

TPS7000 series

Intellectual High-voltage power supply

Intelligent high-voltage power supply with output voltage of 1-10kV and a maximum power of 50W



Teslaman TPS7000 series is a high-performance 19-inch standard rack high-voltage power supply. The digital control method can meet the needs of customers for a variety of control functions. The nanosecond-level arc response ability ensures the trouble-free operation of the power supply, and the full load efficiency reaches more than 90%. This series of products has complete functions, high output accuracy, wide output range and small ripple. Custom functions can also be added through software.

- Output voltage 1-10kV
- Output power 50W
- Digitally programmable
- Nanosecond-level protection response
- Overvoltage/overcurrent/over-temperature/arc full protection
- RS-485 isolated digital communication
- Security interlock function
- It can be customized according to user requirements.

Typical applications:

High-energy particle injection; electrostatic spraying; Ion beam power supply; electron beam power supply; accelerator power supply; Hi-POT testing, high-voltage capacitor charging, scientific research, etc.

Specification description:

Rated input voltage: AC220V \pm 10%, 50Hz.

Rated output Voltage: 10kV

Rated output Current: 5mA

Rated output power: 50W

Front panel status indication:

High-voltage on, high-voltage off, constant voltage, constant current, positive polarity, negative polarity, overvoltage, overcurrent, over-temperature, arc, function, memory, actual value, set value, protection value, reset light indication, the power supply also has the function of status abnormal code display.

Voltage control:

Power supply front panel: The power supply comes with a rotary encoder to set the output voltage from 0 to the rated voltage.

External analog control: The external 0 to 10V control signal can set the output to 0 to the rated voltage.

Digital communication control: Through the RS-485 communication interface, the output can be set to 0 to the rated voltage according to the standard communication protocol.

Current control:

Power supply front panel: The power supply comes with a rotary encoder to set the output current from 0 to the rated current. External analog control: The external 0 to 10V control signal can set the output to 0 to the rated current.

Digital communication control: Through the RS-485 communication interface, the output can be set to 0 to the rated current according to the standard communication protocol.

Voltage Regulation:

Relative load: 0.01% (no load to rated load).

Relative input: \pm 0.01% (input voltage change \pm 10%).

Current Regulation:

Relative load: 0.01% (no load to rated load).

Relative input: \pm 0.01% (input voltage change \pm 10%).

Ripple voltage: less than 0.1% rms at rated voltage.

Environmental:

Operating temperature: 0°C to 50°C.

Storage temperature: -20°C to 80°C.

Temperature coefficient:

Usually 100ppm per degree Celsius.

Stability.:

After half an hour of preheating, it is better than 0.05% every 8 hours.

Humidity:10-90% no condensation.

Voltage and current indication:Four-digit LED digital tube, under rated output conditions, the error is 1%±1 word..

Protection:

The power supply has basic protection functions such as overheating, overvoltage, overcurrent, short circuit, arc, etc. Other required protection functions can be customized.

High voltage cable:

It is protruded from the inside of the power supply and is a 50kV high-voltage line. The total length of the standard high-voltage cable is 2m..

Dimensions: Dimension:

Wide218.5Mm, 44.5mm high and 247mm deep.

Weight:2.5kg~2.8kg.

Power input terminal J1:

Pins	Signal	Explain
1	L	Live
2	N	Neutral
3	G	Ground

RS-485 communication connection port J2:

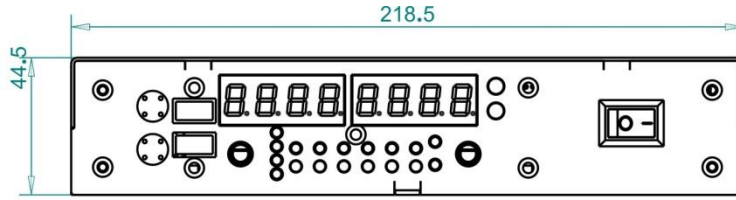
Pins	Signal	Description
1	A	RS485+
2	G	Ground wire
3	B	RS485-

TPS7000 Power supply DB25 connector signal definition J3:

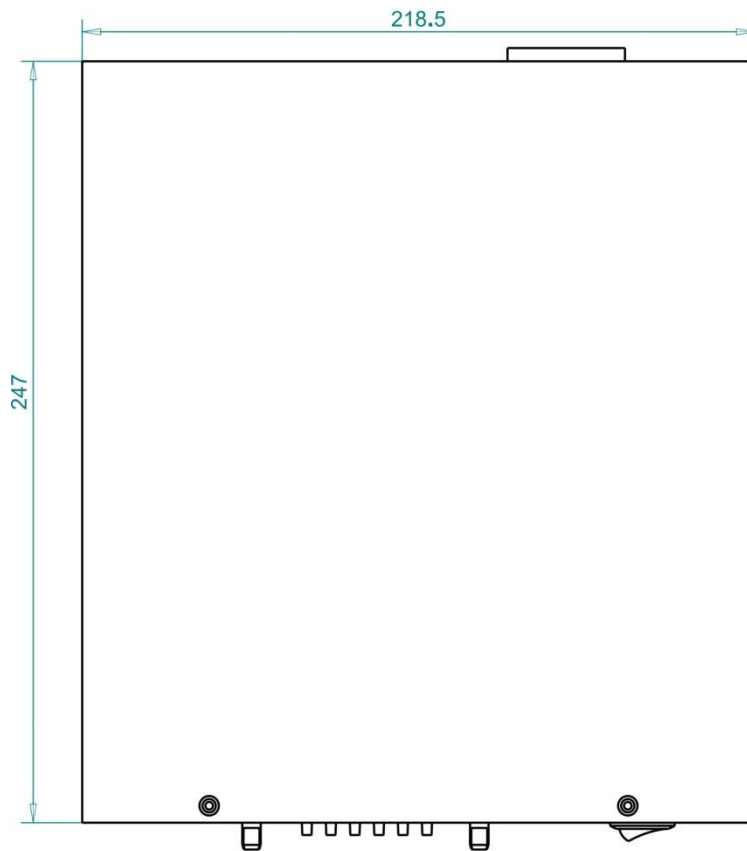
Pin	Signal	Explain
1	Remote Enable	Open collector, conduct for remote control.
2	Constant Voltage Indicate	Open the collector, conduct for constant voltage output.
3	High-voltage off Indication	Open collector, conduct for high-voltage output off
4	High-voltage on Signal	On at the rising edge (+15V for pin17)
5	Remote Enable	High level (+15V) is effective.
6	Safety Lock Enable	High level (+15V) is effective.
7	+15V	+15V, 100mA (maximum)
8	Current Setting	0 to 10V = 0 to 100% of rated output
9	Voltage Setting	0 to 10V = 0 to 100% of rated output
10	+15V	+15V, 100mA (maximum)
11	+10V	+10V, 1mA (maximum)
12	Voltage Display	0 to 10V = 0 to 100% of rated output
13	Current Display	0 to 10V = 0 to 100% of rated output
14	Fault Indication	Open collector, conduct for Fault.
15	Constant Current Indication	Open collector, conduct for constant current output.
16	High-voltage on Indication	Open collector, conduct for high-voltage output.
17	High-voltage signal	The descending edge is the high pressure level.
18	Fault reset	High level (+15V) is reset
19	Ground	Signal ground line
20	Ground	Signal ground line
21	Ground	Signal ground line
22	Ground	Signal ground line
23	Ground	Signal ground line
24	Ground	Signal ground line
25	Ground	Signal ground line
Shield	Ground	Signal ground line

Dimensions: mm

Front View



Top View



Rear View

