osi1216 Series

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



Product introduction

The OSIMAI osi1216 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	Better than1% rms at rated output;0.1% rms optional.
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	Approximately40 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	osi1216P5-15000	osi1216N5-15000
10	1500	osi1216P10-15000	osi1216N10-15000
30	500	osi1216P30-15000	osi1216N30-15000

Input terminals

Marking	Signal
U	Live
V	Live
W	Live
G	Ground

RS-485 communication interface

Marking	Signal
A	Signal wire
B	Signal wire
G	Signal ground

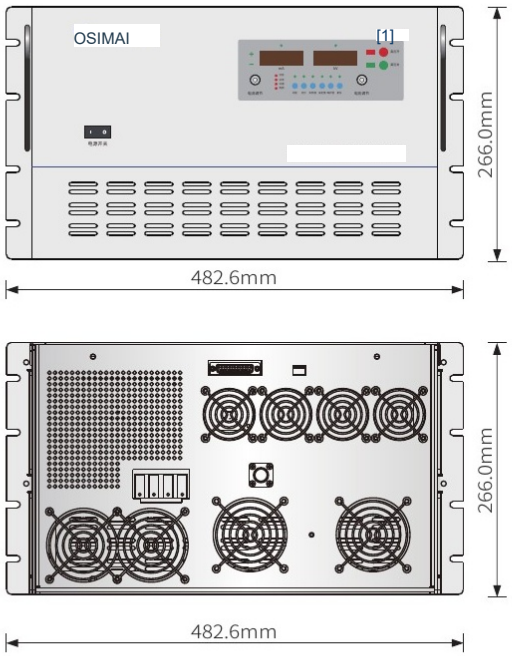
DB25 connector signal definitions

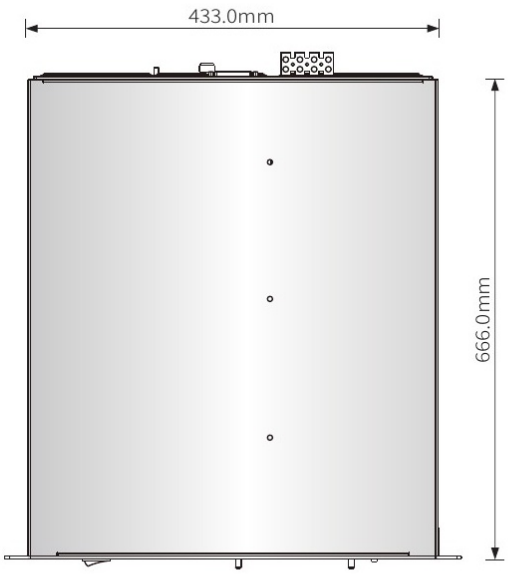
Pin	Signal
1	Remote-control indication
2	Constant-voltage mode
3	HV OFF indication
4	HV ON signal
5	Remote-control enable
6	Safety interlock
7	+15 V
8	Current setting
9	Voltage setting
10	+15 V
11	+10 V
12	Voltage monitor
13	Current monitor
14	Fault indication
15	Constant-current mode
16	HV ON indication
17	HV OFF signal
18	Fault reset
19	Ground
20	Ground
21	Ground
22	Ground
23	Ground
24	Ground
25	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] osi1216