

# TRC2020 Series Rack Mount DC High Voltage Power Supply



**1kV-100kV, 300W, High Precision, Digital Voltage and Current Indication**

Teslaman TRC2020 Series high voltage power supplies are equipped with digital voltage and current indications and can be installed in 19 "standard cabinets." It can realize linear and stable rise of high voltage output. TRC2020 series power supply can also be connected with external potentiometer to realize remote control of output voltage and current, and has external voltage and current display, and high voltage output has functions such as over-voltage, over-current, short circuit protection and arc protection. TRC2020 has stable performance and can well meet the needs of users.

- Output Voltage 1kV-100kV
- Maximum Output Power 300W
- Digital Voltage and Current Display
- Over-Voltage, Over-Current, Short Circuit and Arc Protection
- Voltage and Current Can Be Adjusted Remotely
- Voltage and Current Regulation Function
- OEM Customization Available

## Typical Application:

Electrostatic spraying; Capillary electrophoresis; Electrostatic flocking; Scientific experiments; Plastic sorting; Ion beam power supply; Electron beam power supply; Accelerator power supply, etc.

Optional Features: DO Dual High Voltage Power Cable Output

## Specifications:

**Input:** AC220V  $\pm$  10%, 50/60 Hz.

**Output:** Maximum output voltages could be designed from 1kV to 100kV, and the maximum output power is 300W. 0 to the highest voltage is continuously adjustable, and the output is positive and negative single polarity.

### Voltage Control:

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

**External remote 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 output current between 0 and the highest current.

**External remote control:** External 0 to 10V control signal can adjust the output from 0 to the highest output current.

### Voltage Regulation:

**Load:** 0.01% of output voltage no load to full load.

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

### Current Regulation:

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

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

**Ripple Voltage:** Under rated output conditions, the peak-to-peak ripple voltage is 1% of the maximum output voltage, 0.1% ripple upon request.

### Environmental:

**Operational:** 0 °C to + 50 °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.

**Voltage and Current Indication:** 0 to + 10V, with accuracy of 1% under rated output conditions.

### Overall Dimensions:

1kV to 50kV: 482.6 mm wide, 87.6 mm high and 364.5 mm deep.

51kV to 100kV: 482.6 mm wide, 87.6 mm high and 444.5 mm deep.

### Connectors:

**High Voltage Output Connector:** Recessed epoxy insulated conduit and probed high voltage cable are connected by a 16mm diameter metal connector. The standard high voltage cable is 2 meters long.

**Input and output connector:** 25-pin terminal, including control and display signals.

**Remote Voltage and Current Control:** 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.

**TRC 2020 Series High Voltage Power Supply Voltage, Shape Dimension Selection Table:**

Voltage	Overall Dimensions (mm)	
1-50kV	Width/Height/Depth	482.6/87.6/364.5
51-100kV	Width/Height/Depth	482.6/87.6/444.5

Remote control of output voltage and current:  
External potentiometer can be used for remote control of output voltage and current by using 10V voltage reference inside the power supply.

**TRC 2020 Series High Voltage Power Supply Model Selection Table**

Output Rating		Type of Power Supply	
kV	mA	Positive Polarity	Negative Polarity
10	30	TRC2020P10-300	TRC2020N10-300
20	15	TRC2020P20-300	TRC2020N20-300
30	10	TRC2020P30-300	TRC2020N30-300
50	6	TRC2020P50-300	TRC2020N50-300
60	5	TRC2020P60-300	TRC2020N60-300
80	3.75	TRC2020P80-300	TRC2020N80-300
100	3	TRC2020P100-300	TRC2020N100-300

**Terminal of 220V AC power supply**

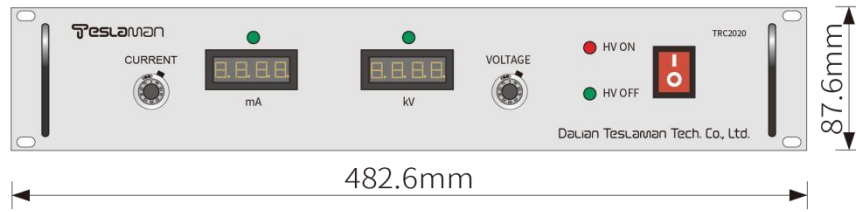
JP2	Signal	JP2	Signal
1	Live Wire	3	Null line
2	Ground		

**Voltage and current control (25-pin terminal)**

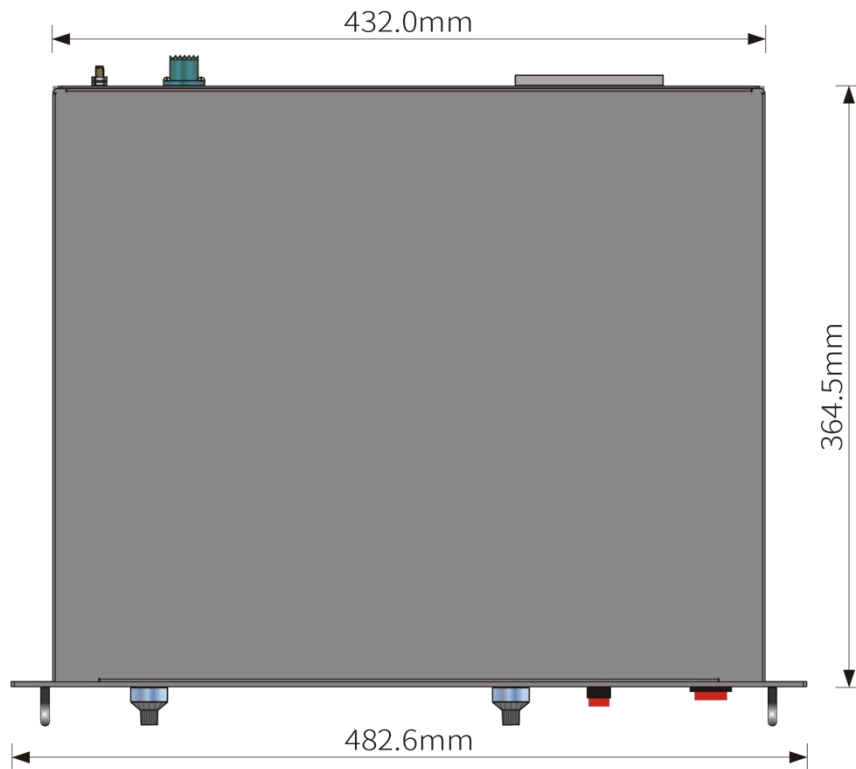
Pin	Signal	Pin	Signal
1	+ 5V	14	Standby
2	Standby	15	Standby
3	Fault indicator lamp	16	+ 12V
4	Ground	17	Standby
5	Ground	18	High voltage off indicator lamp
6	+ 12V	19	High voltage turn-on indicator light
7	Ground	20	Ground
8	High pressure switch	21	High pressure opening
9	Voltage display	22	Ground
10	Current display	23	Voltage given output
11	Voltage given input	24	+ 10V
12	Current given output	25	Current given input
13	+ 10V		

# Overall Dimensions: mm

1 kV to 50kV:



**Front View**



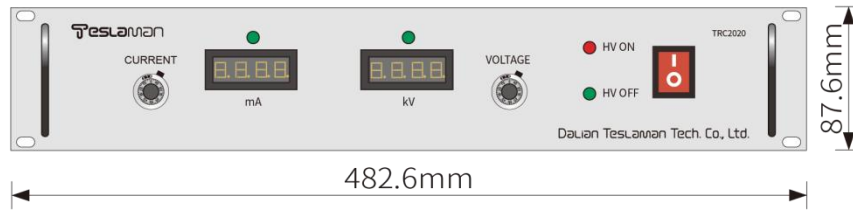
**Top View**



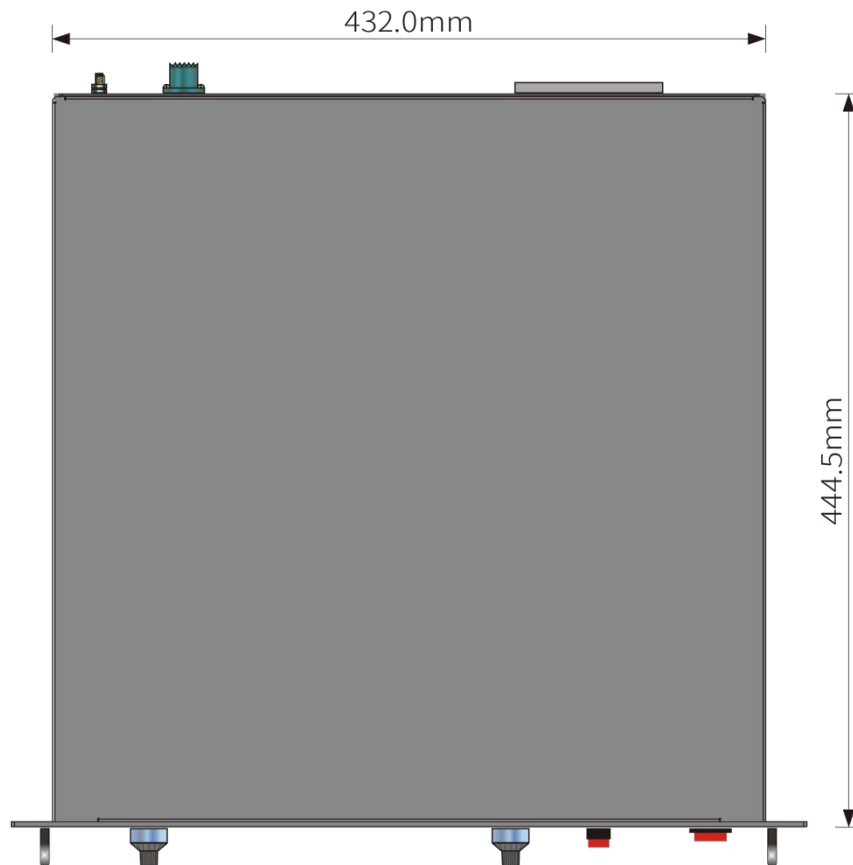
**Rear View**

# Overall Dimensions: mm

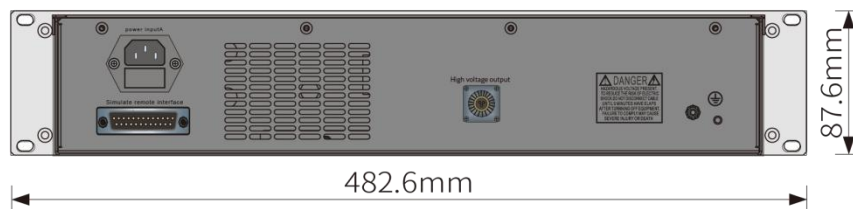
51kV to 100kV:



**Front View**



**Top View**



**Rear View**