface (voltage control), and isolated analog interface (current control). Via the multi-drop mode, T3PS series will not need any switch/hub for remote control and slave unit augmentation when using LAN or USB. This feature can help users save costs on equipment.

The T3PS series is ideal for the primary input of DC/DC converter and servo motor production application. T3PS series is often integrated into component test systems such as aging test equipment for capacitors, aging test equipment for diode, semiconductor production equipment, automotive electronics, and ECU for V8 engine or V12 engine, etc.

The T3PS series provides users with flexible settings of High/Low Level or Trigger input/Trigger output with pulse width of 1 ~ 60ms. Trigger input controls T3PS series to output or upload preset voltage, current and memory parameters. While outputting or uploading preset voltage, current and memory parameters, T3PS series can produce corresponding Trigger output signals.

PANEL INTRODUCTION



1. **AC Power Switch (AC Power On/Off)**
2. **USB A Port**
3. **Voltage Knob**
4. **Display Area**
5. **Current Knob**
6. **Remote Sense**
7. **Analog Control Interface**
8. **RS 485/RS 232**
9. **LAN Port**
10. **USB Port**
11. **DC Output Terminal**
12. **AC Input**

Features

- **C.V/C.C Priority Mode**
- **Adjustable Voltage/Current Rise and Fall Time**
- **Three sets of Preset Function**
- **Bleeder Control Function**
- **Internal Resistance Function**
- **Panel Lock Function**
- **Protection: OVP, OCP, OHP, UVL, AC Fail, FAN Fail**
- **Standard: USB, LAN, RS-232, RS-485, Analog Control**

Applications

- **The primary input of DC/DC converter**
- **Servomotor Manufacturing Equipment**
- **Aging test equipment for Capacitor**
- **Aging test equipment for Diodes**
- **Power supply for communications Equipment**
- **Automotive 12/48V Systems**
- **Military and Avation**

SPECIFICATIONS

MODEL	T3PS06001P	T3PS40381P	T3PS60251P
OUTPUT RATINGS			
Rated Output Voltage (*1)	6V	40V	60V
Rated Output Current (*2)	200A	38A	25A
Rated Output Power	1200W	1520W	1500W
RIPPLE AND NOISE (*5)			
CVp-p(10 ~ 20MHz) p-p (*6)	60mV	60mV	60mV
CVrms(5Hz ~ 1MHz) r.m.s(*7)	8mV	8mV	8mV
CCrms(5Hz ~ 1MHz) r.m.s(*12)	400mV	95mV	75mV
LOAD REGULATION			
Voltage(*4)	2.6mV	6mV	8mV
Current(*11)	45mA	12.6mA	10mA
LINE REGULATION			
Voltage(*3)	2.6mV	6mV	8mV
Current(*3)	22mA	5.8mA	4.5mA
ANALOG PROGRAMMING AND MONITORING			
External Voltage Control Output Voltage	Accuracy and linearity:±0.5% of rated output voltage		
External Voltage Control Output Current	Accuracy and linearity:±1% of rated output current		
External Resistor Control Output Voltage	Accuracy and linearity:±1% of rated output voltage		
External Resistor Control Output Current	Accuracy and linearity:±1.5% of rated output current		
Output Voltage Monitor	Accuracy: ±1%		
Output Current Monitor	Accuracy: ±1%		
Shutdown Control	Turns the output off with a LOW (0V to 0.5V) or short-circuit		
Output On/Off Control	Possible logic selections: Turn the output on using a LOW (0V to 0.5V) or short-circuit, turn the output off using a HIGH (4.5V to 5V) or open-circuit; Turn the output on using a HIGH (4.5V to 5V) or open-circuit, turn the output off using a LOW (0V to 0.5V) or short-circuit		
Alarm Clear Control	Clear alarms with a LOW (0V to 0.5V) or short-circuit		
CV/CC/ALM/PWRON/OUT ON Indicator	Photocoupler open collector output; Maximum voltage 30V, maximum sink current 8mA		
Trigger Out	Maximum low level output = 0.8V Minimum high level output = 2V Maximum source current = 8mA		
Trigger In	Maximum low level input voltage = 0.8V Minimum high level input votage = 2V Maximum sink current = 8mA		
FRONT PANEL			
Display, 4 digits, Voltage Accuracy 0.1%+ Current Accuracy 0.2%+	12mV		
Indications	GREEN LED's: CV, CC, V, A, VSR, ISR, DLY, RMT, LAN, M1, M2, M3, RUN, Output ON; RED LED's: ALM, ERR		
Buttons	Lock/Local(Unlock), PROT(ALM_CLR), Function(M1), Test(M2), Set(M3), Shift, Output		
Knobs	Voltage, Current		
USB Port	Type A USB connector		
TRANSIENT RESPONSE TIME (*10)			
Transient Response Time	1.5mv	1ms	1ms
OUTPUT RESPONSE TIME			
Rise Time(*8) Rated load	80ms	80ms	80ms
No Load	80ms	80ms	80ms
Fall Time(*9) Rated load	10ms	80ms	80ms
No Load	500ms	1100ms	1100ms
TEMPERATURE COEFFICIENCE			
Voltage & Current	100ppm/°C after a 30 minute warm-up		
REMOTE SENSE COMPENSATION VOLTAGE (SINGLE WIRE)			
Voltage	1V	2V	3V

SPECIFICATIONS

MODEL		T3PS06001P	T3PS40381P	T3PS60251P
PROGRAMMING AND MEASUREMENTS(RS-232/485, USB, LAN)				
Output Voltage Programming Accuracy	0.05%+	3mV	20mV	30mV
Output Current Programming Accuracy	0.2%+	200mA	38mA	25mA
Output Voltage Programming Resolution		0.2mV	1.3mV	2mV
Output Current Programming Resolution		6mA	1.2mA	0.8mA
Output Voltage Measurement Accuracy	0.1%+	6mV	40mV	60mV
Output Current Measurement Accuracy	0.2%+	400mA	76mA	50mA
Output Voltage Measurement Resolution		0.2mV	1.3mV	2mV
Output Current Measurement Resolution		6mA	1.2mA	0.8mA
PROTECTION FUNCTION				
Over Voltage Protection(OVP)	Setting Range	0.6~6.6V	4~44V	5~66V
	Setting Accuracy	60mV	400mV	600mV
Over Current Protection(OCP)	Setting Range	5~220A	3.8~41.8A	2.5~27.5A
	Setting Accuracy	4000mA	760mA	500mA
Under Voltage Limit(UVL)	Setting Range	0~6.3V	0~42V	0~63V
Over Temperature Protection(OHP)	operation	Turn the output off.		
Incorrect Sensing Connection Protection(SENSE)	operation	Turn the output off.		
Low AC Input Protection (AC-FAIL)	operation	Turn the output off.		
Shutdown (SD)	operation	Turn the output off.		
Power Limit (POWER LIMIT)	operation	Over power limit		
	Value (Fixed)	Approx. 105% of rated output power		
INTERFACE CAPABILITIES				
USB		TypeA: Host, TypeB: Slave, Speed: 1.1/2.0, USB Class: CDC(Communications Device Class)		
LAN		MAC Address, DNS IP Address, User Password, Gateway IP Address, Instrument IP Address, Subnet Mask		
RS=232/RS-485		Complies with the EIA232D / EIA485 Specifications		
ENVIRONMENTAL CONDITIONS				
Operating Temperature		0°C ~ 50°C(*14)		
Storage Temperature		-25℃ ~ 70℃		
Operating Humidity		20% ~ 85% RH; No condensation		
Storage Humidity		90% RH or less; No condensation		
Altitude		Maximum 2000m		
INPUT CHARACTERISTICS				
Nominal Input Rating		100Vac to 240Vac, 50Hz to 60Hz, single phase		
Input Voltage Range		85Vac ~ 265Vac		
Input Frequency Range		47Hz ~ 63Hz		
Maximum Input Current	100Vac/200Vac(A)	21/11		
Inrush Current		Less than 50A		
Maximum Input Power		2000VA		
Power Factor	100Vac/200Vac	0.99/0.98		
Hold-up Time		20ms or greater		
Efficiency(*13)	100Vac/200Vac(%)	77/79	84/87	84/87
DIMENSIONS & WEIGHT				
		423(W) × 43.6(H) × 447.2(D)mm, Approx. 8.7kg		

Note: **1. Minimum voltage is guaranteed to maximum 0.2% of the rated output voltage.*

**2. Minimum current is guaranteed to maximum 0.4% of the rated output current.*

**3. At 85~132Vac or 170~265Vac, constant load.*

**4. From No-load to Full-load, constant input voltage. Measured at the sensing point in Remote Sense.*

**5. Measure with JEITA RC-9131B (1:1) probe.*

**6. Measurement frequency bandwidth is 10Hz~20MHz.*

**7. Measurement frequency bandwidth is 5Hz~1MHz.*

**8. From 10%~90% of rated output voltage, with rated resistive load.*

**9. From 90%~10% of rated output voltage, with rated resistive load.*

**10. Time for output voltage to recover within 0.5% of its rated output for a load change from 10~90% of its rated output current. Voltage set point from 10%~100% of rated output.*

**11. For load voltage change, equal to the unit voltage rating, constant input voltage.*

**12. For 6V model the ripple is measured at 2~6V output voltage and full output current. For other models, the ripple is measured at 10~100% output voltage and full output current.*

**13. At rated output power.*

**14 If the front panel filter kit is installld, the temperature is guaranteed to 40°C.*

ORDERING INFORMATION

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T3PS062001P	**1200W Programmable Switching DC Power Supply**	
T3PS40381P	**1520W Programmable Switching DC Power Supply**	
T3PS60251P	**1500W Programmable Switching DC Power Supply**	
STANDARD ACCESSORIES		**Qty.**
	Output terminal cover	1
	Analog connector plug kit	1
	Output terminal M8 bolt set (6V~60V model)	1
	Input terminal cover	1
	1U Handle(RoHS)	2
	1U Bracket(LEFT, RoHS)	1
	1U Bracket (RIGHT,RoHS)	1

ABOUT TELEDYNE TEST TOOLS

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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.

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T3 stands for Teledyne Test Tools.

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