USER MANUAL

DRU DIN RAIL
Offline

500 VA – 850 VA

INDEX

1. IMPORTANT SAFETY INSTRUCTIONS

This manual contains important instructions that should be followed during installation and maintenance of the UPS and batteries.

Warning (Controlled Environment) Intend for installation in a controlled environment:

- **CAUTION:** Do not dispose of batteries in a fire, the battery may explode.
- **CAUTION:** Do not open or mutilate the battery, released electrolyte is harmful to the skin and eyes. It may be toxic.
- **CAUTION:** A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed when working on batteries.
    - Remove watches, rings or other metal objects.
    - Use tools with insulated handles.
    - Wear rubber gloves and boots.
    - Do not lay tools or metal parts on top of batteries.
    - Disconnect charging source prior to connecting or disconnecting battery terminals.

Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries. When replacing battery, replace with same type. Do not connect any additional batteries by yourself.

2. INTRODUCTION

**Please read and save this manual!**

Thank you for selecting this uninterruptible power system (UPS). It provides you with a perfect protection for connected equipment. The manual is a guide to install and use the UPS.

It includes important safety instructions for operation and correct installation of the UPS. If you have any problems with the UPS, please refer to this manual before calling customer service.

3. PRESENTATION

3.1. Front Panel
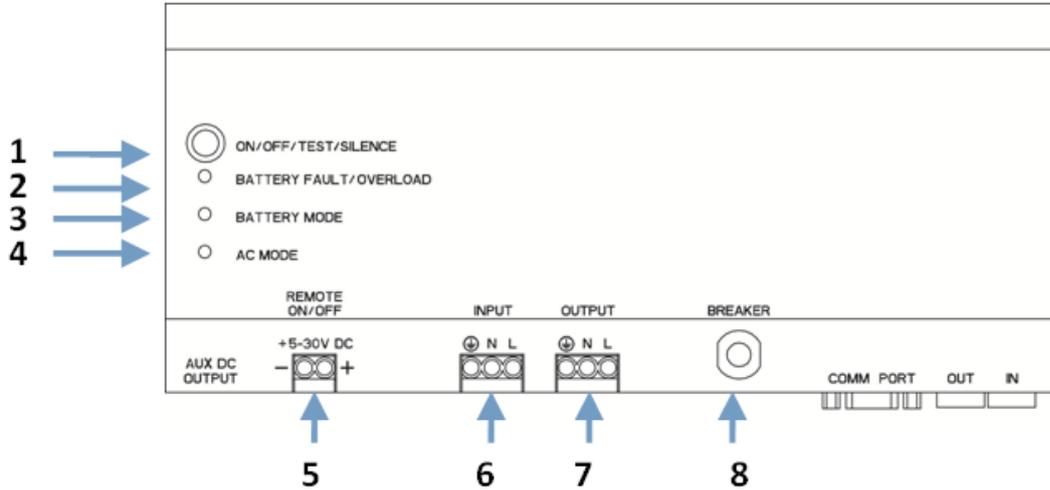
Description and caption:

1. **ON/OFF/TEST/SILENCE Button**
   Press the button for more than one second to turn the UPS ON . Press the button for less than one second to activate the self-testing (AC MODE), Press the button for less than one second to activate the BZ silence (BATTERY MODE), Press for more than four seconds to turn OFF.

2. **BATTERY FAULT / OVERLOAD Indicator (Red LED)**
   The LED flashes when the battery needs to be recharged and tested , The LED will illuminate when the unit is subjected to an overload condition . If the unit shuts down due to overload, The LED and alarm will continue for two minutes.

3. **BATTERY MODE Indicator (Yellow LED)**
   The LED illuminates when the UPS is supplying battery power to the loads.

4. **AC MODE Indicator (Green LED)**

   The LED illuminates when the line input voltage is normal.

5. **Remote ON/OFF**

   The remote switch provides the same functions as the front panel switch including ON/OFF /TEST/SILENCE functions.

6. **IP20-rated INPUT Screw Terminals (see table below)**

7. **IP20-rated OUTPUT Screw Terminals (see table below)**

Screw	M3.0; Current rating = 30A, AC 300V
Insulation Withstands Volts	**AC 2000V min.**
PCB Hole Diameter	**1.8mm , wire strip length = 8mm**
Wire Range	**10-24AWG**
Screw Torque	**9 lb.-in**

8. **BREAKER**
   Protection from ac overload and short circuit

3.2. Bottom Panel
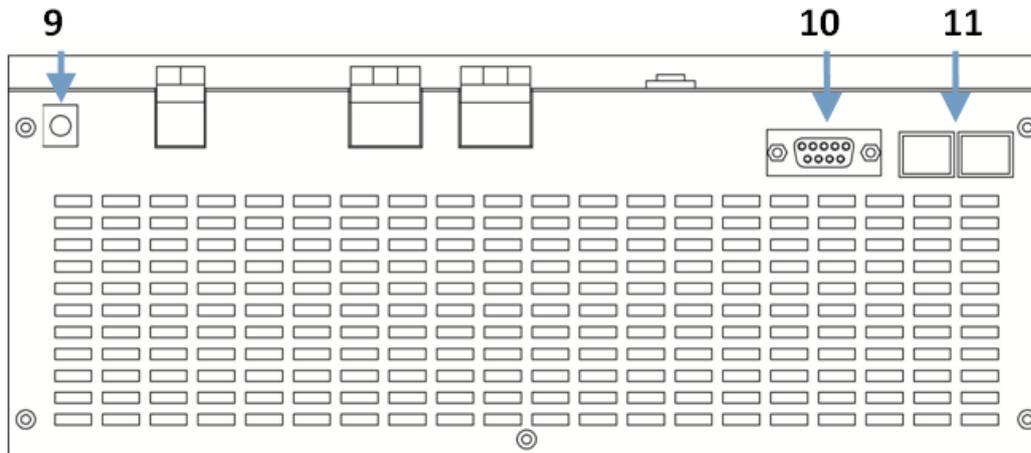
Description and caption:

9. **AUX DC OUTPUT**
   Output terminal providing DC power source to the optional relay card (Dry contact relay box)

10. **RS232 communication port**
    DB-9 connector

11. **TEL Surge Protection**
    Data line surge protection for phones

4. INSTALLATION

4.1. Inspection

Inspect the UPS upon receipt. The packaging is recyclable. Save it for reuse or dispose properly.

4.2. Placement

To prevent the risk of fire or electronic shock, install the UPS in a temperature and humidity controlled ventilated enclosure, free of conductive contaminants, moisture, flammable, gases, and corrosive substances.
To reduce the risk of electronic shock, do not remove cover, as it has no user-serviceable parts inside. Some components are live, even when ac power is disconnected. For service, please contact a qualified technician.

4.3. Utility power

The input power cord needs to connect the rear inlet socket of the UPS and plug into a socket on the wall. Please notice the voltage of utility power should match with the UPS. (For example, the rating voltage of UPS is 110V/(220V), the input utility power should be the same as 110V/(220V)).

4.4. Connection

Connect the AC input ground terminal to the main supply ground. Connect line in neutral supply conductors. Connect the loads to the output wire connector. (Wire Gauge:10-18 AWG)

5. OPERATION

5.1. Output Connector

The output connector will provide protection from surges and power failures to the critical loads.

5.2. Switch ON

After connecting the UPS to the utility power, press the ON button until the first beep end , then release the button immediately.

5.3. Switch OFF

To switch OFF the UPS , press and hold the ON/OFF button until the "AC MODE" LED or "BATTERY MODE" LED turns OFF

5.4. Remote ON/OFF

To ensure the remote ON/OFF function, connect a remote push-button switch in series with 5-30V DC voltage source to the ON/OFF terminal. The remote switch provides the same functions as the front panel switch including ON/OFF/TEST/SILENCE functions.

6. ALARM

6.1. "BACKUP" (slow alarm)

When the UPS is working under "BACKUP" mode, the UPS would emit audible alarm. The alarm stops when the UPS is return to "LINE" mode operation.
Attention: The alarm of "BACKUP" is going to beep every 2 seconds. (Slow-speed beep).
Attention: The UPS provides mute function for the warning. When the beeping sound occurs, press "ON" to stop it; and press "ON" again to resume the sound.*

6.2. "LOW BATTERY"(rapid alarm)

In the "BACKUP" mode, when the energy of battery becomes to lower level. (about 20%~30%) The UPS beeps rapidly until the UPS shuts down from battery exhaustion or returns to "LINE" mode operation.
Attention: The alarm of the batteries caused by low voltage beeps every 0.5 second.
Attention: The rapid alarm under "LOW BATTERY" condition cannot be muted.

6.3. "OVER LOAD" (continuous alarm)

When the UPS is working under overload condition (the connected loads exceed the maximum rated capacity), the UPS will emit continuous alarm to warn an overload condition. In order to protect the unit and the loads, the UPS will be automatic turn off. Please disconnect nonessential devices from UPS to eliminate the overload alarm.

7. SOFTWARE (OPTIONAL)

7.1. Power Monitoring Software

The UPS-MON series software (or other power monitoring software) is applied standard RS-232 interface to perform monitoring functions, and then provides an orderly shutdown of a computer in the event of power failure. Moreover, UPS-MON displays all the diagnostic symptoms on monitor, such as Voltage, Frequency, Battery level and so on. The software is available for DOS, Windows 3.1x, Windows 95/98/me/2000, Windows NT V3.5/4.0 or later, Novell Netware, Linux, and others. Call your dealer for more information on computer OS compatible solutions.

7.2. Interface Kits

A series of interface kits is available for operation systems that provide UPS monitoring. Each interface kit includes the special interface cable required to convert status signals from the UPS into signals which individual operating system recognizes.
The interface cable at UPS side must be connected to REMOTE PORT, at computer side can be either COM 1 or COM 2. The other installation instructions and powerful features please refer to READ.ME file.

7.3. Attention

Use only factory supplied or authorized UPS monitoring cable!

7.4. The characteristics of computer interface port

The computer interface port has the following characteristics:
The communication port on the back of the UPS may be connected to host computer. This port allows the computer to monitor the status of the UPS and control the operation of the UPS in some cases. Its major functions normally include some or all of the following:
a. To broadcast a warning when power fails.
b. To close any open file before the battery is exhausted. c. To turn-off the UPS.

Some computers are equipped with a special connector to link with the communication port. In addition, special plug-in cord may be needed. Some computers may need special UPS monitoring software. Contact your dealer for the details on the various interface Kits.

8. TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	ACTION TO TAKE
UPS cannot turn on LED not light	ON/OFF/TEST/SILENCE button not pushed or push-time too short	Press the ON/OFF/TEST/SILENCE button more than 1 second
	Battery voltage less than 10V	Recharge the ups at least 6 hours
	PCB failure	Replace the PCB, call for service
	Load less than 40W at battery mode	Normal condition, "No load shutdown function" is active.
UPS always at battery mode	Power cord lose	Plug in the power cord
	AC FUSE burn out	Replace the AC fuse
	Line voltage too high, too low or black out	Normal condition
	PCB failure	Replace PCB, call for service
Back up time too short	battery not fully charged	Recharge the UPS at least 6 hours
	PCB failure	Replace PCB, call for service
Buzzer continuous beeping	Overload	Remove some loads

9. TECHNICAL SPECIFICATIONS

Model	DRU-500	DRU-850
Capacity (VA)	500	850
Capacity (Watts)	300	510
Form	Din Rail Mounting Type	
Input		
Voltage	100 / 110 / 120 VAC or 220 / 230 / 240 VAC	
Input Voltage Range	85-138 or 165-276 VAC	
Input Frequency Range	50/60 Hz (Auto Sensing)	
Output		
Waveform	Simulated Sine Wave	
Voltage	100 / 110 / 120 VAC or 220 / 230 / 240 VAC	
Frequency	50/60 Hz ± 0.3 Hz	
Transfer Time	2-4 ms (Typical)	
Protection		
Full Protection	Overload, Surge, Short Circuit	
Tele Communication	RJ11 / RJ45	
Battery		
Type	12V 7.2Ah	12V 9Ah
Quantity	1	1
Sealed, Maintenance Free	Yes	
Typical Recharge Time	8h to 90%	
Management & Communication		
Indicator	LED Panel	
Communication Port	RS232 (Option)	
Physical		
Dimensions (WxDxH) mm	119 x 282 x 124	
Weight (kgs)	4.3	4.9
Shipping Dimensions (mm)	243 x 381 x 231	
Shipping Weight (kgs)	5.1	5.7
Alarm		
Overload / Fault	Continuous Beeping	
Battery Mode	Beep every 4 seconds	
Low Battery	Beep every 0.5 seconds	
Environment		
Operating Humidity	0-90% RH at 0-50°C (Non-condensing)	
Audible Noise	Less than 40 dB	

* Specifications are subject to chance without further notice.
* Specifications are for reference, actual information should be based on real product.