

*Pure Sine Wave Commercial UPS*

# **F**SERIES

2.5-3.5 KVA/48 V

**PATENTED TECHNOLOGY**

1 phase input - 1 phase output



World's smallest  
Air Conditioner running  
Commercial UPS



LIVE LIFE NON-STOP.



# F SERIES

## 2.5 – 3.5 KVA/48 V



### DSP Based PWM technology using MOSFET

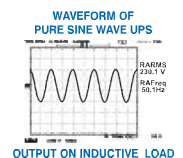
DSP is one of the most powerful technologies and is meant for high speed processing applications. This will help in saving loss of power which happens during the process of power generation by a normal CUPS, which in turn helps in reducing the electricity bills drastically.

DSP SINE WAVE  
COMMERCIAL UPS

MOSFET TEST  
O. K.

### Pure Sinewave Output

Pure Sine Wave is 100% clean, regulated, completely stable and distortion free power which is absolutely safe for running the sophisticated appliances without humming & irritating sound.



### Instant Switchover

Incase of power failure, the process of switchover to the battery mode is of few milliseconds hence the power supplied to the connected appliances, like computer is not interrupted, as a result of which the system does not reboot. This feature also increases the life of your expensive and delicate appliances such as Plasma TV, Air Conditioner, Refrigerator etc as they get uninterrupted power supply at all times.

### Protection for your Appliances

A feature which will automatically switch on to the Battery mode in case there is extreme high or low voltage supplied from the mains, hence protecting your valuable equipments, connected through the CUPS, from any kind of damage.

MAINS LOW CUT  
UPS ON

MAINS HIGH CUT  
UPS ON

### Constant Supply of Power

The voltage supplied by the CUPS during power failure will not differ with the increase or decrease in the load, hence delivering electricity consistently through CUPS. The voltage & frequency at the battery mode will be consistent and will not be affected by increase or decrease in the load for example - The consistency in the speed of the fan.

O/P VOLT: 219.6V  
O/P FREQ.: 50.0Hz

### Fuzzy Logic Charging Technique

A unique patented technology that protects the battery, reduces frequency of water topping and enhances battery life by sensing the requirement of charging required by the battery.



### Customized Charging Facility

Special provision of a Dual charging system has been in built into the MINDTRAC POWER F Commercial UPS wherein user can increase the speed of Charging of the batteries as per requirement. This feature is very useful in areas with high power cuts.

\*\*\*ATTENTION\*\*\*  
CHARGING CURRENT STATUS CHANGED

CHARGING CURRENT  
SELECTION AT 12A OR 16A

### Battery Water topping Alarm

Intelligent reminder for Flooded lead acid batteries. You will not have to remember as to when to top up the batteries. The message will be displayed after every 3 months.

ROUTINE REMINDER  
PL. CHECK BATTERY WATER  
LEVEL & RESTART INVERTER

### High Temperature Warning and Over Temperature Shutdown

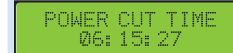
Abnormal increase in the System's temperature can be harmful for the CUPS, the increase in the temperature can be because of increase in the ambience temperature/faulty installation. Incase of excess heating, system displays warning and shuts down automatically, thus increasing the life of the system. The system automatically restarts itself after it regains its normal temperature.

\*ATTENTION\*  
TEMPERATURE HIGH

\*PROTECTION\*  
OVER TEMP SHUTDOWN

## Power Fail duration on the LCD

Gives clear indication of the time duration from the time CUPS is on, which in turn helps you to plan your consumption of electricity and it gives you an information about your battery life.



POWER CUT TIME  
06:15:27

## Bypass Feature

Incase of maintenance of the battery/failure of CUPS or during the servicing of the CUPS, the customer himself can directly switch to the Mains by a simple twist of a switch, and will not need any electrician to remove any wires from the CUPS.



## Overload Management System

Incase of overload the CUPS issues a warning to the user by switching "off" and "on" the power to the running appliances, the system gives the user chance to manage and identify the overload. Once the load is reduced the CUPS automatically resumes its services and saves customer from physically going to the CUPS and restarting it.



\*ATTENTION\*  
LOAD > 100%

## Auto Self Test

A personal Doctor for your CUPS, which will do regular self diagnostic tests and debug if required. It will keep a regular track of the health of the CUPS, hence increasing the efficiency and life of the system.



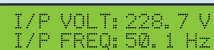
SELF TEST IN  
PROGRESS ...



SELF TEST:  
PASS

## Inbuilt Multimeter for displaying Input Voltage, Frequency & Battery Voltage.

Checks the quality/condition of power for input voltage and input frequency & the battery health and displays on the screen.



I/P VOLT: 228.7 V  
I/P FREQ: 50.1 Hz

## LCD Panel for Battery & Load Level indications

The LCD screen helps the user to manage the load and control the backup time. The LCD screen indicates the load level & battery level. It also helps in calculating the total life of the battery connected, by showing the total hours of backup generated by the batteries.



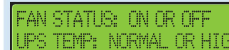
O/P LOAD: 79%  
[■■■■■■■■■]



BATT. LEVEL: 71%  
[■■■■■■■■■]

## User friendly indications

The LCD screen and the alarm act as communication medium between the user and the system to provide comprehensive information about the condition of the system. User friendly indications on the LCD screen helps the user to manage the system with ease & comfort.



FAN STATUS: ON OR OFF  
UPS TEMP: NORMAL OR HIGH

## Wide UPS Mode/UPS Mode

There is a switch at the back which allows you to select UPS mode or W-UPS mode. In UPS mode the input power supply range is limited so you can use this mode to run your computer only. While in W-UPS mode the range of input power supply is wide so this mode will allow you to run heavy appliances like Air Conditioner, Refrigerator etc.

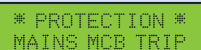


## Generator compatible

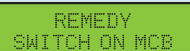
MINDTRAC POWER F series Commercial UPS is capable of charging on any kind of generator, as it can withstand the uneven power supplied by the generator and convert it into healthy power source. Also it helps you to consume the unutilized power of the generator to charge batteries, which helps in extending the life of the batteries and thus saving money.

## Fuel Cell & Solar Energy compatible

A technological marvel with compatibility to the solar panels, F Series helps in generating uninterrupted supply of power, produced by converting solar energy into electricity, which in turn will benefit the customer by reducing the electricity bill of the customer.



\* PROTECTION \*  
MAINS MCB TRIP



REMEDY  
SWITCH ON MCB



AT BACK PANEL &  
RESET THE SWITCH.

## Fault Detection

The system is intelligent enough to diagnose the faults and display it on the LCD panel with suggestive remedies, which helps the user to understand the nature of the problem and correct it on his own. For example Mains MCB trip, Short circuit etc.

Model	F SERIES			
Rated Power	2.5 KVA/48V	3.5 KVA/48V	5 KVA/96V	7.5 KVA/120V*
<b>INPUT</b>				
<b>W-UPS (Wide UPS Mode)</b>				
Mains AC Lower Voltage Limit		140 V $\pm$ 5 V		
Mains AC Lower Recovery Voltage		150 V $\pm$ 5 V		
Mains AC Higher Voltage Limit		270 V $\pm$ 5 V		
Mains AC Higher Recovery Voltage		260 V $\pm$ 5 V		
<b>UPS Mode</b>				
Mains AC Lower Voltage Limit		180 V $\pm$ 5 V		
Mains AC Lower Recovery Voltage		190 V $\pm$ 5 V		
Mains AC Higher Voltage Limit		260 V $\pm$ 5 V		
Mains AC Higher Recovery Voltage		250 V $\pm$ 5 V		
<b>OUTPUT</b>				
Output Voltage		220 V $\pm$ 10%		
Output Frequency		50Hz $\pm$ 0.5Hz		
Output Frequency in Mains Mode		Same as Input		
Change Over Time		<15mSec.		
THD		<5%		
Efficiency		85%		
<b>BATTERY PARAMETERS</b>				
DSP Controlled PWM charging with soft start over full range of main. (140V to 270V)				
Maximum Charging Current limit (Switch Selectable)		12A $\pm$ 1A or 16A $\pm$ 1A		7A, 10A, 15A, 20A $\pm$ 2A
Max. Boost Voltage Level		14.3 V $\pm$ 0.2V / Battery		
Max. Float Voltage Level		13.7V $\pm$ 0.2 V / Battery		
Battery Low Voltage Limit		10.5 V $\pm$ 0.2V/ Battery		
<b>ENVIRONMENTAL</b>				
Acoustic noise (at Meter)		<50 dB		
Operating Temperature		0 to 40°C		
Storage Temperature		0 to 45°C		
Relative Humidity	88%	86%	85%	
<b>TECHNOLOGY</b>				
DSP based state of the art technology using MOSFET/IGBT.				
DSP controlled Fuzzy logic battery charger for optimum charging & enhanced battery life.				
Dimensions-WxDxH (in mm)	395 x 245 x 350	395 x 245 x 350	450 x 245 x 425	352 x 480 x 560
Weight (in kgs.)	27.3 Kg	31.5Kg	45Kg	70.68Kg.

\*This product will be released in Q1 (April 2010).  
Specifications are subject to change without prior notice.



## APPLICATIONS

- Computer • Refrigerator • Air Conditioner(AC) • Fan • Tube Light • Television • Washing Machine • Microwave Oven • Room Cooler • Water Motor Pump
- Projector • Home Theater • Scanner • Printer • Fax Machine • Video Camera • Cell Phone battery charger • Electric Chimney etc.

**LOAD BACKUP CHART FOR 2.5KVA/48V UPS**

29" T.V	FAN	TUBELIGHT	15W CFL (Energy Saver)	0.8 TON A.C / Room Heater	Computer	Air Cooler	REFRIGERATOR 220LTS	BACKUP TIME
SUMMER								
1	2	2	2	1	-	-	-	4 Hours
1	2	-	4	-	-	1	1	6 Hours
1	3	1	4	-	1	-	1	10 Hours
1	2	2	8	-	-	1	1	7 Hours
-	1	-	4	1	-	-	-	6 Hours
-	3	-	4	-	1	-	1	11 Hours
WINTER								
-	-	2	2	1	1	-	1	6 Hours
1	-	-	4	-	1	-	1	15 Hours
-	-	-	4	1	1	-	1	6 Hours
1	-	2	8	-	1	-	1	12 Hours

**LOAD BACKUP CHART FOR 3.5KVA/48V UPS**

29" T.V	FAN	TUBELIGHT	15W CFL (Energy Saver)	1 TON A.C / Room Heater	Computer	Air Cooler	REFRIGERATOR 360LTS	BACKUP TIME
SUMMER								
1	2	2	2	1	-	-	1	3.5 Hours
1	2	-	6	-	-	1	1	5.5 Hours
-	3	-	4	-	1	-	1	9.5 Hours
1	2	2	8	-	-	1	1	6.5 Hours
1	2	-	4	1	-	-	-	5.5 Hours
-	4	-	6	-	1	-	1	10 Hours
WINTER								
-	-	2	2	1	1	-	1	5.5 Hours
1	-	-	4	-	1	-	1	14.5 Hours
-	-	-	4	1	1	-	1	5.5 Hours
2	-	2	12	-	1	-	1	10.5 Hours



### Battery Equalizer

It is highly recommended that you use MINDTRAC POWER's Battery equalizer with any Inverter/ UPS systems having 2 or more batteries in series. These equalizer will enhance your battery bank life & hence save you money by delaying the changing of your batteries. Also you get optimum life from your batteries.

## RECOMMENDED INSTALLATIONS



1220L x 880H x 360 W (in mm)



1220L x 440H x 720W (in mm)



610L x 1760H x 360 W (in mm)

## Certifications

ISO 9001:2008 ISO 14001:2004

R&D  
Recognised  
by  
MINISTRY OF SCIENCE & TECHNOLOGY  
GOVERNMENT OF INDIA