

TXF1210 Series

X-Ray High Voltage Power Supply

Electron Microscope High Voltage Power Supply 30kV,
6W, Integrated Multi-Output



Teslaman TXF1210 Series is an integrated, multi-output high voltage power supply designed specifically for scanning electron microscope (SEM) drivers.

The acceleration section is a highly stable 30kV power supply, integrated with suspended filament lamp source, lead-out power supply and suppression power supply, which can be installed in a 19-inch rack. All outputs provide ultra-low output ripple, minimal micro-discharge, excellent regulation, stability, temperature coefficient and precision specifications for higher image quality and resolution requirements. Suspended power supply is provided through Teslaman's proprietary high voltage isolation technology.

Customer control of this integrated TXF1210 power supply system is accomplished through optical fiber RS-232 interface. All security interlocks are based on fail-safe hardware design. UL and CE certification can be carried out.

- Integrated Tetrode Power Supply for Field Emission Scanning Electron Microscope
- Extremely Low Ripple and Ultra-Stable Output
- With Arc and Short Circuit Protection
- Minimized Micro-Discharge Design
- Optically Isolated Digital Interface

Typical Application:

Scanning electron microscope (SEM); Electron beam controller.

Specifications:

Input:

+ 24VDC, $\pm 5\%$, 4A. Surge current $< 6A$ is suitable for 1 second.

Vacuum interlocking device: Vacuum interlocking is an optical interlocking, which works when light exists in optical fiber. When no light is present, this interlock does not work and this power supply turns off all outputs.

Front Panel Indication:

Turn on: A green LED indicates the presence of + 24V power supply. It will be lit in the range of 22.8 to 25.2 V, and will flash for 1 second when it exceeds the range.

Vacuum Interlock: Yellow LED indicates that vacuum interlock is closed. The vacuum interlock must be lit to generate high pressure.

Test GUI: A product GUI can be provided free of charge to customers for testing and development work.

Protection: All outputs are protected against arc in the load and continuous short circuit to ground and each other.

All low voltage inputs have over-voltage protection of $\pm 30V$. The power input has over-voltage protection and reverse connection protection.

If BeamEnergy has more than a 'A' arc during a nominal 'B' time (seconds), the unit will disable all outputs and set all programming to zero. If there are fewer than 'A' arcs, the unit will continue to run. The default values are A=8 and B=10. Both 'A' and 'B' can be set through optical bus commands and GUI. If the over-temperature condition exceeds 10 seconds, all outputs will be disabled.

This unit reports fault or trip conditions through status flags. After a trip occurs (arc, over-current, over-voltage, over-temperature, etc.), the unit can be reset by software (fiber bus command) or power cycle.

Ambient Temperature:

Working time: + 10 °C to + 45 °C. Storage: -20 °C to + 60 °C.

Humidity: 0 to 80% relative humidity, no condensation.

Machinery: This unit is equipped with a pair of detachable mounting flanges; These allow this unit to be installed in a 19 "rack system."

Overall Dimensions:

The width is 482.6 mm, the height is 133.4 mm and the depth is 360.5 mm.

Weight: About 20kg.

TXF1210 Series High Voltage Power Supply Model Selection Table (Customizable):

Output Rating		Type of Power Supply	
kV	mA	Positive Polarity	Negative Polarity
10	0.6	TXF1210P10-6	TXF1210N10-6
20	0.3	TXF1210P20-6	TXF1210N20-6
30	0.2	TXF1210P30-6	TXF1210N30-6

Overall Dimensions: mm

