osi1500 Series

10 kVDC to 375 VDC, 10 kW, design service life up to 30 years



Product introduction

The osi1500 series is a high-voltage power converter designed for long-distance power transmission. It converts high-voltage DC power into low-voltage DC suitable for the load. Advanced technologies and comprehensive protection provide high efficiency, high performance, high reliability, high redundancy and long service life. It has been used in applications requiring high reliability, including deep-sea observation-network power supplies.

Product features

- −10 kVDC input voltage
- 375 VDC output voltage
- 10 kW output power
- Overcurrent, overvoltage, overtemperature and output short-circuit protection
- Design service life up to 30 years
- Customization available to user requirements

Specifications

Parameter	Specification
Operating input voltage	−6.5 kVDC to −10 kVDC.
Input polarity	Negative voltage relative to earth.
Output voltage	10 kVDC to 375 VDC.
Output polarity	Floating output optional.
Output power	10 kW; flexible configuration to user requirements.
Efficiency	≥90%, measured at full load.
Ripple	Better than 0.5% RMS at rated output, measured at full voltage.
Stability	Less than 25 ppm per hour after a 2-hour warm-up.
Temperature coefficient	Voltage and current: better than 50 ppm/°C.
Ambient temperature	Operating: +2°C to +14°C. Storage: −20°C to +80°C.
Protection	Overvoltage and undervoltage; overcurrent; temperature protection.
Output interface — voltage monitoring	1:100 scaling: 375 V output gives 3.75 V feedback.
Output interface — current monitoring	1:10 scaling: 25 A output gives 2.5 V feedback.
Output interface — temperature monitoring	SI temperature: 300 K gives 3 V feedback, representing 26.85°C. (0.1 V corresponds to 1°C.)
Voltage protection signal	±15 V feedback; +15 V indicates protection (0 and +5 V; 5 V indicates protection).
Current protection signal	±15 V feedback; +15 V indicates protection.
Temperature protection signal	±15 V feedback; +15 V indicates protection.
Input HV lead	1 m long, maximum insulation voltage 30 kV.
Output lead	Maximum output current 50 A; maximum withstand voltage 380 VAC.

Typical applications

Deep-sea observation-network power supplies; high-voltage DC transmission; long-distance power transmission; other high-to-low-voltage equipment; scientific research, etc.

Outline dimensions

Maximum outside diameter 369.8 mm; length 1000 mm.