

# FTT3K SERIES

Frequency Converters: 3Ph to 3Ph 3000VA



3U x 17"  
chassis-mount



3U x 19"

Mechanical size depends on input/output configuration.



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

## 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  $\pm 6\%$  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 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)

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