



## FCTT3000 INDUSTRIAL FREQUENCY CONVERTER

### SERIES FCTT3000

This rugged, modular AC-AC frequency converter 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.

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 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.

The unit is manufactured at our plant under strict quality control.

Customized versions are also available.

### APPLICATIONS

- Aviation
- Industrial Controls
- Telecom Power Plants
- Railway / Transportation
- Military Applications
- Marine
- Mining
- Oil Rigs
- Steel Mills
- Automotive / RV
- Electric Utilities and Substations
- Base Station Power
- Manufacturing Location
- OEM Applications

### FEATURES

- 3-Phase sine wave output voltage
- Field-proven rugged design
- Cooling by internal fans
- Filtered input and output
- Full electronic protection
- Compact size
- 3000VA of output power



Pure Sinewave



3-Phase output



High frequency technology



Light weight, compact size



Full electronic protection



Optional Remote enable or shutdown



Optional Extended temperature range



Optional Output fail alarm (Form C)

# SPECIFICATIONS

|                               |  |
|-------------------------------|--|
| Input Voltage                 | 208Vac (L-L) ±15% 3-phase 380V or 400Vac (L-L) ±15% 3-phase 47 ... 410Hz are standard<br>Factory set for required input  |
| Input Protection              | Inrush current limiting Varistor<br>Internal safety fuse<br>Lower voltage than the specified minimum input will not damage the unit  |
| Isolation                     | According to the corresponding input/output combination, as minimum:<br>2250Vdc input to chassis,<br>4300Vdc input to output,<br>8mm spacing<br>1500Vdc output to chassis  |
| Output Voltage                | 208Vac (L-L)/3-phase continuous at 60 or 400Hz or 380Vac or 400Vac (L-L)/3-phase continuous at 50 or 60Hz.<br>All neutrals are internally connected to chassis (GND) in "Y" configuration<br>(Phase-to-neutral voltages can also be used: 115Vac, 220Vac or 230Vac)<br>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             | 2.5 at 90% load  |
| Output Ripple Noise           | High frequency ripple is less than 500mVrms (20MHz BW)   |
| Efficiency                    | Depends on input and output voltage combination.<br>Typically 80% at full load   |
| Output Overload Protection    | Current limiting with short circuit protection<br>Thermal shutdown with automatic recovery in case of insufficient cooling   |
| Output Overvoltage Protection | Output voltage is limited by internal supply voltage   |

|                          |   |
|--------------------------|---|
| Standards                | Designed to meet C22.2 No. 107.1 - 01, UL 458 and EN 60950-1  |
| EMI                      | EN 55022 Class A with margins<br>Class B filtering available  |
| Operating Temperature    | 0 to +50°C for full specification without derating<br>Derating linearly 2.5% per °C rise above +50°C to +70°C max.<br>Extended temperature range available on request |
| Humidity                 | 5 - 95% non-condensing  |
| Temperature Drift        | 0.05% per °C over operating temperature range   |
| Cooling                  | Built-in fans draw air into the unit  |
| Environmental Protection | Basic ruggedizing<br>Full ruggedizing and conformal coating as option   |
| Shock/Vibration          | IEC 61373 Cat 1 A&B   |
| Dimensions               | 4x3U3: 6U x 19" rack-mount or chassis mount assembly<br>432 x 266x 407 mm (W x H x L) including connectors  |
| Weight                   | 28 Kg   |
| Connections              | Input: Terminal block<br>Output: Terminal block<br>Interconnections: Terminal blocks  |
| MTBF                     | 80,000 hours at 45°C<br>Demonstrated MTBF is significantly higher<br>Fans excluded  |
| Indicators               | None  |
| Control Input            | None<br>Remote shutdown as option   |
| Alarm output             | None<br>Optional output Fail Alarm (Form C)   |
| RoHS Compliance          | Fully compliant   |
| Warranty                 | 2 years   |

