

TXR1012 Series

X-Ray High Voltage Power Supply

**50kV/65kV, 50W/65W, 2mA, Integrated
Filament Power Supply, High Precision, Compact Model**



Teslaman TXR1012 series high voltage power supply is a special power supply for small volume X-ray machine. It integrates a filament power supply with an output DC of 5V and an adjustable current of 0.3 A to 3.5 A. High voltage and filament current can rise steadily.

TXR1012 series power supply can also be connected with external potentiometer to realize remote control of output voltage and current, and has the functions of external voltage and current display, high voltage output overvoltage and short circuit protection, safety interlock and so on. It can provide remote digital communication interface and realize RS-232 communication.

- Maximum output voltage 50kV/65kV
- Adjustable integrated filament power supply
- Overvoltage and short circuit protection
- Voltage and current regulation
- Local and remote emission control
- Security interlock function
- DB15, Rs-232 Or Rs-485 Communication Policy Available
- OEM customized available

Typical Application:

Liquid level detection; Thickness measurement; PCB board inspection; KeveX, Oxford, RTW, Superior, Varian, Trufocus, Cathode-grounded X-ray tube.

Optional features:

XCC XRM Compatible HV Cable
GB Grid bias
SIC Standard interface control

Specifications:

Input: DC24V \pm 10%.

Output: 50kV/65kV at 0 to 2mA to a maximum of 65 watts.

Voltage control:

Inside the power supply: The multi-turn potentiometer of the power supply can set the output voltage between 0 and the highest voltage.

External remote control: The external 0 to 10V control signal can adjust the output from 0 to the maximum output voltage.

Emission current control:

Inside the power supply: The multi-turn potentiometer of the power supply can set the electron beam current from 0 to the highest current.

External remote control: The external 0 to 10V control signal can set the electron beam current from 0 to the highest current.

DC filament power supply:

The output current is 3.5A adjustable and the voltage is 5V adjustable.

Voltage regulation:

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

line: \pm 0.01% for \pm 10% change in input voltage.

Current adjustment:

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

line: \pm 0.01% for \pm 10% change in input voltage.

Ripple voltage: Under rated output conditions, the peak-to-peak value of ripple voltage is 0.1% of the maximum output voltage.

Environmental:

Operational: 0 °C to + 50 °C. Storage: -40 °C to + 85 °C.

Temperature coefficient: below 100ppm/°C.

Stability: less than 0.05% every 8 hours after 1/2 hour warm-up.

Voltage and current monitors:

0 to + 10Vdc proportional 0 to rated output. Accuracy \pm 1%.

Dimensions:

50kV: 73.5 mm wide, 127mm high and 203.5 mm deep.

50kV(SIC options): 73.5 mm wide, 145mm high and 203.5 mm deep.

65kV(SIC options): 73.5 mm wide, 145mm high and 228 mm deep.

High Voltage Connector: The power supply comes standard with a recessed epoxy insulated duct and a probed high voltage cable connected by a 16mm diameter metal connector. Standard high voltage cable is 1 meter long, and other specifications of cables or joints can be customized.

XR1012 Series High Voltage Power Supply Model Selection Table:

Output rating		Type of power supply
kV	mA	
25	2.0	TXR1012P25-50
50	1.0	TXR1012P50-50

Power Input/Filament Output Interface J2

Port	Signal	Port	Signal
+ 24V	+ 24V input	FIL OUT	Filament output
GND	+ 24V ground	FIL RET	Filament ground

Analog control interface J1: DB15

I/O	Signal	I/O	Signal
1	Ground	9	Filament limit Setpoint
2	Voltage monitor	10	Current program input
3	Current monitor	11	Local current program
4	High voltage enable	12	Standby
5	+ 10V reference	13	Standby
6	Filament monitor	14	Filament preheat setpoint
7	Voltage program input	15	Interlock return(ground)
8	Local voltage program		

SIC Option Digital Communication Interface J3: RS-232/RS-485

I/O	Signal	I/O	Signal
1	Standby	6	RB
2	TXD/Send Data	7	RA
3	RXD/Accept Data	8	Standby
4	Standby	9	Standby
5	Ground		