DC Power Supply

Programmable Switching DC Power Supply
TPM-Series

Product description:

TPM-Series is single output programmable linear DC power supply with power ranging from 90W to 375W, voltage from 20V to 150V, and current from 1.2A to 10A. It offers multiple specifications of high-precision, cost-effectiveness and high performance. It features overload, reverse polarity, overvoltage, overcurrent and overtemperature protection to ensure safe operation of the power supply and load in unstable environments. With a low regulation of 0.01% and low ripple and noise (less than 1mVrms), it automatically selects between continuous and dynamic loads, making it suitable for applications with current surges, high-precision desktop applications and test systems.

TPM-Series (Rate current : <10A)

TPM-Series (Rate current >10A)

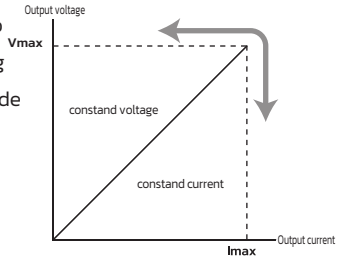
Features

- Low adjustment rate of 0.01%, ultra-high resolution and accuracy
- 4.3-inch high-definition LCD screen, Continuous or dynamic load can be selected.
- Automatic switching between constant voltage and constant current.
- High-speed adjustment knob and numeric keypad input.
- Remote sensing enables compensation of voltage drop in load lines.
- It can store/recall 300 sets of voltage, current, and other data, and can perform timed execution to achieve simple automatic testing.
- Overload protection, reverse polarity protection, overvoltage protection, overcurrent protection, overtemperature protection.
- Standard RS232 interface, programming instruction set conforms to SCPI and MODBUS-RTU.
- Lithium battery curve charging function.
- Optional RS485 interface, MODBUS-RTU protocol, suitable for PLC control, to realize automated control.
- Optional analog control interface.

Applications / Functions

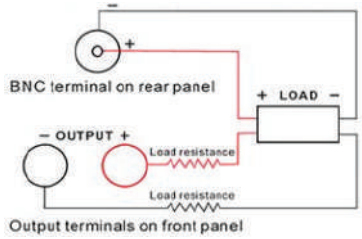
CC /CV function

This function allows the power supply to maintain uninterrupted operation during the transition from constant voltage mode to constant current mode as the load changes. The power supply has a timed output function, when enabled, the instrument will automatically switch the preset power supply to constant voltage/constant current operating mode.

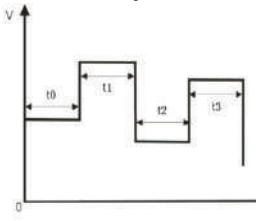


Remote sensing function

When the load consumes a large current, a voltage drop will occur on the connection line between the current and the load. Remote sensing can automatically compensate for the voltage drop of the load line.



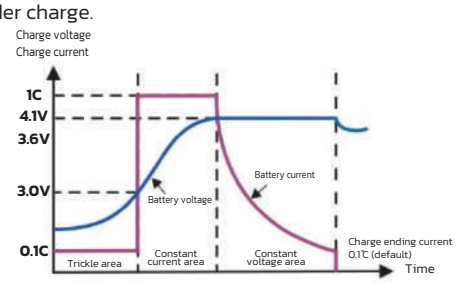
Timing output



The power supply has a timed output function. When activated, Instrument will output preset voltage and current values to realistically simulate the operating conditions of various power supplies in reality.

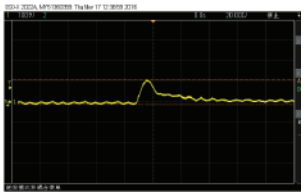
Battery Curved Charge

Instead of same charging voltage and current through out the whloe charging operation, a curved charge operation can perfeclty protect batteries under charge.



Fast Response, high quality

With fast transient response time of ≤50μs. The output voltage can quickly recover to the set value when the load current changes instantaneously, thus ensuring output quality.



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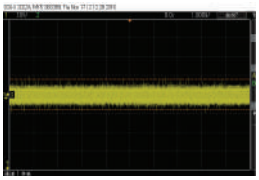
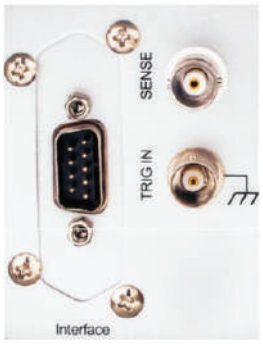
- **Low Noise :** Ripple ≤1mVrms



- The high-speed adjustment knob and digital keypad input make operation simple and quick.

- The instrument has a rear RS232 interface, which allows for remote control and automated operation. Powerful SENSE and triggering capabilities



Specifications

Voltage Output	
Power Effect	≤0.01% + 3mV
Loading Effect	≤0.01% + 3mV (I≤3A) / ≤0.02% + 5mV (I>3A)
Recovery Time	≤100μs (50% load change, minimun load 0.5A)
Ripple & Noise	≤1mVrms (I≤3A) (5Hz ~ 1MHz) / ≤2mVrms (I>3A) (5Hz ~ 1MHz) / ≤3mVrms (V≥75V)
Temperature Coefficient	≤100ppm/°C
Setting Accuracy	±(0.03% of reading + 10mV) (25 ±5°C)
Current Output	
Power Effect	≤0.1% + 3mA
Loading Effect	≤0.1% + 3mA (I≤3A) / ≤0.1% + 5mA (I>3A)
Ripple & Noise	≤3mA rms (I≤3A) / ≤6mA rms (I>3A)
Setting Accuracy	±(0.1% of reading + 0.1% of FS) (25 ±5°C)
Display	
Voltage	5 digits LCD display
Current	5 digits LCD display
Reading Accuracy	±(0.02% of reading + 5mV) (25 ±5°C); ±(0.1% of reading + 0.1% of FS) (25 ±5°C)
Other Features	
Protection	Over voltage, over current, over temperature, reverse polarity and over load protections
Lock Keyboard	√
Remote Sensing	Maximum compensation voltage 5% of FS
Battery Charging	Supports battery charging function and lithium battery curve charging function
Interface	Standard configuration includes RS-232 interface, supporting the SCPI instruction set; Optional : analog control interface and RS-485 interface
Stroe / Recall	300 groups
Insulation	Between base and terminals : ≥20MΩ/500VDC
Operating Environment	0°C~40°C, <80%RH
Storage Environment	-10°C ~70°C, <80%RH
Power Input	AC110V/220V±10%, 50/60Hz
Dimension	352 (D) × 215 (W) × 89 (H) mm.
Weight	6.8 ~ 8.5kg.

Ordering Information

Model	Output Voltage	Output Current	Power	Resolution	O.V.P / O.C.P	Ripple	Weight
TPM-3003	0 ~ 32 V	0 ~ 3.2 A	90 W	1mV/0.1mA	0.1 ~ 36V/0.1 ~ 3.6A	≤1mVrms	6.8kg.
TPM-3005	0 ~ 32 V	0 ~ 5.5 A	150 W	1mV/1mA	0.1 ~ 36V/0.1 ~ 6.0A	≤1mVrms	6.8kg.
TPM-3603	0 ~ 40 V	0 ~ 3.2 A	108 W	1mV/0.1mA	0.1 ~ 42V/0.1 ~ 3.6A	≤1mVrms	6.8kg.
TPM-3605	0 ~ 40 V	0 ~ 5.5 A	180 W	1mV/0.1mA	0.1 ~ 42V/0.1 ~ 6.0A	≤1mVrms	8kg.
TPM-6003	0 ~ 64 V	0 ~ 3.2 A	180 W	1mV/1mA	0.1 ~ 68V/0.1 ~ 3.6A	≤1mVrms	8kg.
TPM-6005	0 ~ 64 V	0 ~ 5.5 A	300 W	1mV/0.1mA	0.1 ~ 68V/0.1 ~ 6.0A	≤1mVrms	8kg.
TPM-2010	0 ~ 22 V	0 ~ 11 A	200 W	1mV/1mA	0.1 ~ 24V/0.1 ~ 12A	≤1mVrms	8kg.
TPM-3010	0 ~ 32 V	0 ~ 11 A	300 W	1mV/1mA	0.1 ~ 36V/0.1 ~ 12A	≤1mVrms	8.5kg.
TPM-7503	0 ~ 80 V	0 ~ 3.2 A	255 W	1mV/1mA	0.1 ~ 84V/0.1 ~ 3.6A	≤3mVrms	8kg.
TPM-7505	0 ~ 80 V	0 ~ 5.5 A	375 W	1mV/1mA	0.1 ~ 84V/0.1 ~ 6.0A	≤3mVrms	8kg.
TPM-12001	0 ~ 128 V	0 ~ 1.1 A	120 W	10mV/1mA	0.1 ~ 134V/0.1 ~ 1.2A	≤1mVrms	8.5kg.
TPM-12002	0 ~ 128 V	0 ~ 2.2 A	240 W	10mV/1mA	0.1 ~ 134V/0.1 ~ 2.4A	≤1mVrms	6.8kg.
TPM-150015	0 ~ 160 V	0 ~ 1.6 A	225 W	10mV/0.1mA	0.1 ~ 180V/0.1 ~ 1.8A	≤1mVrms	8kg.
TPM-1820	0 ~ 19 V	0 ~ 21 A	360 W	1mV/1mA	0.1 ~ 21V/0.1 ~ 22A	≤1mVrms	9.8kg.
TPM-12003	0 ~ 128 V	0 ~ 3.2 A	360 W	10mV/0.1mA	0.1 ~ 134V/0.1 ~ 3.6A	≤2.5mVrms	9.8kg.
TPM-30012	0 ~ 330 V	0 ~ 1.2 A	360 W	10mV/0.1mA	0.1 ~ 360V/0.01 ~ 3.6A	≤10mVrms	10.2kg.
TPM-50007	0 ~ 500 V	0 ~ 0.7 A	350 W	10mV/0.1mA	0.1 ~ 550V/0.01 ~ 0.8A	≤10mVrms	10.2kg

Standard Accessories :

- User Manual
- Power cord
- Fuse