osi1703 Series

10 kV; 100 μA; 100 pA current accuracy; millisecond voltage tracking response; compact size



Product Introduction

The OSIMAI osi1703 series is a high-precision modular high-voltage power supply. Maximum output current is 100 μA with accuracy to 100 pA, and voltage rise time is less than 10 ms, meeting needs such as optocoupler and other semiconductor testing. Combined analog and digital control supports varied control functions. Higher current accuracy or shorter tracking response can be customized.

Product Features

- Selectable output voltages 1–10 kV
- Maximum output current 100 μA
- Current accuracy to 100 pA
- Overvoltage, overcurrent and short-circuit protection
- DB9 and RS-485 control interfaces
- Higher specifications customizable
- Rise time <10 ms; fall time <50 ms

Specifications

Parameter	Description
Input	24 VDC ±10%.
Output	Selectable maximum voltages 1–10 kV; current output range 100 pA–100 μA; maximum power 1 W. Continuously adjustable from zero to maximum voltage.
Voltage control	Integral rotary encoder sets zero to maximum voltage. External 0–10 V analog signal sets zero to maximum voltage. RS-485 interface using standard Modbus protocol sets zero to maximum voltage.
Voltage rise/fall time	Rise <10 ms; fall <50 ms.
Current control	Integral rotary encoder sets zero to maximum current. External 0–10 V analog signal sets zero to maximum current. Current acquisition range 100 pA–100 μA. RS-485 interface using standard Modbus protocol sets 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 voltage	Better than 0.05% peak-to-peak at rated output; 0.1% peak-to-peak optional.
Ambient temperature	Operating: 0 to +50°C. Storage: −20 to +80°C.
Temperature coefficient	Voltage and current: better than 100 ppm/°C.
Stability	Less than 0.1% per 8 hours after 0.5-hour warm-up.
Dimensions	W 120 × H 42 × D 152 mm.
High-voltage cable	Standard 1 m, detachable, shielded.
Input/output connector	DB9 contains control and indication signals.
Weight	Approximately 1 kg.

DB9 Connector Signal Definitions

Pin	Signal	Description
1	Voltage setting output	0–10 V voltage output monitoring
2	High-voltage switching control	0 = high voltage ON; 5 V = OFF
3	Ground	Signal ground
4	Ground	Signal ground
5	Current output	0–10 V current signal represents 0–100 μA
6	Synchronization signal	TTL synchronization: 0 or 5 V
7	Voltage setting	0–10 V voltage setting
8	Voltage setting input	24 V
9	Ground	Signal ground

Typical Applications

Optocoupler testing; semiconductor testing; electrostatic fields; ion-beam power supplies; insulation testing; high-voltage energy harvesting; scientific research and related applications.

Dimensions

