osi1400 Series

5–40 kV peak-to-peak, 150 W, 5–30 kHz, center frequency ±10%



Product introduction

The osi1400 series is a multifunction AC high voltage power supply with continuously adjustable output voltage and frequency. The high voltage output can ramp up smoothly and linearly. External potentiometers support remote voltage and frequency control. External voltage/frequency monitoring, high-voltage output overvoltage and short-circuit protection, and a safety interlock are provided.

Product features

- 5–40 kV peak-to-peak output voltage
- 150 W output power
- Overvoltage, overcurrent and output short-circuit protection
- Voltage and current adjustment
- Safety interlock
- Selectable center frequency from 5 to 30 kHz, adjustable ±10% around the center frequency
- Customization available to user requirements

Specifications

Parameter	Specification
Input	220 VAC ±10%, 50 Hz.
Output	Selectable maximum output voltage from 5 to 40 kV; maximum output power 150 W. Continuously adjustable from zero to the selected maximum.
Voltage control	Local: front-panel multi-turn potentiometer, zero to maximum voltage. Remote: external 0–10 V control signal, zero to maximum voltage.
Frequency control	Local: multi-turn potentiometer adjusts frequency within ±10% of center frequency. Remote: external 0–10 V control signal adjusts frequency within ±10% of center frequency.
Center frequency	5–30 kHz, adjustable ±10% around center frequency.
Voltage regulation	Load: better than 0.5%, no load to rated load. Line: ±0.5% for ±10% input voltage change.
Current regulation	Load: better than 0.5%, no load to rated load. Line: ±0.5% for ±10% input voltage change.
Stability	Less than 0.5% per 8 hours after a 0.5-hour warm-up.
Voltage/current monitoring	0 to +10 V; accuracy 1% at rated output.
High voltage cable	Recessed epoxy-insulated conduit and inserted high voltage cable joined by a 16 mm diameter metal connector. Standard cable length approximately 1 m.
Ambient temperature	Operating: 0 to +50°C. Storage: −20 to +80°C.
Temperature coefficient	Voltage and current: better than 100 ppm/°C.
Dimensions	186.8 mm wide × 220 mm high × 375.2 mm deep.
Remote voltage/current control	External potentiometers use the internal 10 V reference to control output voltage and current remotely.

DB25 connector signal definitions

Pin	Signal
1	+5 V
2	NC
3	High voltage OFF
4	Ground
5	Ground
6	+12 V
7	Ground
8	Frequency monitor
9	Voltage monitor
10	High-level output during protection
11	Voltage command input
12	Current monitor
13	+10 V
14	Frequency command input
15	Frequency command output
16	+12 V
17	Protection status indicator
18	High voltage ON indicator
19	High voltage OFF indicator
20	Ground
21	High voltage ON
22	Ground
23	Voltage command output
24	+10 V
25	NC

Input terminal block

Terminal	Signal
L	Line
N	Neutral
G	Protective earth
/	Not assigned

Typical applications

Plasma systems, AC electrostatic fields, ion implantation, Hi-POT testing and scientific research.

Outline dimensions

All dimensions in mm.



