

TD2312 Series

Rack-mounted DC high-voltage power supply | 1kV~100kV, 500W~1kW, supports up to 18 units in parallel



- Output voltage: 1 kV~100 kV
- Output power: 500 W~1 kW
- Overvoltage, overcurrent, short-circuit and arc protection
- Voltage and current adjustment function
- Remote voltage and current adjustment
- Digital communication (optional)
- Safety interlock function
- Supports up to 18 units in parallel

Product Introduction:

Teslaman TD2312 series is a high-performance 19-inch standard rack-mount high-voltage power supply, capable of delivering up to 100 kV at 1 kW. Positive/negative voltage is selectable, and both output voltage and current are continuously adjustable. The high-voltage output can achieve a linear and smooth rise. The TD2312 series also supports an external potentiometer for remote control of output voltage and current, and features external voltage and current monitoring, overvoltage and short-circuit protection at the high-voltage output, arc protection, safety interlock, and other functions.

Typical Applications:

Ion implantation, Hi-POT testing, electrostatic electret charging, withstand voltage testing, electrical explosion, electrospinning, high-voltage power extraction, high-voltage capacitor charging, scientific research, and AI visual recognition.

Specification Description:

Input	AC220V $\pm$ 10%,50Hz,7A.
Output	Rated voltage selectable from 1 kV to 100 kV; maximum output power 1 kW. Continuously adjustable from 0 to maximum voltage. Single polarity (positive or negative).
Voltage Control	Internal: Built-in encoder sets output voltage from 0 to maximum. External remote: External 0–10 V control signal adjusts output from 0 to maximum output voltage.
Current Control	Internal: Built-in encoder sets current from 0 to maximum. External remote: External 0–10 V control signal sets current from 0 to maximum current.
Voltage Regulation	Load: 0.01% (no load to rated load). Line: $\pm$ 0.01% (for $\pm$ 10% input voltage change).
Current Regulation	Load: 0.01% (no load to rated load). Line: $\pm$ 0.01% (for $\pm$ 10% input voltage change).
Ripple	Under rated output voltage, ripple voltage is 0.1% p-p of maximum output voltage.
Ambient Temperature	Operating: 0 °C to +50 °C. Storage: –20 °C to +80 °C.
Temperature Coefficient	0.01% per °C.
Stability	Less than 0.1% per 8 hours after 0.5-hour warm-up.

Voltage and Current Indication	0 to +10 V; accuracy 1% under rated output conditions.
Dimensions	W 482 mm × H 133.5 mm × D 620 mm.
Connector	High-voltage output connector: recessed epoxy resin insulating conduit and inserted high-voltage cable connected via a 16 mm diameter metal connector. Standard high-voltage cable total length: 2 meters.
Input/Output Connector	25-pin terminal block, including control and display signals.
Remote Control of Output Voltage and Current	External potentiometer can be connected, using the internal 10 V reference voltage, for remote control of output voltage and current.
Remote Voltage and Current Indication	The 25-pin terminal block includes 0–10 V voltage and current indication signals, allowing connection to various digital or analog meters.

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, P for positive output, N for negative output;

TD2312	*	100	-	1000
↓	↓	↓		↓
Model	Polarity	Maximum Voltage		Maximum Power

TD2312 Series High Voltage Power Supply Model Selection Table (Customizable):

Output Ratings		Power Supply Model	
kV	mA	Positive Polarity	Negative Polarity
5.00	200	TD2312P5-1000	TD2312N5-1000
10.00	100	TD2312P10-1000	TD2312N10-1000
20.00	50	TD2312P20-1000	TD2312N20-1000
30.00	33.33	TD2312P30-1000	TD2312N30-1000
40.00	25	TD2312P40-1000	TD2312N40-1000
50.00	20	TD2312P50-1000	TD2312N50-1000
60.00	16.67	TD2312P60-1000	TD2312N60-1000
80.00	12.5	TD2312P80-1000	TD2312N80-1000
100.0	10	TD2312P100-1000	TD2312N100-1000

Power Input Terminal Block J1:

Pin	Signal	Description
1	L	Live
2	N	Neutral
3	G	Ground

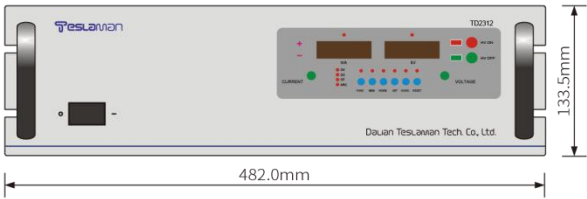
RS-485 Communication Interface J2:

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

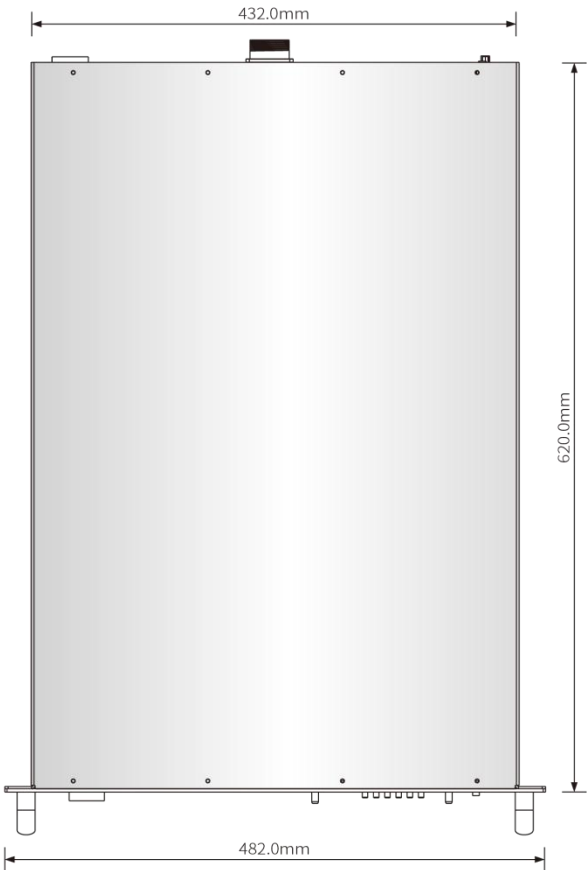
TD2312 Power Supply DB25 Connector Signal Definitions J3:

Pin	Signal	Description
1	Remote indicator	Open collector; conducts = remote control active
2	Constant voltage indicator	Open collector; conducts = constant voltage output
3	HV off indicator	Open collector; conducts = HV output off
4	HV on signal	Rising edge turns on (Pin 17 is +15V)
5	Remote enable	High level (+15V) = active
6	Interlock enable	High level (+15V) = active
7	+15V	+15V, 100 mA (max)
8	Current setpoint	0 to 10V = 0 to 100% rated output
9	Voltage setpoint	0 to 10V = 0 to 100% rated output
10	+15V	+15V, 100 mA (max)
11	+10V	+10V, 1 mA (max)
12	Voltage monitor	0 to 10V = 0 to 100% rated output
13	Current monitor	0 to 10V = 0 to 100% rated output
14	Fault indicator	Open collector; conducts = power supply fault
15	Constant current indicator	Open collector; conducts = constant current output
16	HV on indicator	Open collector; conducts = HV output on
17	HV off signal	Falling edge turns HV off
18	Fault reset	High level (+15V) = reset
19	Ground	Signal ground
20	Ground	Signal ground
21	Ground	Signal ground
22	Ground	Signal ground
23	Ground	Signal ground
24	Ground	Signal ground
25	Ground	Signal ground
Shield	Ground	Signal ground

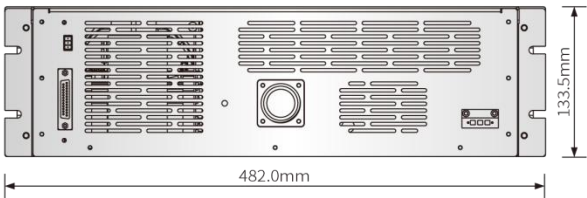
Dimensions: mm



Front View



Top View



Rear View