osi1900 Series

SEM high-voltage supply: 30 kV; 6 W; integrated multiple outputs



Product Introduction

The OSIMAI osi1900 series is an integrated, multiple-output high-voltage supply designed specifically for scanning electron microscope (SEM) drivers. The acceleration section is a highly stable 30 kV supply, with integrated floating filament, extraction and suppression supplies, suitable for a 19-inch rack. All outputs provide ultra-low ripple, minimum microdischarge, excellent regulation, stability, temperature coefficient and precision specifications for higher image quality and resolution. Floating supplies use proprietary OSIMAI high-voltage isolation technology. The integrated system is controlled through a fiber-optic RS-232 interface. All safety interlocks use fail-safe hardware design.

Product Features

- Integrated tetrode supply for field-emission scanning electron microscopes
- Extremely low ripple and ultra-stable outputs
- Arc and short-circuit protection
- Minimum-microdischarge design
- Optically isolated digital interface

Specifications

Parameter	Description
Input	+24 VDC ±5%, 4 A. Inrush current <6 A for 1 second.
Vacuum interlock	An optical interlock operates when light is present in the optical fiber. With no light, the interlock is inactive and the supply shuts down all outputs.
Front-panel indication	ON: a green LED indicates +24 V supply presence; illuminated within 22.8–25.2 V and flashes for 1 second when outside this range. Vacuum interlock: yellow LED indicates the vacuum interlock is closed. This LED must be lit before high voltage can be generated.
Test GUI	A product GUI can be provided free to customers for testing and development.
Protection	All outputs are protected against load arcing and continuous shorts to ground or between outputs. All low-voltage inputs have ±30 V overvoltage protection. Power input has overvoltage and reverse-polarity protection. If BeamEnergy experiences more than A arcs during a nominal B-second period, the unit disables all outputs and sets all programming to zero; with fewer than A arcs it continues operating. Defaults: A = 8, B = 10. Both are configurable through optical-bus commands and the GUI. An overtemperature condition lasting more than 10 seconds disables all outputs. Fault/trip conditions are reported through status flags. After a trip, including arc, overcurrent, overvoltage or overtemperature, the unit can be reset by software optical-bus command or by cycling power.
Ambient temperature	Operating: +10 to +45°C. Storage: −20 to +60°C.
Humidity	0–80% RH, non-condensing.
Mechanical	A pair of removable mounting flanges allows installation in a 19-inch rack system.
Dimensions	W 482.6 × H 133.4 × D 360.5 mm.
Weight	20 kg.

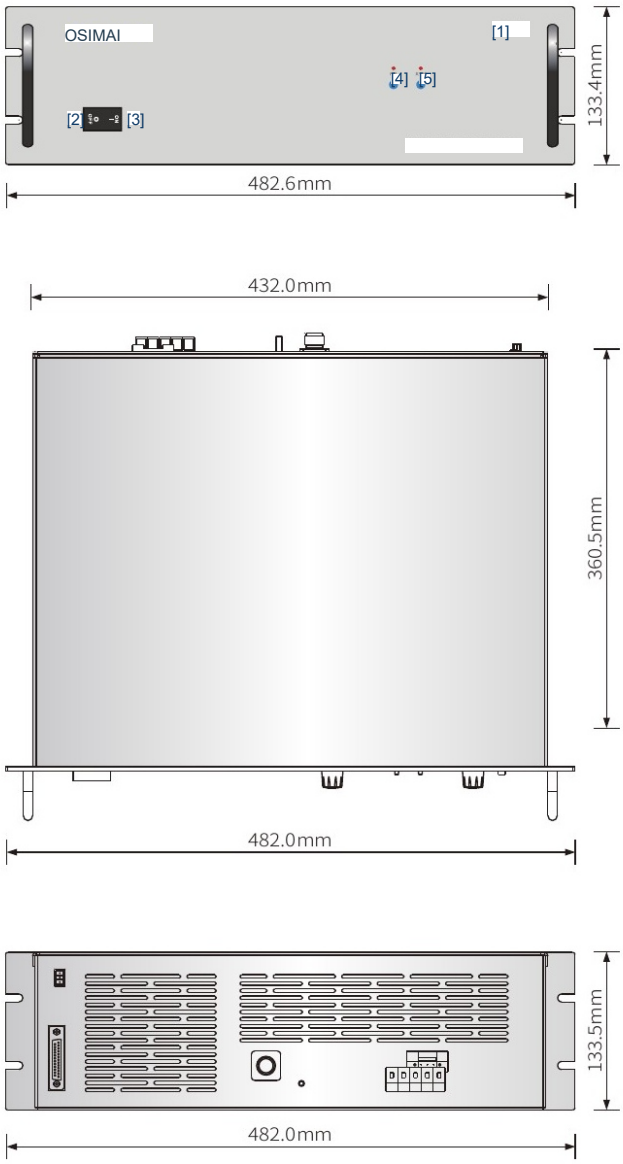
Model Selection (Customizable)

Output kV	Output mA	Positive model	Negative model
10	0.6	osi1900P10-6	osi1900N10-6
20	0.3	osi1900P20-6	osi1900N20-6
30	0.2	osi1900P30-6	osi1900N30-6

Typical Applications

Scanning electron microscopes (SEM); electron-beam controllers.

Dimensions



[1] osi1900

[2] ON

[3] OFF

[4] ON

[5] INTERLOCK