TM6040 Series

High-Voltage Power Supply Module | 2kV, 125W, Low Overshoot Key Features



- 60 W, 125 W high-power output
- Low stored energy, fast rise time, low overshoot
- Output current adjustable from 0 to maximum at 0 V output
- Output short-circuit protection
- High power-to-voltage density
- Ultra-thin form factor, digitally controllable
- Output voltage and current readback
- Customizable per user requirements

Product Introduction:

Teslaman TM6040 series high-voltage modules deliver 60 W and 125 W output power. Thanks to its high power density, it is well-suited for high-energy systems such as large-capacitance loads, fast-repetition-rate operation or applications requiring high continuous DC power.

Typical Applications:

Capacitor charging,pulsed-power supplies, pulse generators, test equipment, plasma generators, static high- voltage amplification biasing, industrial testing, TDR, wire testing, cable inspection, traveling-wave tubes.

Specification Description:

Input voltage	+23 VDC ~ +30 VDC (typical)
Input current	Standby: 40 mA. No-load: < 500 mA Full-load: < 6.9 A.
Output voltage	1kV, 2kV, 3kV, 4kV, 5kV, 6kV.
Ripple	Better than 1 % rms under rated output (0.1 % rms optional) (at maximum load & maximum output).
Stability	< 0.01 % / 8 h, 0.02 % / 8 h after 30- min warm- up.
Voltage Line Regulation	< 0.01 %.
Voltage Load Regulation	< 0.01 %.
Current Line Regulation	< 0.01 %.
Current Load Regulation	< 0.01 %.
External Voltage Control	Adjust via external 10 kΩ ~ 100 kΩ potentiometer;Positive polarity: 0 ~ +5 VDC corresponds to 0- 100 % full- scale output;Negative polarity: +5 VDC ~ 0 V corresponds to 0- 100 % full- scale output.
External Current Control	Adjust via external 10 k Ω ~ 100 k Ω potentiometer; 0 ~ +5 VDC corresponds to 0- 100 % full- scale output.
Voltage Monitor Output	0 ~ +5 VDC corresponds to 0- 100 % full- scale output.
Current Monitor Output	0 ~ +5 VDC corresponds to 0- 100 % full- scale output.
Operating Temperature	Operating: - 40 ~ +65 ° C (baseplate temperature); Storage: - 55 ~ +105 ° C
Temperature Coefficient	Better than 50 ppm / ° C for both voltage and current
Humidity	0- 95 % RH, non- condensing.
Dimensions	Width 114.3 mm, Height 27 mm, Depth 101.6 mm.

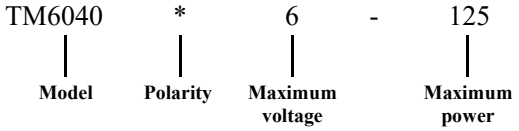
Description of Model Code

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;



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

Rated Output		Model of Power Supply	
kV	mA	Positive polarity	Negative polarity
1	125	TM6040P1-125	TM6040N1-125
2	62.5	TM6040P2-125	TM6040N2-125
3	41.67	TM6040P3-125	TM6040N3-125
4	31.25	TM6040P4-125	TM6040N4-125
5	25	TM6040P5-125	TM6040N5-125
6	20.83	TM6040P6-125	TM6040N6-125

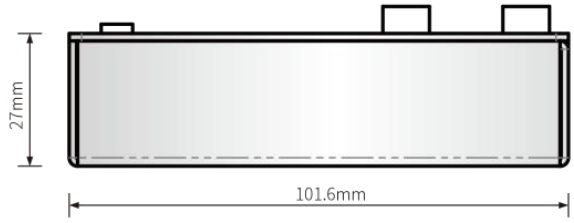
RS-232/RS-485 communication connection：

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

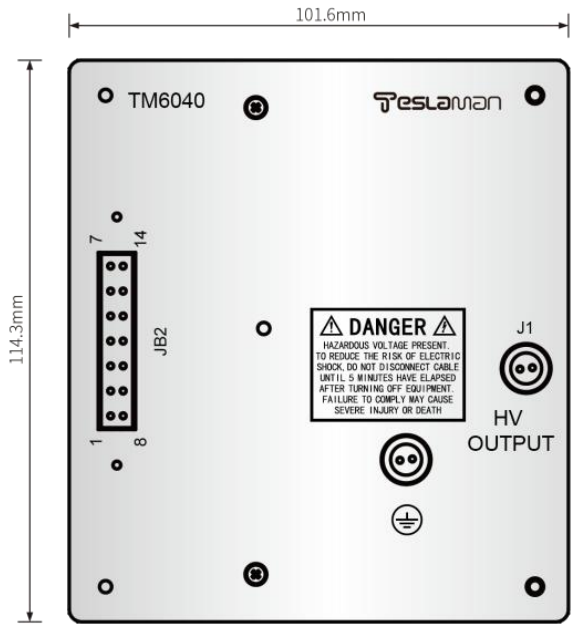
Connector:

PIN	Signal	Signal Parameter
1,8	Input Power Ground	DC input power ground
2,9	Power Input	Rated +24 VDC; input range +23 VDC ~ +30 VDC
3	Imon (Current Monitor)	Max. sink/source current: 3 mA
4	HV Enable	Low = disable high-voltage output; High = enable high-voltage output
5	SGND (Signal Ground)	Signal reference ground
6	Vp-in (Voltage Setpoint)	Positive polarity: 0 V ~ +5 VDC for 0-100 % rated output, Zin = 10 MΩNegative polarity: +5 VDC ~ 0 V for 0-100 % rated output, Zin = 10 MΩ
7	Vref (+5 VDC)	+5 VDC reference output, output resistance 464 Ω ± 1 %
10	NC	No connection (spare)
11	Imode (Current-mode Select)	Low level = module operates in constant-current mode
12	Vmode (Voltage-mode Select)	Low level = module operates in constant-voltage mode
13	Ip-in (Current Setpoint)	0 ~ +5 VDC corresponds to 0-100 % rated output, Zin = 10 MΩ
14	Vmon (Voltage Monitor)	Max. sink/source current: 3 mA
15,16	HV Ground	High-voltage return ground
17,18	HV Output	High-voltage output terminals

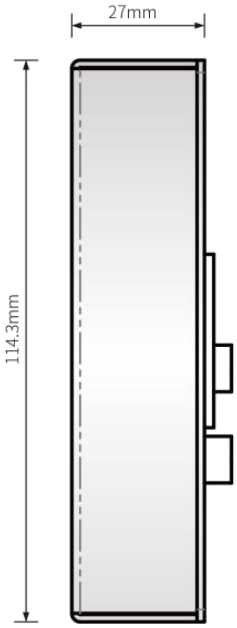
Dimensions: mm



Front view



Vertical view



Side view