osi1217 Series

15 kW;1–30 kV;efficiency94%;parallel operation up to1 MW



Product introduction

The OSIMAI osi1217 series is a high-performance standard19-inch rack-mount HV supply. Digital control supports varied custom control functions. Nanosecond arc transient response ensures fault-free operation, with efficiency above94%. Comprehensive functions and a broad output range are provided; software can add user-required custom functions.

Product features

- Output voltage1–30 kV
- Digitally programmable
- Nanosecond protection response
- Isolated RS-485 digital communication
- Safety interlock
- Output power15 kW;parallel operation up to1 MW
- Overvoltage,overcurrent,short-circuit,arc and overtemperature protection
- Charging and continuous operating modes selectable
- Customization to user requirements

Specifications

Parameter	Specification
Input	380 VAC ±10%,50/60 Hz.
Output	Selectable maximum voltages1–30 kV;maximum power15 kW.Continuously adjustable from zero to maximum;single negative polarity.Higher voltage ratings can be customized.
Voltage control	Local: a built-in multi-turn potentiometer sets output voltage from zero to maximum. Remote: an external 0–10 V signal adjusts output voltage from zero to maximum.
Current control	Local: a built-in multi-turn potentiometer sets output current from zero to maximum. Remote: an external 0–10 V signal adjusts output current from zero to maximum.
Voltage regulation	Line:±0.01% for ±10% input-voltage variation.
Current regulation	Load:better than0.01% from no load to rated load.
Optional capacitor-charging mode	Peak charging power24 kW;stored energy<0.3 J;pulse repeatability<0.1% at100 Hz.
Ripple	At rated output,ripple is0.3% p-p of maximum output voltage.
Ambient temperature	Operating:0°C to+45°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.
Dimensions	Width482.6 mm,height266 mm,depth666 mm.
Weight	Approximately60 kg.
Remote voltage/current control	External potentiometers can use the internal 10 V reference to remotely control output voltage and current.
Remote voltage/current monitoring	The 25-pin terminal connector includes 0–10 V voltage/current monitoring signals for external digital or analog meters.
High-voltage cable	Recessed plastic insulating conduit and inserted high-voltage cable connected through a 16 mm / 28 mm diameter metal connector. Standard cable length 2 m.

Model selection — 15000 W (customizable)

Rated output (kV)	Rated output (mA)	Positive model	Negative model
5	3000	osi1217P5-15000	osi1217N5-15000
10	1500	osi1217P10-15000	osi1217N10-15000
30	500	osi1217P30-15000	osi1217P30-15000

Power input terminals

Marking	Signal
L1	Live
L2	Live
L3	Live
G	Ground

RS-485 communication interface

Signal	Description
A	RS485+
B	RS485−
G	Ground

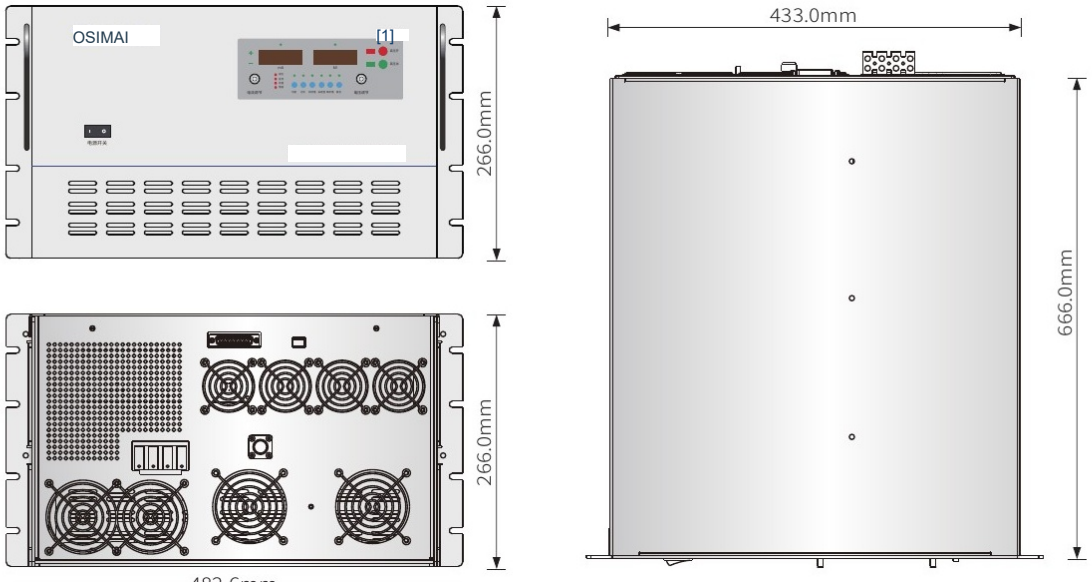
DB25 connector signal definitions

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.

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



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