TVS6073 Series
Modular High Voltage Power Supply

30kV, 30W, High Stability, Low Ripple and Low Noise

Teslaman TVS6073 is a modular high voltage power supply with adjustable/fixed output polarity, which is fully packaged and dedicated to system or workbench operation. The output voltage range is wide, up to 30kV. Output voltage is controlled locally through an internal multi-turn potentiometer with remote analog voltage or current programming capability. Analog monitoring output includes remote monitoring of high voltage and current output.

- Compact Model, Voltage Up to 30kV
- High Stability
- Low Ripple and Low Noise
- Analog Control (Remote/Local)
- RS-232 Control (Digital Exclusive)
- Voltage And Current Monitoring
- Arc And Short Circuit Protection
- Provide OEM Customization

Typical Application:
Spectrum; Detector; Electron beam system; General laboratory use.

Specifications:

Input Voltage:
AC: 100-240VAC, 10%; 50/60 Hz; 1A.
DC: 24VDC ± 10%, 2A.

Voltage regulation:
Input: 90-240VAC input voltage change, 0.005% of the maximum value.
± 10% VDC input voltage change, ± 0.005% of the maximum value.
Load: 0 to the maximum rated output current change, 0. 01% of the maximum value.

Current Regulation:
Input: 90-240VAC input voltage changes, ± 0.05% of the maximum current.
± 10% VDC input voltage change, 0.05% of maximum current.
Load: 0 to 0.2% of the minimum rated output voltage and the maximum current.

Ripple: Under the precondition of output rated voltage, the minimum ripple is 75mV, and the maximum ripple is 1.8 V.

Temperature Coefficient: ≤ 50 ppm/℃.

Stability: 0.5 hours after startup, ≤ 0.01%/hour, 0.02% every 8 hours.

Environmental:
Operation: 0 ℃ to + 50 ℃.
Storage:-40 ℃ to + 85 ℃.

Humidity: 20% to 85% relative humidity, no condensation.

Local Control:
The internal multi-turn potentiometer controls 0 to the maximum output voltage (0.2%).

Remote Programming: 0 to + 5VDC analog input signals correspond to 0 to maximum rated output.
The accuracy is ± (0.1% of the set value + 0.1% of the maximum value).
The programmed input impedance is 20 M Ω.

Voltage Monitoring:
0 to + 5V corresponds to 0 to the maximum output voltage.
The accuracy is ± (0.1% of the readout value + 0.1% of the maximum value).
The monitoring impedance is 10k Ω.

Current Monitoring:
0 to + 5V corresponds to 0 to the maximum output current.
The accuracy is ± (2.0% of the readout value + 1.0% of the maximum value).
The monitoring impedance is 10k Ω.

Enable: Remote interlock enabled (low level) disables internal (high level) high voltage output.
The signal is normally high, and the power supply is disabled by default.

Current Limit: All power supplies provide short circuit current limit, less than 110% of the maximum rated output current. Once the condition that caused the restriction is removed, the power will be restored automatically.

Arc/Short Circuit: short circuit and arc protection; Automatic recovery.

Cooling: Convective cooling.

Dimensions:
AC input model: 77mm wide, 132mm high and 179mm deep.
DC input model: 59mm wide, 132mm high and 179mm deep.

Weight:
AC input model: 2kg.
DC input model: 1.7 kg.

TVS6073 Series High Voltage Power Supply Model Selection Table (Customizable):

Output Rating		Type of Power Supply	
kV	mA	Positive Polarity	Negative Polarity
1	30	TVS6073P1-30	TVS6073N1-30
10	3	TVS6073P10-30	TVS6073N10-30
20	1.5	TVS6073P20-30	TVS6073N20-30
30	1	TVS6073P30-30	TVS6073N30-30

Analog/digital interface-
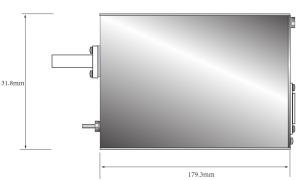**J115 Type D Connector with Pin Female Head:**

Stitch	Signal	Description
1	Local Voltage Programming	Multi-turn front panel potentiometer
2	Receive Input	RS-232 Receives Data
3	Send Output	RS-232 sends data
4	Voltage Programming Input	0 to 5V = 0 to 100% rated output, Zin = 20 M Ω.
5	Signal Ground	RS-232 Ground (optional)
6	Signal Ground	Ground
7	+ 5V Reference Output	+ 5V, max 1mA
8	High Voltage Enable Input	Active low, enable high voltage.
9	Current Programming Input	0 to 5V = 0 to 100% rated output, Zin = 20 M Ω.
10	Current Monitoring	0 to 5V = 0 to 100% output rating, Zout = 10 k Ω.
11	Voltage Monitoring	0 to 5V = 0 to 100% output rating, Zout = 10 k Ω.
12	High Voltage Enable Output	Low active, high enabled.
13	+ 24V Return	Ground
14	+ 24Vdc	No connection
15	+ 24Vdc	No connection

Analog/digital interface-
J115 Type D Connector with Pin Female Head:

Stitch	Signal	Description
1	Local Voltage Programming	Multi-turn front panel potentiometer
2	Receive Input (Optional)	RS-232 Receives Data
3	Send Output (Optional)	RS-232 sends data
4	Voltage Programming Input	0 to 5V = 0 to 100% rated output, Zin = 20 M Ω.
5	Signal Ground	RS-232 Ground (optional)
6	Signal Ground	Ground
7	+ 5V Reference Output	+ 5V, max 1mA
8	High Voltage Enable Input	Active low, enable high voltage.
9	Current Programming Input	0 to 5V = 0 to 100% rated output, Zin = 20 M Ω.
10	Current Monitoring	0 to 5V = 0 to 100% output rating, Zout = 10 k Ω.
11	Voltage Monitoring	0 to 5V = 0 to 100% output rating, Zout = 10 k Ω.
12	High Voltage Enable Output	Low active, high enabled.
13	Signal Ground	Ground
14	N/C	Connectionless
15	N/C	Connectionless

Overall Dimensions: mm

AC

78mm

131.8mm

179.3mm

J1

DC

58.9mm

131.8mm

179.3mm

J1