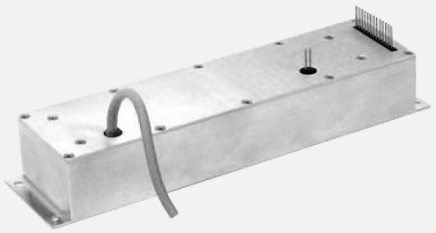
TUM6063 Series
Modular High Voltage Power Supply



8kV ~ 40kV, 4W/15W/30W, Voltage/ Current Regulation by Automatic Crossover Control

Teslaman TUM6063 series printed circuit boards can be mounted with high-voltage modules, which integrates multiple functions and can replace many power supply modules currently used in the market. At the same time, they have the characteristics of better performance, higher reliability, more convenient system integration and lower price.

- Voltage Range From 8kV to 40kV
- Available Output Power is 4W, 15W and 30W
- Voltage/Current Regulation Through Automatic Crossover Control
- Voltage And Current Monitoring Signal
- Arc And Short Circuit Protection
- Accurate +5V Reference Output
- Universal Standard Interface

Specifications:

Input Voltage: 4W model input voltage is 12VDC, 15W and 30W model input voltage is 24VDC.

Output Voltage Range:

The voltage range of 4W is 11VDC to 30VDC, and the voltage range of 15W and 30W is 23VDC to 30VDC. The 4W power supply will not reduce the rated power value or damage the power supply when working at 24VDC input.

Input Current: (Typical)

Disabled: 10mA, 24VDC.

Full output, no load: 160mA, 24VDC, 300mA, 12VDC.

Full output, full load:

4W power supply: 330mA, 24VDC, 640mA, 12VDC.

15W power supply: 850mA, 24VDC.

30W power supply: 1590mA, 24VDC.

Voltage Regulation:

Input: < 0.01% Load: < 0.01%.

Current Regulation:

Input: < 0.01% Load: < 0.01%.

Stability:

After 30 minutes of preheating, 0.01% every 8 hours and 0.02% every day.

Accuracy:

2% of all programming and monitoring, except current sensor 10%.

Temperature Coefficient: (typical)

Standard: 100ppm/℃.

Optional: 25ppm/℃ (T option).

Environmental:

Temperature range:

Operational:-40 ℃ to 65 ℃, shell temperature.

Storage temperature:-55 ℃ to 105 ℃, non-working.

Humidity: 10% to 90%, no condensation.

Cooling:

Natural cooling. When the 30W power supply works at full power, external cooling may be needed to keep the housing temperature below 65 ℃. Methods include: forced air cooling, using radiator or metal shell, etc. The shell temperature must be kept below 65 ℃.

Dimensions:

8kV-12kV: 38.1 mm wide, 25.03 mm high and 93.98 mm deep.

15kV-20kV: 38.1 mm wide, 25.03 mm high and 119.38 mm deep.

25kV-40kV: width 40.84 mm, height 28.87 mm and depth 176.78 mm.

Weight:

8kV-12kV: about 170 grams.

15kV-20kV: about 200g.

25kV-40kV: about 300g.

TUM6063 Series High Voltage Power Supply Model Selection Table (Customizable):

Output Rating		Type of Power Supply	
kV	mA	Positive Polarity	Negative Polarity
8	3.75	TUM6063P8-30	TUM6063N8-30
10	3	TUM6063P10-30	TUM6063N10-30
20	1.5	TUM6063P20-30	TUM6063N20-30
30	1	TUM6063P30-30	TUM6063N30-30
40	0.75	TUM6063P40-30	TUM6063N40-30

Standard interface:

Stitch	Signal	Description
1	Ground Return of Power Supply	+ 12VDC or + 24VDC Power Return/High Voltage Return
1A	Characteristic Resistance	Unique identification resistor connected to ground
2	+ Power Input	+ 12VDC or + 24VDC power input
2A	Over-temperature Output	+ 5VDC, 1mA = over-temperature fault
3	Current Sensor	Please refer to the current sensor description and table for details
3A	Current Monitoring	0 to 4.64 VDC = 0 to 100% rated output. Zout < 10k Ω
4	Enable Input	Low (< 0.7 V, Isink, 1mA) = high-voltage off, high (open or > 2V) = high-voltage on.
4A	Voltage Monitoring	0 to 4.64 VDC = 0 to 100% rated output. Zout < 10k Ω
5	Signal Ground	Signal ground
5A	Current Programming	0 to 4.64 VDC=0 to 100% rated output. Zin > 47 k Ω remains open for preset current limit, 103% of rated output current
6	Remote Adjustment	Positive power supply: 0 to +4.64 VDC = 0 to 100% rated voltage, Zin > 1 M Ω Negative power supply: + 5VDC to 0.36 V= 0 to 100% rated voltage, Zin > 100 k Ω If programmed using pin 6A (voltage programming), this pin remains open
6A	Voltage Programming	0 to 4.64 VDC = 0 to 100% voltage rating. Zin > 100 k Ω If programmed using Pin 6 (remote adjustment), this pin remains open.
7	+ 5V Reference Output	+ 5VDC ± 1%, 25ppm/°C. Zout = 475 Ω
8	Return At High Pressure	Return at high pressure
9	E Output Monitoring	1000: 1 ratio. The polarity of the voltage monitoring signal is consistent with that of the power supply. The accuracy is 2%, 100ppm/°C. Calibration of voltmeters using 10 M Ω input impedance

Legacy interface (L option):

Stitch	Signal	Description
1	Ground Return of Power Supply	+ 12VDC or + 24VDC Power Return
2	+ Power Input	+ 12VDC or + 24VDC power input
3	Current Sensor	Please refer to the current sensor description and table for details
4	Enable Input	Low (< 0.7 V, Isink, 1mA) = high voltage off, high (open or > 2V) = high voltage on
5	Signal Ground	Signal ground
6	Remote Adjustment	Positive power supply: 0 to +4.64 VDC = 0 to 100% rated voltage, Zin > 1 M Ω. Negative power supply: + 5VDC to 0.36 V=0 to 100% rated voltage, Zin > 100k Ω.
7	+ 5V Reference Output	+ 5VDC ± 1%, 25ppm/°C. Zout = 475 Ω
8	High Voltage Grounding Return	High voltage grounding return
9	E Output Monitoring	1000: 1 ratio. The polarity of the voltage monitoring signal is consistent with that of the power supply. The accuracy is 2%, 100ppm/°C. A voltmeter with an input impedance of 10 M Ω is used for calibration.