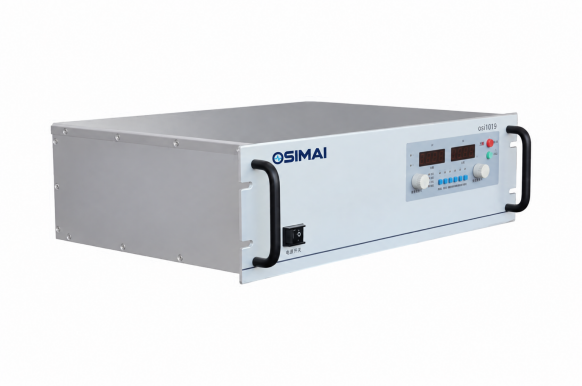
osi1212 Series

2–4 kW;1–50 kV;3U high



Product introduction

The OSIMAI osi1212 series is a high-performance standard19-inch rack-mount HV supply. Digital control supports varied custom functions. Nanosecond current transient response ensures fault-free operation. Full-load efficiency reaches95%, and power factor reaches0.83. Comprehensive functions and a broad output range are provided; software can add special user-required functions.

Product features

- Output voltage1–50 kV
- Output power4 kW
- Digitally programmable
- Nanosecond protection response
- Overvoltage,overcurrent,overtemperature and arc protection
- Isolated RS-485 digital communication
- Safety interlock
- Customization to user requirements

Specifications

Parameter	Specification
Input	Three-phase380 VAC ±10%,50/60 Hz,maximum16 A.
Output	Selectable maximum voltages1–50 kV;maximum power4 kW. Continuously adjustable from zero to maximum;single negative output polarity.
Front-panel indications	HV ON; HV OFF; voltage/current mode; single negative output polarity; overvoltage, overcurrent, overtemperature and arc protection; memory; reset; actual values; set values; protection values; custom-function button status; error codes.
Voltage control	Local: built-in rotary encoder sets output voltage between zero and maximum. Analog remote: external 0–10 V signal sets zero to maximum output. Digital control: standard Modbus over RS-485 sets output from zero to maximum voltage.
Current control	Local: built-in rotary encoder sets output current between zero and maximum. Analog remote: external 0–10 V signal sets zero to maximum output. Digital control: standard Modbus over RS-485 sets output from zero to maximum current.
Voltage regulation	Load: better than 0.01% from no load to rated load. Line: ±0.01% for ±10% input-voltage variation.
Current regulation	Load: better than 0.01% from no load to rated load. Line: ±0.01% for ±10% input-voltage variation.
Ripple	Better than1% p-p at rated output;0.1% p-p optional.
Ambient temperature	Operating: 0°C to +50°C. Storage: −20°C to +80°C.
Temperature coefficient	Voltage and current: better than 100 ppm/°C.
Stability	Less than 0.1% per 8 hours after a 0.5-hour warm-up.
Voltage/current indication	Four-digit LED display;accuracy±1% at rated output.
Dimensions	Width482 mm,height133.5 mm,depth320 mm.
High-voltage cable	Metal connector;standard cable length2 m.
Weight	Approximately19 kg.

Model selection — 4000 W (customizable)

Rated output (kV)	Rated output (mA)	Positive model	Negative model
1	4000	osi1212P1-4000	osi1212N1-4000
5	800	osi1212P5-4000	osi1212N5-4000
10	400	osi1212P10-4000	osi1212N10-4000
15	266.7	osi1212P15-4000	osi1212N15-4000
20	200	osi1212P20-4000	osi1212N20-4000
30	133.3	osi1212P30-4000	osi1212N30-4000
40	100	osi1212P40-4000	osi1212N40-4000
50	80	osi1212P50-4000	osi1212N50-4000

DB25 connector signal definitions

Pin	Signal	Description
1	Remote indication	Open collector; conducting = remote control.
2	Constant-voltage indication	Open collector; conducting = constant-voltage output.
3	HV OFF indication	Open collector; conducting = HV OFF.
4	HV ON signal	Rising edge enables HV; pin 17 is +15 V.
5	Remote enable	High level (+15 V) active.
6	Safety-interlock enable	High level (+15 V) active.
7	+15 V	+15 V, 100 mA maximum.
8	Current setting	0–10 V = 0–100% rated output.
9	Voltage setting	0–10 V = 0–100% rated output.
10	+15 V	+15 V, 100 mA maximum.
11	+10 V	+10 V, 1 mA maximum.
12	Voltage monitor	0–10 V = 0–100% rated output.
13	Current monitor	0–10 V = 0–100% rated output.
14	Fault indication	Open collector; conducting = power-supply fault.
15	Current-flow indication	Open collector; conducting = current output.
16	HV ON indication	Open collector; conducting = HV ON.
17	HV OFF signal	Falling edge disables HV.
18	Fault reset	High level (+15 V) resets.
19	Ground	Signal ground.
20	Ground	Signal ground.
21	Ground	Signal ground.
22	Ground	Signal ground.
23	Ground	Signal ground.
24	Ground	Signal ground.
25	Ground	Signal ground.
Shield	Ground	Signal ground.

RS-485 communication interface

Marking	Signal
A	RS485+
B	RS485−
G	Signal ground

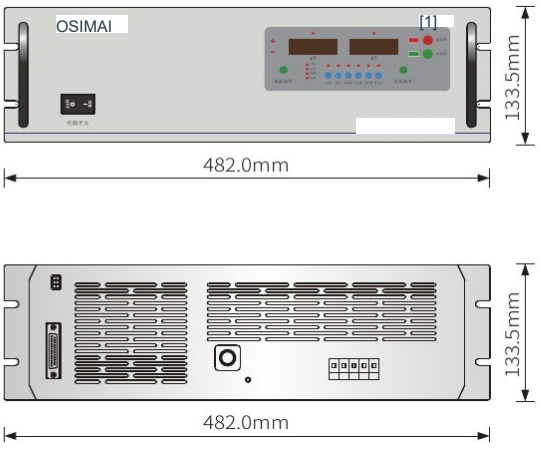
Power input terminals

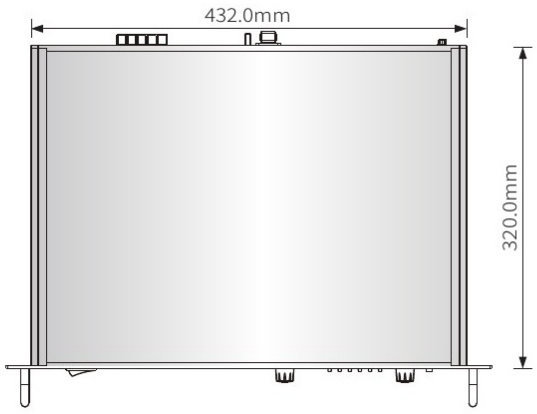
Marking	Signal
L1	Live
L2	Live
L3	Live
E	Ground

Typical applications

Ion implantation; electrostatic spraying; electrostatic flocking; withstand-voltage testing; particle acceleration; electrostatic fields; ion-beam supplies; electron-beam supplies; accelerator supplies; insulation testing; deep-sea dual-grid shore stations; high-voltage capacitor charging; high-voltage field collection; scientific research and other applications.

Outline dimensions





[1] osi1212