

10kVA, Rugged, 3-Phase Industrial Quality DC/AC Sine Wave Inverter

CTP 10K Series



- 3-Phase sinusoidal output voltage
- Filtered input/output
- Cooling by high quality internal fans
- 19" rack or chassis-mount
- Full electronic protection
- Rugged, field-proven design
- Cost-effective design

This rugged modular DC/AC inverter system uses field-proven microprocessor controlled technology to deliver the required output power with pure sine wave output voltage. The standard 3-phase outputs are 380Vrms or 400Vrms (L-L). Phase-to-neutral voltages of 220Vrms or 240Vrms can also be used. All output neutrals are internally connected to chassis (GND) in "Y" configuration. Input modules convert the input voltage to an internal DC voltage, which feeds the DC/AC output module. The unit is built with three 3U7 modules. Each interconnection between modules is made with a cable with connector. All modules are built with internal power cards. The complete system has twelve CDC1000 DC/DC cards and six MSI 2300 output cards. The high frequency conversion enables a compact construction, low weight and high efficiency. The input and output are filtered for low noise. High quality built-in fans provide sufficient airflow for operation within the specified temperature range without de-rating. The fans draw air into the unit, and exhaust at the terminal side of the unit. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. Conformal coating provides protection against humidity and airborne contaminants. Full electronic protection, generous design headroom and the exclusive use of components with established reliability also contribute to high MTBF. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

48V, 125V or 250Vdc $\pm 15\%$
Consult factory for other inputs

Input Protection

Inrush current limiting
Varistors
Reverse polarity protection
Internal safety fuse
Lower voltage than the specified minimum input will not damage the unit

Isolation

2250Vdc input to chassis
Output neutrals are connected to the chassis internally

Standards

Designed to meet
C22.2 No. 107.1 - 01,
UL 458 and EN60950-1

EMI

EN 55022 Class A with margins
Consult factory for higher level of filtering

Output Voltage

380Vrms or 400Vrms (L-L)/ 3-phase continuous at 50 or 60Hz
All neutrals are internally connected to chassis (GND) in "Y" configuration (Phase-to-neutral voltages can also be used: 220Vrms or 240Vrms)
Consult factory for other voltages, frequencies and options

Output Wave Form

Sinusoidal

Total Harmonic Distortion

Less than 5% at full load

Line/Load Regulation

$\pm 6\%$ from no load to full load

Load Crest Factor

2 at 90% load

Output Noise

High frequency ripple is less than 500mVrms (20MHz BW)

Output Overload Protection

Current limiting with short circuit protection
Thermal shutdown with automatic recovery in case of insufficient cooling

Output Overvoltage Protection

Output voltage is limited by internal supply voltage

Efficiency

Depends on input and output voltage combination.
Typically 80% at full load

Operating Temperature Range

0°C to +50°C for full specification
Extended temperature ranges available

Temperature Drift

0.05% per °C over operating temperature range

Cooling

High quality built-in fans draw air into the unit

Environmental Protection

Basic ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

Min. 85,000 hours at 45°C
Demonstrated MTBF is significantly higher
Fans excluded

Indicators

None

Control Input

None
Remote shutdown or enable as option

Alarm Output

None
Option: output fail alarm (Form C)

Package/Dimensions (H x W x D)

19" rack-mount or chassis mount assembly.
9U x 19" x 16" (H x W x D) total size, including three 3U7 size module cases
Chassis mount versions available

Weight

Approx. 39kg (86 lbs)

Connections

Inputs: Terminal block on each input module
Output: Terminal block
Interconnections: cable with connector

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice.
Contamination related failures and shipping cost excluded.

The specifications on this data sheet are generic and are subject to change. Enhancements to these specifications can be provided upon request.

OEM of professional quality AC/DC power supplies and battery chargers, DC/DC converters, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard.



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