

**Triathlon III™ Frequency Converter**  
(Optional UPS Battery Backup Available)

**T3FC-11**  
**1 Phase Input – 1 Phase Output**

**1 KVA Series**

**USER'S MANUAL (Rev A)**

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## **Import Notices**

1. Read the instructions carefully before operating the Frequency Converter.
2. All operating instruction should be followed.
3. All warnings in this manual should be adhered to.
4. The unit should be supplied by grounded source. Do not operate this unit without ground source.
5. Power wiring of the Frequency Converter should be routed carefully so that they are not likely to be walked on.
6. The socket-outlet should be installed near the equipment and be easily accessible. To disconnect from AC source, pull the plug of the power cord.

## **Warning**

There are no customer serviceable components inside. Do Not open the cover or attempt to service the unit. High voltage may remain when the unit is shut down. Unauthorized service will void the warranty.

CAUTION- Do Not plug Frequency Converter's power cord into itself. That will result in a safety hazard.

CAUTION- Do not insert any object into ventilation holes or other openings.

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## **1. Introduction**

### **1.2 System Description**

The T3FC Frequency Converter is an advanced, true sine wave Frequency Converter which provides reliable, regulated, transient-free AC power to sensitive equipment, such as computers and telecommunication systems.

Because the Frequency Converter is a true on-line system, conditioned power is provided continuously to the connected device. Unlike other frequency converters, the T3FC Frequency Converter is constantly regulating and filtering the output power.

The T3FC Frequency Converter has high nonlinear load current capability (i.e. Crest Factor 3: 1), and is suitable for powering nonlinear loads, such as switching power supplies.

### **1.3 Features**

- Input AC line is isolated from output inverter line.
- On-line sine wave operation.
- Auto-re-start function.
- Clear LED status read-out.
- High nonlinear current capability (load crest ratio is 3: 1).
- AC input range 80V to 135V AC (110V), 160V to 275V AC (220V).
- IGBT technology design.
- Output voltage regulation within 1%

## **2. Safety Instructions**

### **2.1 Transporting**

- Disconnect all power cables.
- Always move the converter in the upright position.
- Transport the frequency converter only in the original packaging (to protect against shock and impact).

### **2.2 Positioning**

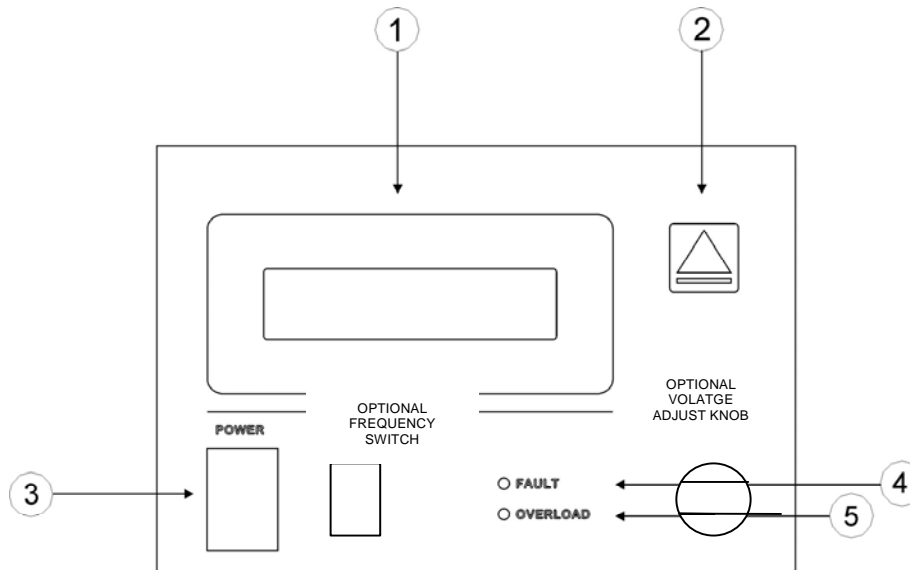
- Do not put the converter on rough or inclined surface.
- Do not install the frequency converter near water or in damp environments.
- Do not install the frequency converter where it would be exposed to direct sunlight or near heat.
- Do not block off ventilation openings in the frequency converter's housing and don't leave objects on the top of the converter.
- Allow a minimum distance of 4 inches in the rear and two sides of the converter for ventilation.
- Keep the converter far away from heat emitting sources.
- Do not expose it to corrosive gas.
- Maintain an ambient temperature : 0°C-40°C

### **2.3 Installation**

- Connect the frequency converter only to an grounded shockproof socket outlet.
- Protect the frequency converter from overloads.
- Place cables in such a way that no one can step on or trip over them.

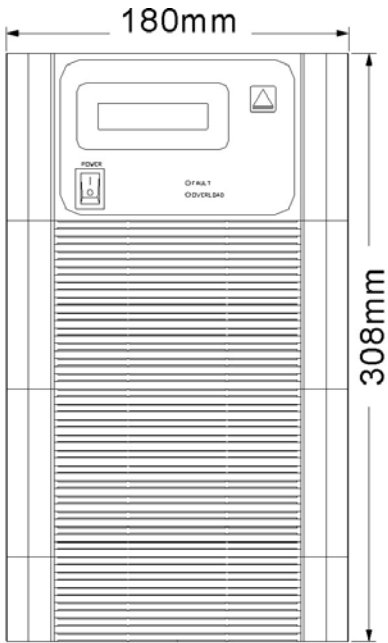
### 3 System Description

#### 3.1 Front Panel

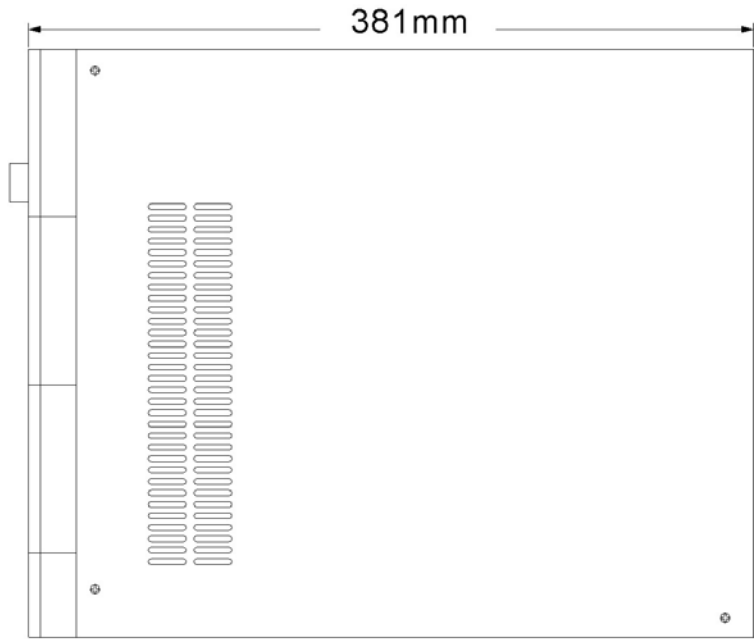


1. LCD Display: This indicates the converter operation information, including converter status, specification, input/output voltage, input/output frequency, output load %, and inside temperature.
2. LCD Select Switch: This switch is pressed to select the converter status on LCD Display.
3. Power on-off switch.
4. Fault LED: This indicates the converter fault condition.
5. Overload LED: This indicates the converter is connected with overload.
6. Optional Voltage Adjust Knob and Frequency Switch. Turn knob counter-clockwise to decrease voltage, and clockwise to increase voltage.

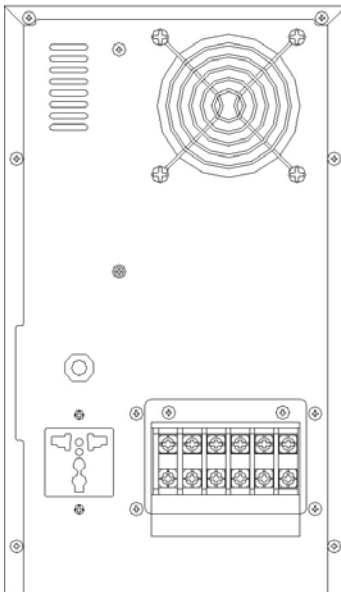
### 3.2 Outline Description



Front View



Side View



Rear View

## **4. Cable Connections**

### **4.1 Inspection**

1. The system should be installed and wired only by qualified electricians in accordance with applicable safety regulations.
2. When installing the electrical wiring, please note the nominal amperage of your incoming feeder.
3. Inspect the packaging carton and its contents for damage. Please inform the transport agency immediately should you find signs of damage. Please keep the packaging in a safe place for future use.

### **4.2 Connection**

1. Converter Input Connection

If the converter is connected via the power cord, please use a socket with ground connector, and proper amp capacity.

2. Converter Output Connection

The output of this model is with socket-types only (NEMA or IEC). Simply plug the load power cord to the output sockets to complete connection.



The Frequency Converter People Since 1950

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<b>Triathlon III Frequency Converter Specifications - 1 Phase Input to 1 Phase Output Model, 1 KVA</b>		
<b>Model</b>		<b>T3FC-11-1K</b>
<b>Capacity</b>		1 KVA (700W)
<b>Input</b>	Voltage (select one individual voltage)	1 Phase 100, 110, 115, 120, 200, 208, 220, 230, or 240V $\pm$ 20%
	Frequency (select one)	47 - 63 Hz
	Power Walk In	0-100% < 20 seconds
<b>Output</b>	Voltage (select one individual voltage)	100, 110, 115, 120, 200, 208, 220, 230, or 240V ( $\pm$ 15% adjustable from nominal)
	Voltage Regulation	$\pm$ 1% from Set Point
	Frequency (select one)	50 or 60Hz $\pm$ 0.1Hz (Optional: 400Hz.) (Optional: Switch Selectable 50/60Hz.) (Optional: Frequency Adjustable $\pm$ 10% from nominal)
	Phase	1 Phase, 2W+G (Optional 3W)
	Power Factor	0.7-1 lag
	Distortion (THD)	< 3.0% (Linear Load)
	Crest Factor	3:1
	Overload Capacity	110% continuous, 110-150% load 30 seconds, over 150% causes unit to shut down. Auto restart upon removal of overload.
	Efficiency	> 85%
<b>Indicators</b>	LCD	I/P&O/P Voltage, I/P&O/P Frequency, Loading %, History Record
	LED	Utility LED (green), Inverter LED (green), Fault LED (red), Overload (yellow)
<b>Protection</b>	Over/Under Voltage	Alarm
	Output Short Circuit	Current Limited and cut-off and fuse and breaker
	Overload	150% 30seconds cut off (Current Limited)
	Over Temperature	Auto-shutdown
	Surge	Surge and Lightning Protection
	EMI/EMC	EN50091-2, CE Approved
<b>Interface</b>	Contact Closure, RS-232	Supports MEGATEC RUPS, MEGATEC RUPSII / UPSilon 2000 UPS monitoring software
<b>Environment</b>	Operating Temperature	0° – 40° C
	Humidity	0 - 90% Non-condensing
	Audible Noise	< 45 dB at 1 meter
<b>Dimensions</b>	W x H x D (mm)	180*381*308
	W x H x D (in)	7.1*15.0*12.1
<b>Weight *</b>	Kilograms	30.7
	Pounds	67.5

\*Weights based on 220V IN and OUT. Weights may vary based on input/output frequency/voltage