

TPS7020 Series

Modular DC High Voltage Power Supply

1kV-10kV,1W,High Precision,Ultra-Fast Response Speed, Small Volume



Teslaman TPS7020 series is a high-performance modular high-voltage power supply. Adopting analog and digital dual control mode, it can meet the needs of customers for various control functions, and the high-reliability power supply can run without faults for a long time. This series of products has high precision, wide output range, and has the fast following ability of 100ms test pulse voltage, which greatly improves the working test efficiency and well meets the needs of customers.

- Output Voltage 1kV-10kV
- Output Current 0.1mA
- Output Power 1W
- High Precision Up to 10nA
- 100ms Level Follow-Up Response
- Over-Voltage, Over-Current And Short
- Circuit Protection
- DB9 and RS-485 Control Interface
- OEM Customization Available

Typical Application:

Semiconductor testing; Electrostatic field; Ion beam power supply; Insulation test; High voltage power taking; Scientific research, etc.

Specifications:

Input: DC24V \pm 10%.

Output: Maximum output voltage could be designed from 1kV to 10kV, with current of 0.1 mA and maximum output power of 1W.
0 to the highest voltage continuously adjustable.

Voltage Control:

Local Control: The power supply comes with a rotary encoder to set the output voltage between 0 and the highest voltage.

External Analog Control: The external 0 to 10V control signal can adjust the output from 0 to the highest output voltage.

Digital Communication Control: Through RS-485 communication interface, the output can be adjusted from 0 to the highest voltage according to the standard Modbus communication protocol.

Control the voltage change within 60ms to complete the high voltage output following.

Current Control:

Local Control: The power supply comes with a rotary encoder to set the output current between 0 and the highest current.

External Analog Control: The external 0 to 10V control signal can adjust the output from 0 to the maximum current. The control current acquisition design is divided into four grades, which support 10-100uA, 1-10uA, 10DA-1uA and 100PA-1OnA respectively.

Digital communication control: Through RS-485 communication interface, the output can be adjusted from 0 to the maximum current according to the standard Modbus communication protocol.

Voltage Regulation:

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

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

Current Regulation:

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

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

Ripple Voltage: Ripple Voltage RMS is 0.05% of the maximum output voltage (0.1% Vp-p optional) under rated output conditions.

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.

Overall Dimensions: The width is 120mm, the height is 42mm and the depth is 152mm.

Connectors:

High voltage cable: 1m standard, non-pluggable.

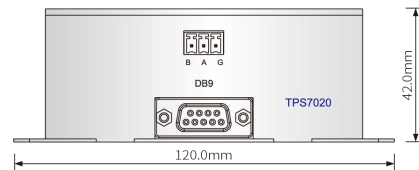
I/O connector: DB9 contains control and display signals.

Weight: About 1kg.

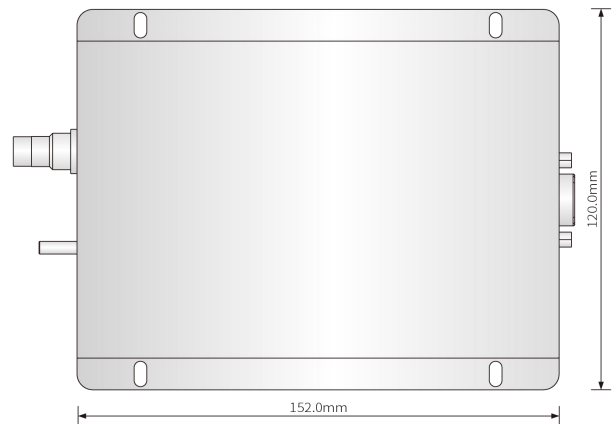
TPS7020 power DB9 connector signal definition:

Pin	Signal	Description
1	Voltage given output	Viewing 0-10V voltage output
2	High voltage disconnect control	0 is high voltage on, 5V is high voltage off
3	land	Signal ground wire
4	land	Signal ground wire
5	Current output	The 0-10V current signal represents 0-100 μ A
6	Synchronization signal	TTL synchronization signal 0 or 5V
7	Voltage setting	0-10V voltage given
8	Voltage given input	24V
9	Ground	Signal ground wire

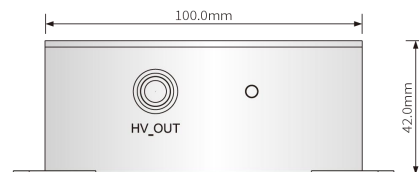
Overall Dimension: mm



Front View



Top View



Rear View