THP2381 Series Rack Mount DC High Voltage Power Supply



1kV-30kV, 15kW, Efficiency Reaches 94%, Parallel System Power Up to 1MW

Teslaman THP2381 series is a high performance "standard rack-mounted high voltage power supply. The digital control mode can meet the functional requirements of various customers' control settings. The nanosecond arc transient response capability ensures that the power supply runs without faults, and the efficiency reaches over 94%. This series of products have complete functions and wide output range, and can also add the functions that customers need to customize through software.

- Output Voltage 1kV-30kV
- Digitally Programmable
- Nanosecond Protection Response
- RS-485 Isolated Digital Communication
- Security Interlock Function
- The Output Power is 15kW, in Parallel Could Reach 1MW
- Over-Voltage, Over-Current, Short Circuit, Arc And Over-**Temperature Protection**
- Charging And Continuous DC Operation Modes Are Optional
- **OEM Customization Available**

Typical Application:

Ion implantation; Electrostatic spraying; Electrostatic electret; Withstand voltage test; Particle acceleration; Electrostatic field; Ion beam power supply; Electron beam power supply; Accelerator power supply; Insulation test; Shore base of deep-sea observation network; High voltage capacitor charging; High voltage power taking; Scientific research, etc.

Specifications:

Input: AC $380V \pm 10\%$, 50/60 Hz.

Output: Maximum output voltages could be designed from 1kV to 30kV and the maximum output power is 15kW. 0 to the highest voltage continuously adjustable, output positive or negative single polarity, voltage level can be customized.

Voltage Control:

Local control: The multi-turn potentiometer of the power supply can set the output voltage between 0 and the highest voltage.

External control: External 0 to 10V control signal can adjust the output from 0 to the highest output voltage.

Current Control:

Local control: The multi-turn potentiometer of the power supply can set the current between 0 and the highest current.

External control: The external 0 to 10V control signal can set the current between 0 and the highest current.

Voltage Regulation Rate:

Line: $\pm 0.01\%$ for $\pm 10\%$ change in input voltage.

Current Adjustment Rate:

Load: 0.01% of output current from 0 to rated voltage.

Optional Capacitor Charging Mode:

Peak charging power: 24kW.

Energy storage: < 0.3 J.

Pulse repetition accuracy is less than 0.1% at 100Hz.

Ripple Voltage: Under rated output conditions, ripple voltage is 0.3% p-p of the highest output voltage.

Environmental:

Operational: 0 °C to + 45 °C. Storage: -20 °C to +80 °C.

Temperature Coefficient: 0.01% per °C.

Stability: less than 0.1% every 8 hours after 1/2 hour warm up. Overall Dimensions: 482.6 mm wide, 266mm high and 666mm deep.

Weight: About 60kg.

Remote Control of Output Voltage and Current:

External potentiometer can be used to control the output voltage and current remotely by using 10V reference voltage inside the power supply.

Remote Voltage and Current Indication:

25-pin terminal contains 0 to 10V voltage and current indication signals, which can be externally connected with various digital or pointer meters.

Connector: Recessed plastic insulated conduit and probed high voltage cable are connected by metal connector with diameter of 16mm/28mm. The standard high voltage cable is 2 meters long.



THP2381 Series High Voltage Power Supply Model Selection Table (15kW):

	tput ting	Type of Po	Type of Power Supply	
kV	mA	Positive Polarity	Negative Polarity	
5.000	3.000	THP2381P5-15000	THP2381N5-15000	
10.00	1.500	THP2381P10- 15000	THP2381N10- 15000	

Power input terminal J1:

1 ower input	terminar or.		
Identificat ion	Signal	Identificat ion	Signal
L1	Live Wire	L3	Live Wire
L2	Live Wire	G	Ground wire

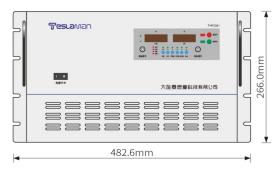
RS-485 Communication Interface J2:

Foot Position	Signal	Description
1	A	RS485 +
2	G	Ground Wire
3	В	RS485-

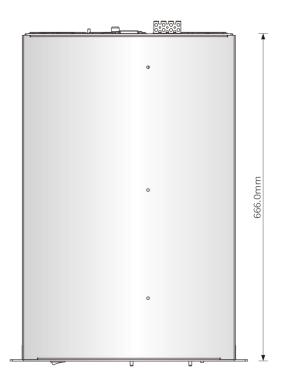
THP2381 Power DB25 Connector Signal Definition J3:

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High Voltage Falling edge is high			
High Voltage Falling edge is high Off Signal pressure off			
18 Fault Reset High (+ 15V) is reset		18	
19 Ground Signal ground wire			
20 Ground Signal ground wire			
21 Ground Signal ground wire			
22 Ground Signal ground wire			
23 Ground Signal ground wire			
24 Ground Signal ground wire		24	
25 Ground Signal ground wire	25 Ground		
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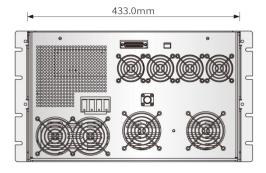
Overall Dimensions: mm



Front View



Top View



Rear View