osi1702 Series

1–10 kV output voltage; maximum 50 W; ripple 10 ppm; five-digit display



Product Introduction

The OSIMAI osi1702 series is a low-ripple precision high-voltage supply with a five-digit display. Ripple voltage at rated voltage is below 0.001% RMS. Digital control meets a variety of customer control needs, and full-load efficiency exceeds 70%. The fully featured series offers high output accuracy, a wide output range and low ripple; custom functions can also be added through software.

Product Features

- 0–10 kV output voltage
- 50 W output power
- Five-digit display
- Ripple better than 0.001% rms
- Nanosecond protection response
- Overvoltage / overcurrent protection
- Isolated RS-485 digital communication
- Safety interlock
- Customization available

Specifications

Parameter	Description
Rated input voltage	220 VAC ±10%, 50 Hz.
Rated output voltage	10 kV.
Rated output current	5 mA.
Rated output power	50 W.
Voltage control	Front-panel rotary encoder sets zero to rated voltage. External 0–10 V analog signal sets zero to rated voltage. RS-485 interface using standard communication protocol sets zero to rated voltage.
Current control	Front-panel rotary encoder sets zero to rated current. External 0–10 V analog signal sets zero to rated current. RS-485 interface using standard communication protocol sets zero to rated 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 0.02% rms at rated output.
Ambient temperature	Operating: 0 to +50°C. Storage: −20 to +80°C.
Temperature coefficient	Voltage and current: better than 100 ppm/°C.
Stability	Better than 0.05% per 8 hours after 0.5-hour warm-up.
Humidity	10–90%, non-condensing.
Voltage/current indication	Four-digit LED display; error at rated output: 1% ±1 digit.
High-voltage cable	Standard supply includes a 2 m high-voltage insulated cable brought out from inside the supply.
Dimensions	W 218.5 × H 44.5 × D 269.5 mm.
Weight	2.7–2.8 kg.

Input Terminals

Mark	Signal
L	Line
N	Neutral
G	Earth
/	/

RS-485 Communication Interface

Mark	Signal
A	RS485+
B	RS485−
G	Signal ground
/	/

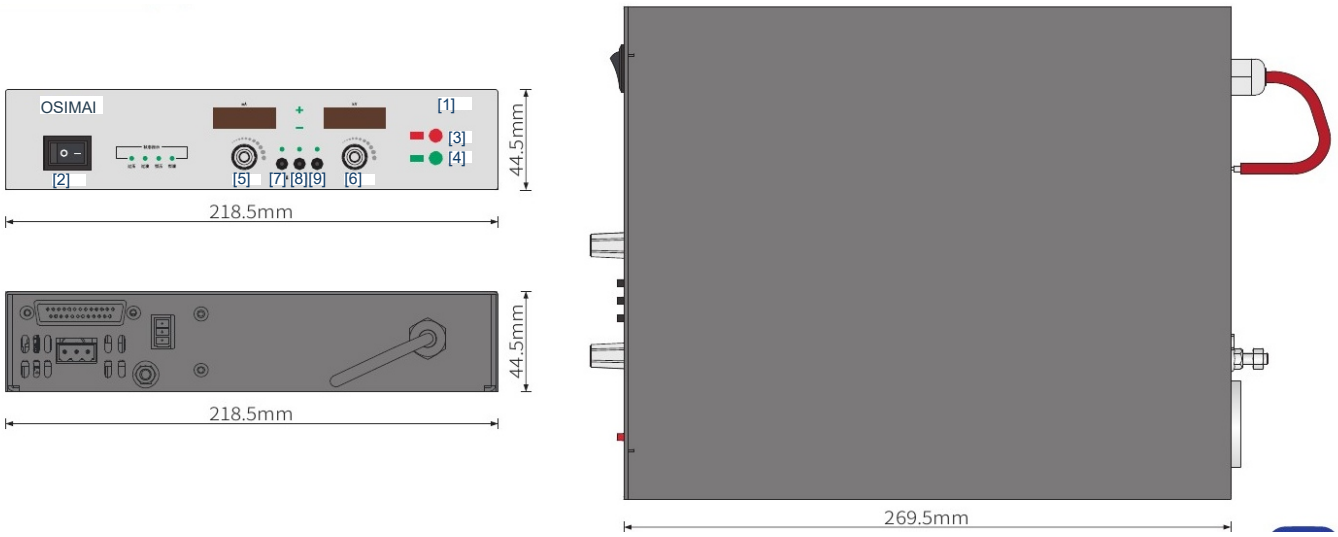
DB25 Connector Signal Definitions

Pin	Signal	Description
1	Remote indication	Open collector; conducting = remote control
2	Constant-voltage indication	Open collector; conducting = constant-voltage output
3	High-voltage OFF indication	Open collector; conducting = high-voltage output OFF
4	High-voltage ON signal	Rising edge = ON; pin 17 at +15 V
5	Remote enable	High (+15 V) = active
6	Safety interlock enable	High (+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	Constant-current indication	Open collector; conducting = constant-current output
16	High-voltage ON indication	Open collector; conducting = high-voltage output ON
17	High-voltage OFF signal	Falling edge = high voltage OFF
18	Fault reset	High (+15 V) = reset
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

High-energy particle implantation; electrostatic spraying; ion-beam power supplies; electron-beam power supplies; accelerator power supplies; Hi-POT testing; high-voltage capacitor charging; scientific research and related applications.

Dimensions



[1] osi1702

[2] POWER

[3] HV ON

[4] HV OFF

[5] CURRENT

[6] VOLTAGE

[7] CONFIRM

[8] SELECT

[9] RESET