osi1306 Series

20 kV, 100 A, 1 μs–DC, 1 Hz–10 kHz, RT ≥50 ns, square-wave pulses



Product introduction

The osi1306 series is a high-performance 19-inch standard rack-mounted high-voltage pulse power supply with digital programmable control for a range of customer control settings. Output voltage, frequency and pulse width are continuously adjustable. Overvoltage and overcurrent protection and nanosecond arc-response capability help ensure fault-free operation. The series offers comprehensive functions, with customer-specific functions addable through software.

Product features

- Continuously adjustable output voltage 0–20 kV
- Continuously adjustable output frequency 1 Hz–10 kHz
- Continuously adjustable pulse width 300 ns–DC
- Voltage, frequency and pulse-width display
- Rise time <50 ns; fall time <50 ns
- Overshoot <4%
- Repetition accuracy <0.1%
- Overvoltage and overcurrent protection
- External TTL signal triggering supported
- RS-485 communication interface
- Flat-top droop <3%
- Zero crossing
- Customization available to user requirements

Specifications

Parameter	Specification
Input	220 VAC ±10%, 50/60 Hz.
Output	0–20 kV, continuously adjustable from zero to maximum voltage.
Maximum output current (selectable conditions)	At 100 A: frequency <500 Hz and pulse width <10 μs. At 100 mA: frequency 10 kHz and pulse width up to DC.
Output frequency	1 Hz–10 kHz, continuously adjustable.
Output pulse width	300 ns–DC.
Maximum output power (selectable conditions)	At 100 kW: frequency 1–500 Hz and pulse width <10 μs. At 1 kW: frequency 10 kHz and pulse width up to DC.
Output adjustment and display	Output voltage, frequency and pulse-width values are displayed on the front panel; each value is adjusted using front-panel knobs.
Voltage control	Front-panel knob sets output voltage from zero to maximum.
Frequency control	Front-panel knob sets output frequency from 1 to maximum frequency.
Pulse-width control	Front-panel knob sets output pulse width from 300 ns to maximum pulse width.
Voltage regulation	Load: better than 0.01%, no load to rated load. Line: ±0.01% for ±10% input voltage change.
Ambient temperature	Operating: −10°C to +50°C. Storage: −20°C to +80°C.
Temperature coefficient	Voltage and current: better than 100 ppm/°C.
Dimensions	483 mm wide, 180 mm high, 550 mm deep.
Stability	Less than 0.1% per 8 hours after a 0.5-hour warm-up; higher stability optional.
Voltage indication	Accuracy 0.1% at rated output.
Connector	Pulse output connector: aviation connector.
High-voltage cable	One standard 1 m cable connects the power supply to the load; cable length optional.
Fiber-optic interface	External optical signals trigger pulse ON and pulse OFF.

Input terminal block

Terminal	Signal
L	Line
N	Neutral
G	Protective earth
/	/

RS-485 communication interface

Terminal	Signal
A	Signal line
B	Signal line
G	Signal ground
/	/

Fiber-optic interface

Terminal	Signal
1	Optical signal input
2	Optical signal output

Output waveform

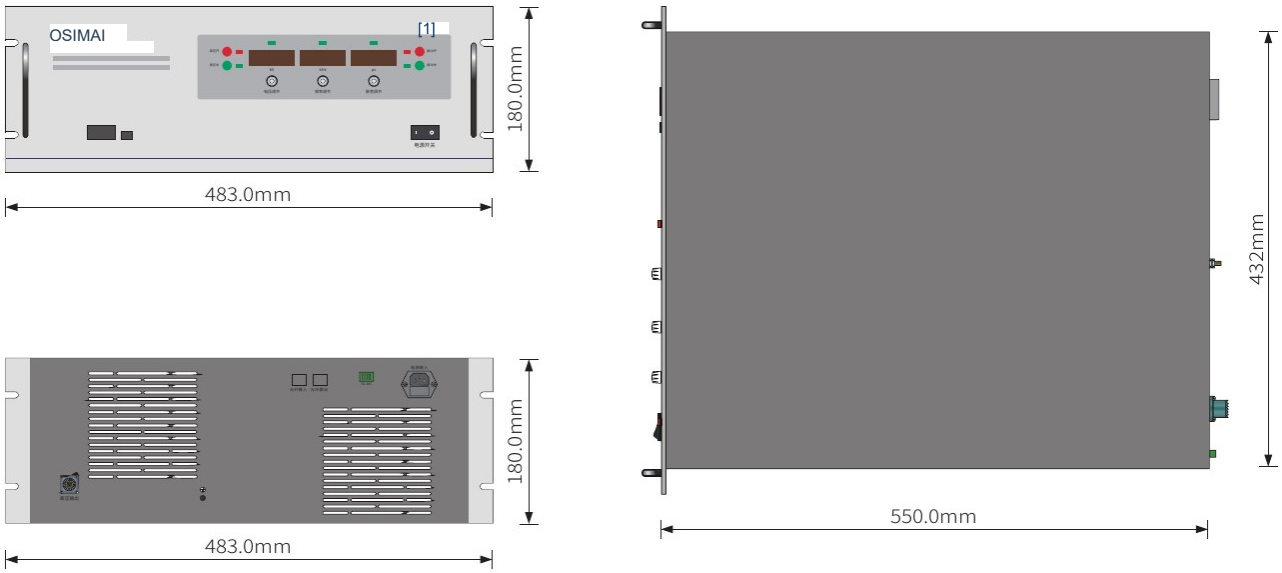


Typical applications

Plasma implantation; dielectric withstand testing; electrostatic spinning; electrostatic spraying; cell processing; dielectric barrier discharge (DBD), etc.

Outline dimensions

Dimensions in mm.



[1] osi1306