FTT3K SERIES

Frequency Converters: 3Ph to 3Ph 3000VA

HELIOS POWER SOLUTIONS
www.heliosps.com

3U x 17"
chassis-mount

3U x 19"

6U x 19"
(4 x 3U3
version.

Mechanical size depends on input/output configuration.

Features

- 3-Phase sinewave output voltage
- Filtered input/output
- Cooling by internal fans
- Full electronic protection
- Field-proven design topology
- Customized versions are also available.

Description

The FTT 3K Series is a rugged, modular AC/AC frequency converter system that uses microprocessor controlled, high frequency PWM technology to deliver 3-Phase, 3000VA continuous sine-wave output power from a 3-phase input. It is a mature design with a track record in numerous applications. The standard 3-phase outputs are 208V, 380V or 400V (L-L). The output neutrals are internally connected to the chassis in "Y" configuration, therefore the phase-to-neutral voltages (115V, 220V or 230V) are also available. The mechanical size of the system depends on the input/output combination. Full electronic protection eliminates the possibility of failure due to abnormal operating conditions, including application errors. Low component count and the use of components with established reliability results in high MTBF. Cooling is by built-in fans, which draw air into the unit. The FTT 3K is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage
208Vac (L-L) +/-15% 3-phase
380V or 400Vac (L-L) +/-15% 3-phase
47 … 410Hz are standard
Factory set for required input

Input Protection
Inrush current limiting
Varistors
Internal safety fuse
Lower voltage than the specified minimum input will not damage the unit

Isolation
According to the corresponding input/output combination, as minimum:

2250Vdc input to chassis,
4300Vdc input to output,
8mm spacing
1500Vdc output to chassis

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

EMI
EN 55022 Class A
Class B filtering available

Output Voltage
208Vac (L-L)/3-phase continuous 60 or 400Hz or
380Vac or 400Vac (L-L)/3-phase continuous 50 or 60Hz
All neutrals are internally connected to chassis (GND) in "Y" configuration
(Phase-to-neutral voltages can also be used: 115Vac, 220Vac or 230Vac)
Consult factory for other voltages, frequencies and options

Output Wave Form
Sinusoidal

Total Harmonic Distortion
Less than 5% at full load

Line/Load Regulation
Maximum ± 6% from no load to full load.

Load Crest Factor
Maximum 2.5 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 without derating.
Extended temperature ranges available

Temperature Drift
0.05% per ° C over operating temperature range

Cooling
Built-in fans drawing air into the unit

Environmental Protection
Basic ruggedizing
Full ruggedizing and conformal coating available as option

Shock/Vibration
IEC 61373 Cat 1 A&B

Humidity
5 - 95% non-condensing

MTBF
Min. 80,000 hours at 45ºC
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)
Package varies from 3U x 19" to 6U x 19" depending on input/output combination required.
The 6U x 19" version is typically built with four 3U3 size modules (as in photograph)
Chassis-mount versions are available at the same price

Weight
3U x 19" version: 15kg (33 lb)
6U x 19" version: 28 kg (62 lb.)

Connections
Input: Terminal block
Output: Terminal block
Interconnections: Terminal blocks

RoHS Compliance
Fully compliant