TMO7036 Series

Electrostatic Chuck Power Supply | ±10kV,200W, 20ms switching time, Multi-channel independent output, compact design

- +24V DC Input
- Multi-channel independent output , ± 10kV each channel
- Switchable polarity, 20ms switching time
- Polarity hot switchable
- Analog/RS485 digital interface
- 100nf load detection

Introduction:

The TMO7036 series high-voltage power supply from Teslaman is specially designed for the application of electrostatic chucks, of outputting precise voltages within 10ms and switching polarity within 1s, thus providing protection for semiconductor processes. It features reversible ground-referenced polarity and can also output floating-ground bipolar voltages with corresponding floating-ground interfaces. It also has comprehensive fault diagnosis and status monitoring functions, which can transmit data to the interface. Its packaging design is compact and lightweight, suitable for OEM.

Application:

E-Chuck.

Specification:

Input	+24VDC±5%, 5A
Input port	125 pins
Output channels	Multiple output, Independent control
Output voltage range	-10kV ~ +10kV.
Output current	Setting range 0-35mA (load<1μF)
Voltage accuracy	±1% of rated value
Ripple	Typical <100mV p-p (load<10nf, 0-1MHz)
Pass origin	Yes
Over-shoot	Typical< 2V (load<10nf, from -10kV to +10kV)
Output delay	<3ms
Switching period	Typical 20ms (load<10nf, from -10kV to +10kV)
Frequency	Typical 50Hz (load<10nf, from -10kV to +10kV)
Output impendence	>20kΩ (each channel)
Voltage display	Resolution=1V, Accuracy better than ±50V
Current display	Resolution=10μA, Accuracy=actual output ±100μA, bias ±2%
Stability	2V/s
Line regulation	<0.1% when input change within 10%
Load regulation	<1.3% from 0 to full load
Protection	Input over/under voltage, over current; output over-voltage, over-current and over-temperature protection
Function	Voltage and current setting, d-chuck, etc.
Interface	DB25 analog, or RS-485 series port or other customizable
Control signal	0 corresponds to -10kV, 5 corresponds to 0kV, 10V corresponds to +10kV (customizable)

Typical load capacitance	<10nf (Please contact Teslaman for other load information)
Load detection	<100nF (need external detection module)
Temperature coefficient	<300ppm/℃ for current and voltage. At full load<0.1%p-p
Environmental	Operational：0˚C to 45˚C；Storage：-20˚C to 70˚C
Humidity	0 to 85%RH, non condensing
Cooling	Convection
Dimensions	W 355mm, H44.25mm, D 243mm

Description of Model Code

The model code represents the performance and parameters of the power supply, which are:

Maximum output voltage in kV;

Maximum output power in W;

Output polarity, PN for bipolar;

TMO7036 PN 10 - 20

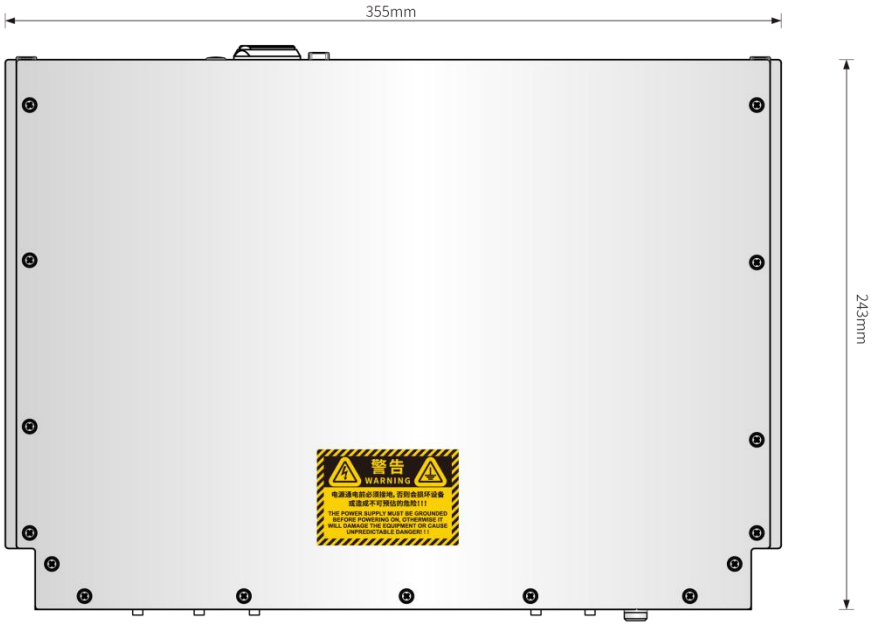
Model	Polarity	Maximum voltage	Maximum power

TMO7036 Model Selection Table

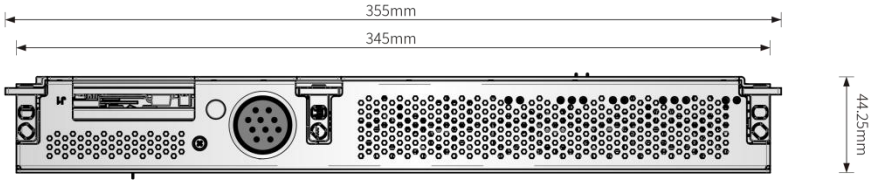
Rated Output		Model
kV	mA	
1	35	TMO7036PN1-35
3	35	TMO7036PN3-105
5	35	TMO7036PN5-175
10	35	TMO7036N10-350

Dimensions：mm

Front View



Top View



Rear View

Output Waveform