osi1631 Series

1–100 kV; 1 kW; high power density



Product Introduction

The OSIMAI osi1631 series is a modular high-voltage power supply with panel and remote control to meet varied customer requirements. Nanosecond arc-protection response ensures fault-free operation. Efficiency can exceed 90%.

Product Features

- Output voltage 1–100 kV
- Output power 1 kW
- Nanosecond protection response
- Overvoltage, overcurrent, short-circuit, arc and overtemperature protection
- Customization available

Specifications

Parameter	Description
Input	220 VAC ±10%, 50/60 Hz.
Output	Selectable maximum voltages from 1–100 kV; maximum output power 1 kW. Continuously adjustable from zero to maximum voltage; positive or negative single-polarity output.
Voltage control	Internal multi-turn potentiometer sets zero to maximum voltage; external 0–10 V analog signal controls zero to maximum voltage.
Current control	Internal multi-turn potentiometer sets zero to maximum current; external 0–10 V analog signal controls zero to maximum current.
Voltage regulation	Load: better than 0.01%, no load to rated load. Line: ±0.01% for ±10% input-voltage change.
Current regulation	Load: better than 0.01%, no load to rated load. Line: ±0.01% for ±10% input-voltage change.
Ripple	Better than 1% peak-to-peak at rated output; 0.1% peak-to-peak optional.
Ambient temperature	Operating: 0 to +50°C. Storage: −20 to +80°C.
Stability	Less than 0.1% per 8 hours after a 0.5-hour warm-up.
Dimensions	1–50 kV: W 135 × H 145 × D 360 mm. 51–100 kV: W 185 × H 194 × D 390 mm.
Weight	1–50 kV: 8.5 kg. 51–100 kV: 12 kg.
High-voltage cable	Recessed plastic insulating conduit and inserted high-voltage cable connect through a 16 mm diameter metal connector. Standard cable length 2 m.
Remote output voltage/current control	External potentiometers use the internal 10 V reference to control voltage and current remotely.
Remote voltage/current indication	15-pin terminal includes 0–10 V voltage/current monitor signals for external digital or analog meters.

Model Selection — 1 kW (Customizable)

Output kV	Output mA	Positive model	Negative model
10	100	osi1631P10-1000	osi1631N10-1000
50	20	osi1631P50-1000	osi1631N50-1000
100	10	osi1631P100-1000	osi1631N100-1000

Input Terminals

Mark	Signal
L	Line
N	Neutral
G	Earth
/	/

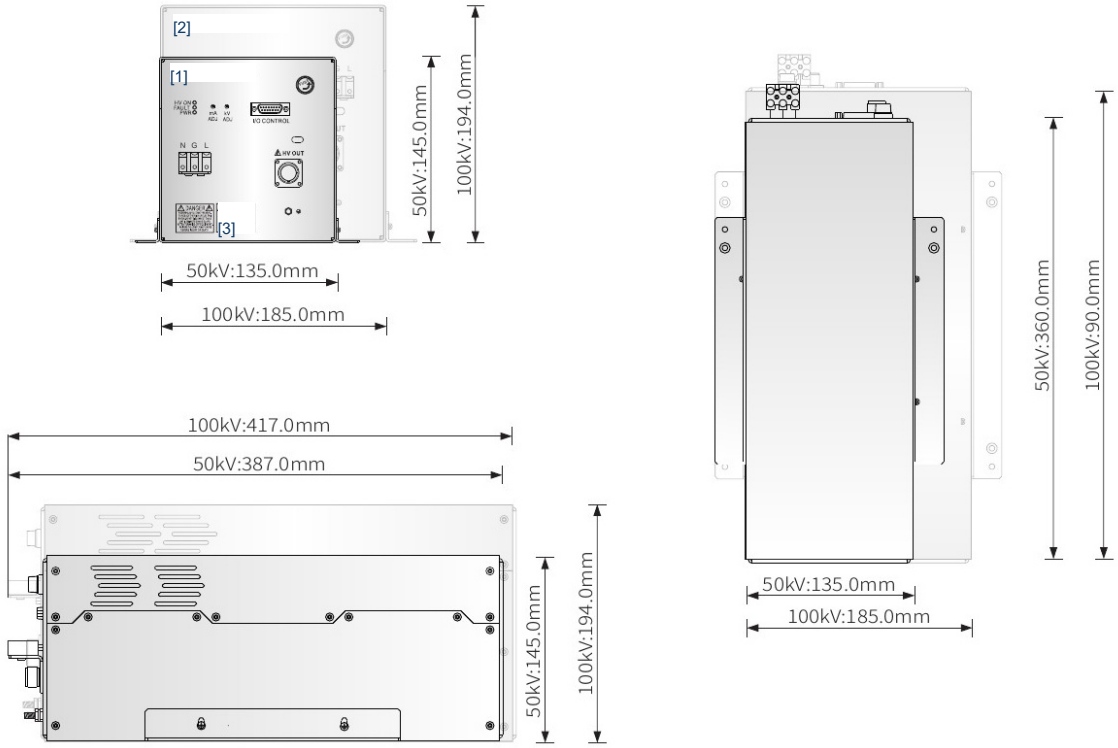
DB15 Connector Signal Definitions

Pin	Signal	Description
1	High-voltage ON signal	Open: inactive; grounded: active
2	Reset signal	Open: inactive; grounded: active
3	Arc indication	Open collector, maximum 15 V
4	Voltage setting input	0–10 V = 0–100% rated output
5	Current setting input	0–10 V = 0–100% rated output
6	Voltage monitor	0–10 V = 0–100% rated output
7	Current monitor	0–10 V = 0–100% rated output
8	High-voltage ON indication	Open collector, maximum 15 V
9	+15 V	+15 V; 100 mA maximum
10	Fault indication	0 = fault; +15 V = normal
11	Internal voltage setting output	Active when shorted to pin 4
12	+10 V	+10 V; 1 mA maximum
13	Internal current setting output	Active when shorted to pin 5
14	+5 V	+5 V; 300 mA maximum
15	Ground	Signal ground

Typical Applications

Electrostatic dust removal; oil-fume purification; capacitor charging; electrostatic spraying; electron-beam power supplies; accelerator power supplies; ion-beam power supplies; high-energy particle implantation and related applications.

Dimensions



[1] OSIMAI osi1631

[2] OSIMAI osi1631

[3] DANGER — HIGH VOLTAGE. To reduce electric-shock risk, do not disconnect the high-voltage cable within 5 minutes after power is switched off. Failure to comply may cause injury or death.

Equipment Safety Warnings

WARNING: The power supply must be grounded before power is applied. Failure to comply may damage equipment or cause unpredictable hazards.

DANGER — HIGH VOLTAGE. To reduce electric-shock risk, do not disconnect the high-voltage cable within 5 minutes after power is switched off. Failure to comply may cause injury or death.