

## 7. Specification

Model		MR 400	MR 600	MR 1000
Motor Power Rating		1/4 HP 300KG	1/2 HP 550KG	1HP 1000KG
OUTPUT	Capacity	750VA/450W	1KVA/600W	1.5KVA/900W
	Start Cap.	2KVA	3KVA	5KVA
	Voltage	Same as input nominal		
	Regulation	V rms $\pm 5\%$		
	Frequency	50/60 HZ		
	Waveform	PWM Stepwave		
INPUT	Voltage	110/220V Selectable		
	Frequency	50/60 HZ $\pm 3$ HZ		
BATTERY	Battery Volt.	24VDC	24VDC	48VDC
	Spec. / pcs	12V8AH / 2pcs	12V7AH/ 4pcs	12V8AH/ 4pcs
	Type	Lead-acid Maintenance Free		
PROTECTION	Over Voltage	Line→Inv. 135V, Inv.→Line 130V (110V) Line→Inv. 270V, Inv.→Line 260V (220V)		
	Under Voltage	Line→Inv. 88V, Inv.→Line 93V (110V) Line→Inv. 176V, Inv.→Line 186V (220V)		
	Surge	Filter & Surge Suppression meet IEEE-587, Cat. A;		
	Noise	Varistor clamping 150J. Response greater than 20dB & over 1MHZ for Common & Transverse Modes		
	Overload	Fuse & Current Limited & Cut-off		
	Short Circuit	Fuse & Current Limited & Cut-off		
	Low Battery	Two stages, no battery drain after battery cut-off		
INDICATOR	Audible	Alarm; AC Failure, Low Battery and Overload		
	Visible	AC SW LED; AC On→Light; AC Off→Dark 220V LED; 220V→Light; 110V→Dark CPU LED; Normal→Slow; Start Timer→Fast		
SELECTION	115V/230V	115V position→110~120V system 230V position→220~240V system		
COLD START		Without AC Present, Force UPS by Pushing Switch		
EMERGENCY LIGHT		Install a Light. It will Light while AC Failure		
NVIROMENT	Temperatur e	0 – 40 degree C		
	Humidity	0 – 90 % Non-condensing		
MECHANICAL	WxHxD mm	275 x 250 x 150	340 x 310 x 150	340 x 310 x 150
	Weight	15.0 KGS	20.0 KGS	25.0 KGS

# SHUTTER MOTOR DOOR

## UPS SYSTEM

### MR400 / MR600 / MR1000



## USER MANUAL

## **IMPORTANT SAFETY INSTRUCTION**

- **This manual contains important instructions that should be followed during installation and maintenance of the U.P.S. and batteries.**
- **Read this manual thoroughly before operation.**
- **If apparent damage to the unit is found upon unpacking, return the unit to your dealer for proper handling.**
- **Technical service to the unit should be done by an authorized personnel. Unauthorized service by the users will void the WARRANTY.**
- **The U.P.S. is designed for 115V/230V equipments use. Please make sure the 115V/230V selection switch is on right position before using it.**
- **Keep this unit away from wet areas.**
- **Do not leave the unit in direct sunlight.**
- **While cleaning, do not apply any chemical solvent to the unit. Dry cloth is preferred to avoid any dripping into the circuit.**
- **This unit is intended for installation in a temperature-controlled, indoor area free of conductive contaminants**

**SAVE THESE INSTRUCTIONS**

## **6. Maintenance**

### ***6.1 Operation***

The UPS system contains no user-serviceable parts.

If the battery service life (3 - 5 years at 25 °C ambient temperature) has been exceeded, the batteries must be exchanged. Please consult your dealer in this case.

### ***6.2 Storage***

If the batteries are to be stored in temperate climatic zones, they should be charged every three months for 8 hours. You should shorten the charging intervals to two months at locations subject to high temperatures.

## 5. Troubleshooting

If the UPS system does not operate correctly, please attempt to solve the problem using the table below.

<i><b>Problem</b></i>	<i><b>Possible cause</b></i>	<i><b>Remedy</b></i>
No output voltage or no indication or UPS remains on battery mode even if the AC line normal and main switch ON	On/Off switch in position “0” (OFF)	Set the On/Off switch to position “1” (ON)
	Line-side fuse of UPS system defective	Check the load. If an overload has occurred, reduce the number of loads and then check the line-side fuse and exchange it if necessary by pushing it.
	No input voltage	Check wall receptacle, check input power cord
UPS system issues acoustic alarm every second when normal mode	UPS system overload	Reduce the number of loads connected to the UPS output
Stored energy time less than nominal value or no stored energy time	Batteries not fully charged / batteries defective	Charge the batteries for at least 4 hours. Check capacity. If the problem still persists, please consult your dealer.

Please have the following information ready at hand before calling the After-Sales Service Department:

1. Model number, serial number
2. Date on which the problem occurred
3. Detailed description of the problem

## Contents

<b>1. Introduction</b>	<b>4</b>
<b>2. Installation and Operation</b>	<b>5</b>
<b>3. Layout &amp; Description</b>	<b>6</b>
<b>4. Indicators and Operating Controls</b>	<b>9</b>
<b>5. Troubleshooting</b>	<b>10</b>
<b>6. Maintenance</b>	<b>11</b>
<b>7. Specification</b>	<b>12</b>

## 1. Introduction

The super UPS MR -Series is a newly developed Line-Interactive system with simulated sine wave for uninterruptible power supply. The MR-Series UPS is design for home use purpose. It can be used for the home electrical appliances even motor appliances. The MR-Series UPS also with a emergency light outlet, user can install a light or bulb instead of the emergency light or emergency exit light. Its features as below,

- ◎Easy Installation and Repair
- ◎Cold Start Function
- ◎Powerful Start Capacity
- ◎Smart Battery Testing
- ◎Manual Selection for 110V or 220V System
- ◎UPS + Emergency Light Function
- ◎Over 32 Hours Standby time
- ◎Smart Overload and Short Circuit Protection
- ◎Low Battery Voltage Alarm
- ◎Low Battery Cut-off Automatically
- ◎No Load Automatic Shutdown by Timer
- ◎Auto Transfer to Battery Mode by Timer
- ◎Option for AVR Function
- ◎Option for External Battery Bank

## 4. Indicators and Operating Controls

<i>Switches/ buttons</i>	<i>Function</i>
<b>On/Off</b> switch (on front panel)	1. Switches the UPS system on and off: <ul style="list-style-type: none"><li>• UPS system is switched on if switch is on “1” position,</li><li>• UPS system is switched off if switch is on “0” position.</li></ul>
<b>DC start</b>	1. Starts the UPS system from the batteries if the AC power has failed. In this case, the DC start switch must also be pressed after switching the UPS system on with the On/Off switch. In this case, do not switch on the loads connected to the output of the UPS system until approx. 20 seconds after the UPS system has been started.  2. Switches off the audible alarm in battery mode
CPU state indicator (light-emittin g diode/LED)	Indicates the status of the CPU: <ul style="list-style-type: none"><li>• Normal : Refer to page 4, #3 <u>CPU Run LED</u></li><li>• ATTBM Activity: Refer to page 4, #3 <u>CPU Run LED</u></li><li>• NLAS Activity: Refer to page 4, #3 <u>CPU Run LED</u></li></ul>
115V/230V switch state indicator (light-emittin g diode/LED)	The following information is displayed: <ul style="list-style-type: none"><li>• LED lights, switch is on 230V position.</li><li>• LED darks, switch is on 115V position.</li></ul>
Operating state indicator (buzzer/BZ)	Indicates the status of the UPS system: <ul style="list-style-type: none"><li>• operation via mains (BZ silence)</li><li>• operation via batteries (beeping every 4 seconds)</li><li>• operation via batteries low stage (beeping every half second)</li></ul>

### #8 AC Inlet

This is to be connected with the enclosed AC power cord for plugging into the wall receptacle.

### #9 AC Input fuse

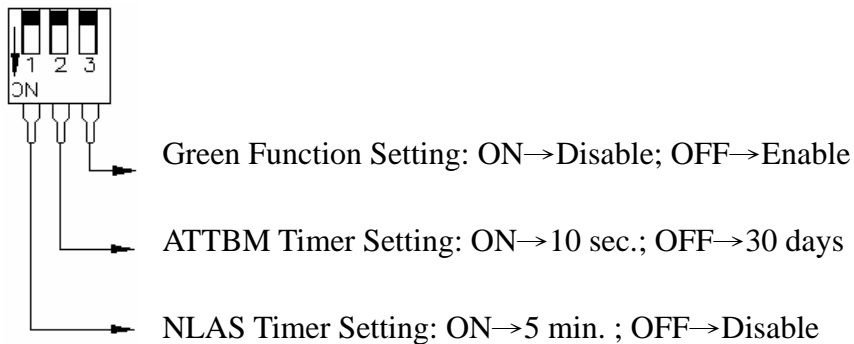
This is to disconnect line input to protect outlets from over load or short circuit. A spare fuse is also enclosed for possible replacement purpose.

### #10 External Battery Socket (option)

This is to be connected to the external battery pack to extend the backup time. Please make sure the external battery voltage is same as the U.P.S. specification. For examples, D750/D1000 is 24V and D1500 is 48V.

### #11 DIP Switch (on main PCB, Inside the Case)

This is to setting the Green Function, ATTBM Function, and NLAS Function.



Remark:

ATTBM: Auto Transfer to Battery Mode by Timer

NLAS: No Load Automatic Shutdown by Timer. (Option for a remote controller)

Green Function: Enlarge Stand-by Time and Enable Powerful Start Capacity.

### #12 System Voltage Selection Switch (Inside the Case)

This is to select the system operating voltage. Please make sure the equipment (motors) you connect to the U.P.S. are used for 110~120V or 220V~240V power system. The wrong position will be damaged the equipment (motors).

## 2. Installation and Operation

- 1) 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.
- 2) Connect the UPS system to a wall receptacle with a VDE-tested, CE-marked or UL-marked mains cable (e.g. the mains cable of your computer).
- 3) Fully charge the batteries of the UPS system by leaving the UPS system connected to the mains for 4 hours.

You can also use the UPS system directly without charging it, but the stored energy time may then be shorter than the nominal value specified.

#### **Note:**

The UPS system charges the batteries automatically as soon as it is connected to a wall receptacle and the On/Off switch is set to the ON.

- 4) Connect your computer to the UPS output sockets by using the enclosed power cord.

#### **Caution!**

1. Do not connect appliances or equipments that would overload the UPS system to the UPS output sockets.
2. Please make sure that the position of UPS 115V/230V SW is on the right position. For samples, if your AC power is 110~120V system, please place the SW on 115V position; if your AC power is 220~240V system, please place the SW on 230V position

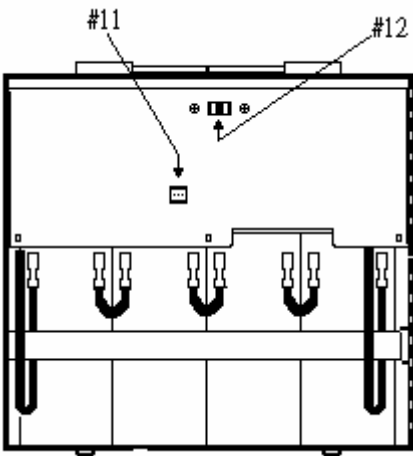
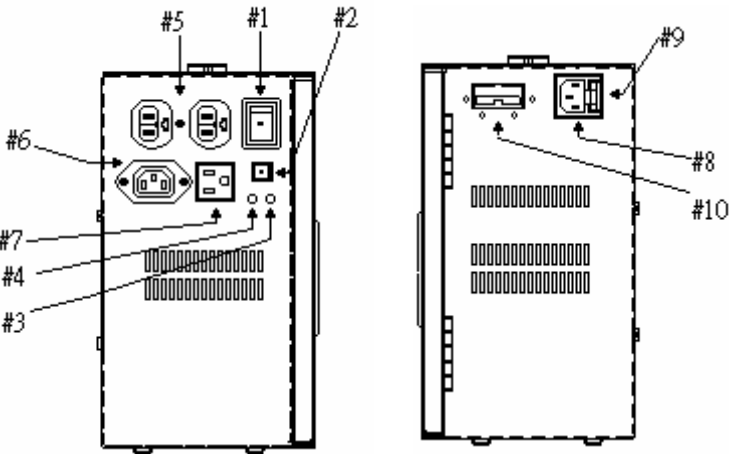
- 5) Set the On/Off switch on the unit right panel to position ON.
- 6) Test the UPS system by disconnecting the input power cord of the UPS system from the wall receptacle.

#### **Caution!**

The output sockets of the UPS system may still be electrically live even if the mains supply has been disconnected or the mains cable has been disconnected.

### 3. Layout & Description

Right, left and inside view, MR-400, MR-600, MR-1000



#### #1 Power Switch

This is to control the ON/OFF of the U.P.S.

#### #2 DC Start Switch

This is to start the UPS system from the batteries if the main power has failed. In this case, the Reset button must also be pressed after switching the UPS system on with the On/Off switch.

#### #3 CPU Run LED

This is to show the status of CPU.

Status	LED
Normal	— — — — — — — — — — —
ATTBM	- - - - - - - - - - -
NLAS	-- -- -- -- -- -- -- -- -- -- --
ATTBM: Auto Transfer to Battery Mode by Timer	
NLAS: No Load Automatic Shutdown by Timer	

#### #4 System Voltage LED

This is to show the 115V/230V switch position, when LED light indicating 115V/230V switch is on 230V position. Please make sure the equipments (motors) you connect to the U.P.S. are used for 220V~240V power system. The wrong position will be damaged the equipments (motors).

#### #5 AC Outlet NEMA

These are to be connected to the equipments (motors) that will be protected by the U.P.S.

#### #6 AC Outlet IEC

This is also to be connected to the equipments (motors) that will be protected by the U.P.S.

#### #7 Emergency Light Outlet

This is to be connected to the emergency light (only a light is enough, don't use the standard emergency light). When AC power normal the outlet will no power output. But when AC fail the outlet will be provide AC power to the emergency light.