

# TM6040 Series High-Voltage Power Supply Module

6kV, 60W, 125W, Low Overshoot



Teslaman TM6040 Series of high-voltage modules, Provide up to 60W, 125W, suitable for systems with high energy and large capacity, high response rate or continuous high power requirements.

- 60W, 125W High Power Output
- Low Energy Storage, Fast Rising Time, Low Overshoot
- At 0V Output, Output Current is Adjustable from 0 to Maximum
- Output Short Circuit Protection
- High Power/Voltage Density
- High Efficiency
- Ultra-Thin, Digital Control
- Output Voltage Current Display
- OEM Customization Available

#### Typical Application:

Laser pulse, capacitive charging, pulse power supply, pulse generator, test equipment, ion pump, plasma generator, electrostatic precipitation, high-voltage amplification bias, industrial testing, TDR, wire testing, cable detection, traveling wave tube.

#### Specifications:

**Input voltage:** +23VDC~+30VDC Typical value. Power reduction input voltage, 60W/125W to +11VDC~+30VDC.

#### Input current:

Standby current: 40mA。

No-load current: 1250mA。

Full current: <13A。

**Output voltage:** 0.125kV, 0.25kV, 0.5kV, 1kV, 2kV, 4kV, 6kV.

**Ripple:** Less than 1% (with the maximum output of the maximum load).

**Stability:** Half an hour after starting up, <0.01%/8hr, 0.02%/24hr.

**Voltage Regulation:** Line: <0.01%. Load: <0.01%.

**Current Regulation:** Line: <0.01%. Load: <0.01%.

**External control of output voltage:** Adjusted by an external 20kW potentiometer, 0~+5VDC Corresponding to 0~100% rated output,  $Z_{in} = 10MW$ .

**External control of output current:** Adjusted by an external 20kW potentiometer, 0~+5VDC Corresponding to 0~100% rated output,  $Z_{in} = 10MW$ .

#### Voltage display:

0~+5VDC Corresponding to 0~100% rated output,  $Z_{out} = 464W \pm 1\%$ .

#### Current display:

0~+5VDC Corresponding to 0~100% rated output,  $Z_{out} = 464W \pm 1\%$ .

**Overshoot:** Capacitance load, 0 to maximum output less than 1% Vpk.

#### Rise time:

Proportion to the maximum output current, capacitance load and output voltage.

#### Ambient temperature:

Working time: -10~+50°C (customizable in the range of -55~+85°C);

Temperature coefficient: 50ppm (optional 25ppm).

Storage time: -55~+105°C.

**Temperature impact test:** Optional: -40~+65°C.

**Humidity:** 0~95% relative humidity, no condensation.

#### Operating altitude range:

Optional: Sea level up to 70,000 feet.

#### Appearance size:

Width 114.3mm, height 27mm, depth 101.6mm.

**TM6040Series high-voltage power supply model selection table (customizable):**

Output Rated Value		Power Supply Model	
kV	Master of Arts	Positive polarity	Negative polarity
1	125	TM6040Parking lot1-125	TM6040N1-125
2	62.5	TM6040Parking lot2-125	TM6040N2-125
3	41.67	TM6040Parking lot3-125	TM6040N3-125
4	31.25	TM6040Parking lot4-125	TM6040N4-125
5	25	TM6040Parking lot5-125	TM6040N5-125
6	20.83	TM6040Parking lot6-125	TM6040N6-125

**RS-232/RS-485 communication connection:**

Pin	Signal	Explain
2A	TX/A	TXD sends data/RS-485A
9A	RX/B	RX Data Receiving/RS-485B
10	D	Ground for digital communication

**Connector:**

Line of stitches	Signal	Explain
1,8	Idle (NC)	Free
2,9	Idle (NC)	Free
3	Current display (I <sub>mon</sub> )	0~+5VDCCorresponding to 0~100% rated output, Z <sub>out</sub> =464Ω
4	Low start (LS)	High-pressure opening: grounding, high-pressure closing: suspended
5	Signal ground (SGND)	Signally
6	Given voltage (V <sub>p-in</sub> )	0~+5VDCCorresponding to 0~100% rated output, Z <sub>in</sub> =10MΩ
7	+5VDC(V <sub>ref</sub> )	+5VDCReference voltage
10	Idle (NC)	Idle (digitally D at RS-232 and RS-485)
11	Current mode (I <sub>mode</sub> )	When the module works in current mode, this pin is low-level.
12	Voltage mode (V <sub>mode</sub> )	When the module works in voltage mode, this pin is low-level.
13	Given current (I <sub>p-in</sub> )	0~+5VDCCorresponding to 0~100% rated output, Z <sub>in</sub> =10MΩ
14	Voltage display (V <sub>mon</sub> )	0~+5VDCCorresponding to 0~100% rated output, Z <sub>out</sub> =464Ω
15,16	High pressure	High pressure
17,18	Power Input	+24VDCPower supply input, standard voltage range of +23VDC~30VDC
19,20	Power supply	Power supply
21	High-voltage output	High-voltage output

**Appearance Size: mm**

