



DIN Rail

Uninterruptible Power System

User Manual for Models:

SDRS-0300-H1 • SDRS-0300-H2
SDRS-0500-H1 • SDRS-0500-H2

300W - 500W

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Important Safety Instructions

IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

This Manual Contains Important Instructions that should be followed during Installation and maintenance of the UPS and Batteries.

WARNING: Intended for installation in a controlled environment.

CAUTION: Do not dispose of batteries in a fire, as they may explode.

CAUTION: Do not open or damage the battery, electrolyte may be released which is harmful to the skin and eyes.

CAUTION: To reduce the risk of fire, connect only to a circuit with 20A maximum branch circuit overcurrent protection in accordance with the National Electric Code, ANSI/NFPA 70

CAUTION: A battery can present a risk of electric shock and high short circuit current.

The following precautions should be taken when working with batteries:

- a. Remove watches, rings and other jewelry or metal objects.
- b. Use only tools with insulated handles.
- c. Wear rubber gloves and boots.
- d. Do not lay tools or metal parts on top of batteries.
- e. Disconnect charging source prior to connecting or disconnecting battery terminals.
- f. Remove battery grounds during installation and maintenance to reduce risk of shock.
Remove the connection from ground if any part of the battery is determined to be grounded.

CAUTION: Risk of Electric Shock – UPS equipment outputs remain live with main disconnect in off position.

Battery replacement should be performed or supervised by personnel with knowledge of batteries. Keep unauthorized personnel away from the batteries.

When replacing batteries, replace with the same type and number of batteries:
Do not connect any additional batteries.

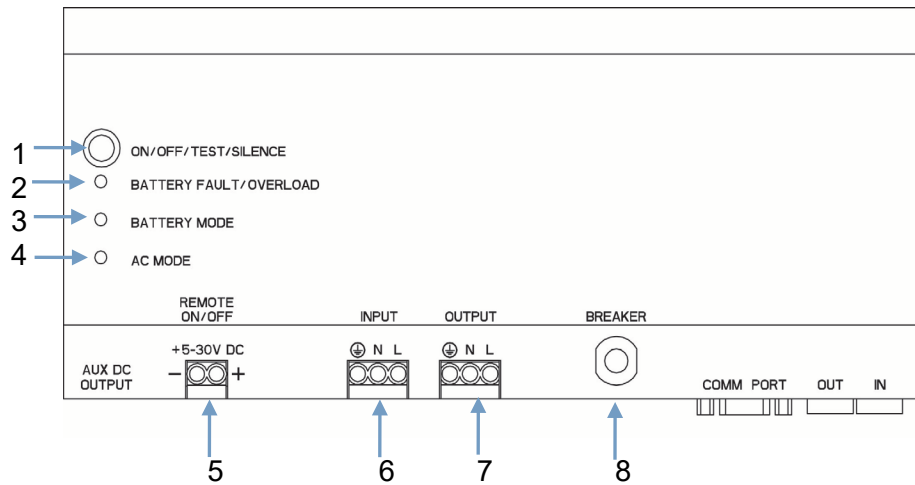
Introduction

Please read and save this manual!

The information provided in this manual refers to our single phase, DIN Rail UPS. It covers basic functions, operating and installation instructions, and cautionary notes. Installation must be carried out in accordance with this manual as well as local electrical regulations and should only be performed by qualified personnel to avoid the risk of electric shock or damage to the unit. Any warranties covering these units will become void if the unit is found to have been incorrectly connected or tampered with.

1. Presentation

Front Panel



1. ON/OFF/TEST/SILENCE Button:

- Press the button and hold 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 silence the UPS audible alarm (BATTERY MODE),
- Press for more than four seconds to turn OFF.

2. BATTERY FAULT / OVERLOAD Indicator (Red LED):

- The LED will flash 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 will illuminate when the UPS is supplying battery power to the loads.

4. AC MODE Indicator (Green LED): The LED will illuminate 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.

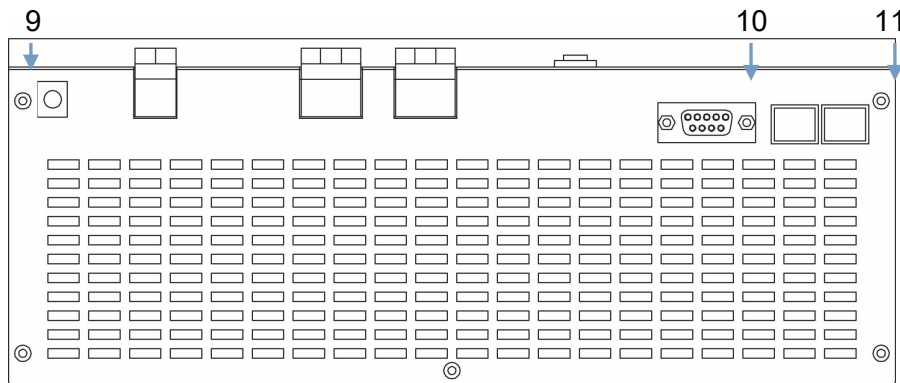
6. IP20-rated INPUT Screw Terminals (see table below)

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

Screw Type	M3.0; Current rating = 30A, AC 300V
Insulation Withstands Volts	AC 2000V min.
Wire Stripping length	8mm
Wire Range	10-18AWG
Screw Torque	9 lb.-in
Minimum temperature	60 °C
Wire conductor material	Copper only

8. BREAKER: Protection from AC overload and short circuit.

Bottom Panel



9. AUX DC OUTPUT: Output terminal provides DC power source to the relay card (Optional Dry contact relay box).

10. RS232 communication port: DB-9 connector

11. TEL Surge Protection: Data line surge protection for telephones

2. Installation

2.1 Inspection: Upon receiving the UPS, inspect it. The packaging is recyclable. Save it for reuse or dispose properly.

2.2 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, it has no user-serviceable parts Hazardous live parts inside this unit are energized from the battery supply even when the input AC power is disconnected.

To reduce the risk of fire, the AC input branch circuit breaker should be rated to 20A. It is for overcurrent protection and to supply to the AC input power circuit of the DINRAIL UPS. The associated AC input supply cables/ conductors should also be rated for a minimum of 20A. This is in accordance with the National Electric Code, ANSI/NFPA 70.

2.3 Utility power: The terminal block is used to “hardwire” the UPS, thus allowing connection of input/output wiring. Use AWG wire as stated in the table. Input / Output wires should be secured with terminal block screws using 9 lb.-in. of torque. The input utility power should match with the UPS. (For example, the voltage rating of UPS is 120V/(220V), input utility should also be 120/(220)).

2.4 Connection:

- a. Connect the AC Input power conductors (L, N, and G) to the UPS Input Terminal Blocks (L, N, and G) respectively.

- b. Connect the Output Power Conductors (L, N, and G) from the UPS Output Terminal Blocks to the load equipment (L, N, and G) respectively.
- c. The UPS Input and Output Terminal Blocks can accept conductor sizes ranging from 10AWG to 18AWG.

3. Operation

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

3.2 Switch ON: After connecting the UPS to the utility power, press the ON button until the first beep stops, then release the button immediately.

3.3 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.

3.4 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.

4. Alarm

4.1 “BACKUP” (slow alarm): When the UPS is working in the “BACKUP” mode, there would be an audible alarm. When the UPS returns to “LINE” mode operation, the alarm would stop.

Attention: In the “BACKUP” mode, the alarm will beep every 2 seconds. (Slow-speed beep).

Attention: The UPS provides mute function for this warning. When the beeping sound occurs, press "ON" to stop it; and press "ON" again to resume the sound.

4.2 “LOW BATTERY”(rapid alarm): When the UPS is working in the “BACKUP” mode, with energy of the battery between 20%~30% (low level), the UPS will beep rapidly until the UPS shuts down from battery exhaustion or returns to “LINE” mode operation.

Attention: The alarm due to low voltage of the batteries beeps every 0.5 second.

Attention: The rapid alarm under “LOW BATTERY” condition cannot be muted.

4.3 “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 automatically turn Off. Please disconnect nonessential devices from UPS to eliminate the overload alarm.

5. Software (Optional)

5.1 Power Monitoring Software

The UPS-MON software (or other power monitoring software) is applied via standard RS-232 interface to perform monitoring functions. The cable must be connected from the UPS end to a REMOTE PORT on the computer end. It can be either be COM 1 or COM 2. It provides an orderly shutdown of a computer in the event of a power failure. Moreover, UPS-MON displays all the diagnostic symptoms on the monitor, such as Voltage, Frequency, Battery level and so on. The software is available for Windows XP, 7,8, 10, Server-2000, 2003, 2008, 2012 and Linux. Call Marathon Power technical support for assistance on OS.

5.2 Interface Kits

A series of interface kits are available for operation systems (Such as PLC, SCADA, signal controllers, etc.) that provide UPS monitoring. Each interface kit includes a special interface cable required to convert status signals from the UPS into signals which the individual system recognizes. The interface cable from the UPS end must be connected to a REMOTE PORT on the computer end. It can be either be COM 1 or COM 2. For other installation instructions and powerful features please refer to READ.ME file.

Attention: Use only the cable supplied by factory or authorized UPS monitoring cable!

5.3 The characteristics of computer interface port

The computer interface port has the following characteristics:

- The communication port located on the bottom of the UPS may be connected to a host computer. This port allows the computer to monitor the status of the UPS and control its operations 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 depleted.
 - c. To turn-off the UPS.
- Some computers are equipped with a special connector to link with the communication port. In addition, a special plug-in cord may be needed. Some computers may need special UPS monitoring software. Contact Marathon Power for details on the various interface Kits.

6. Appendix A - Troubleshooting

PROBLEM	CAUSE	CORRECTIVE ACTION
If UPS does not turn ON (OR)	ON/OFF/TEST/SILENCE button not pushed or push-time too short	Press the ON/OFF/TEST/SILENCE button more than 1 second
	LED does not illuminate	
LED does not illuminate	Battery voltage less than 10V	Recharge the UPS for at least 6 hours
	PCB failure	Replace the PCB, call for service
	Load less than 40W in battery mode	Normal condition, "No load shutdown function" is active
UPS always in battery mode	Loose AC input connection	Recheck input connection
	Blown input AC fuse	Replace the AC fuse
	Line voltage too high, too low or AC power failure	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 beeps continuously	Output Overload	Remove some loads

7. Appendix B - Specifications

Model	DINR-300	DINR-500
Capacity	500VA / 300W	850VA / 500W
INPUT		
Voltage	120V (+10%, -20%); 230V (±20%); 240V(+15% -20%)	
Frequency	50Hz ± 10%; 60Hz ± 10%	
Maximum Input Current	10A	
Inrush Current	25A	
Transient Suppression	EN61000-4-5, L-N: 1KV, L-G or N-G: 2KV	
Short Circuit Protection	Yes	
Battery String Voltage	12VDC	
OUTPUT		
Power	500W / 850VA 300W / 500VA	
Output Voltage	120V / 230V / 240V ± 5%	
Frequency (On Battery)	50 / 60HZ ±0.3Hz	
Output Power Factor	0.6	
Waveform	Stepped Square Wave	
Load Crest Factor	3:1	
Transfer time	4-6 ms typical	
Overload Capacity	UPS automatic power off if overload exceeds 105% of nominal at 20 seconds; 120% at 10 seconds; 130% at 3 seconds	
Short circuit protection	UPS output cut off immediately	
BATTERY		
Type	Sealed, maintenance-free lead acid battery	
Battery quantity	12V 7.2Ah x 1	12V 9Ah x 1
Typical recharge time	8 hours to 90% capacity after full discharge	
Backup time	100% load - 4 mins 50% load - 13 mins	100% load - 2 mins 50% load - 9 mins
GENERAL		
Dimension (W x D x H)	11.1 x 4.6 x 4.9 inches 281mm x 116mm x 124mm	
Product weight	9.7lbs / 4.4kg	10.8lbs / 4.9kg
Mounting	DIN Rail or Panel Mount	
Input Connection	Hardwire Terminal Block	
Output Connection to Loads	Hardwire Terminal Block	
Cooling	Natural Convection	
Shock and vibration	ISTA 2A	
Audible noise	< 40dBA (1meter from surface)	
Altitude, ft (m)	5000ft / 1524m without derating	
Operating temperature	32°F to 122°F / 0°C to 50°C	
Storage temperature	5°F to 140°F / -15°C to +60°C	
Humidity	<95%, non-condensing	
Cooling	Natural Convection	
Approvals	Recognized to UL1778 standards (120V Models) CSA C22.2#107.3: 2014 Ed.3 + U1 Suitable for UL508 CE Certified (230V Models)	

CAUTION: Risk of Electric Shock – UPS equipment outputs remain live with main disconnect in off position.

Part Numbers:

120V: SDRS-0300-H1, SDRS-0500-H1

230V: SDRS-0300-H2, SDRS-0500-H2

8. Warranty

Limited Three-Year Warranty and Exclusions

Marathon Power warrants to the original purchaser, and not for the benefit of anyone else that this product at the time of its sale by Marathon Power is free of defects in materials and workmanship for three (3) years (batteries for 2 years within the USA, Canada and Mexico, otherwise 1 year) from the original purchase date. Marathon Power will correct such defects by repair or replacement, at its option, if within such three-year period the product is returned prepaid and all warranty claim instructions are followed. This warranty excludes labor for removal or reinstallation of this product. This warranty is void if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with all labels or instructions. There are no other or implied warranties of any kind, including merchantability and fitness for a particular purpose, but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warranty, including merchantability and fitness for a particular purpose, is limited to three years. Marathon Power is not liable for incidental, indirect, special or consequential damages, including damage to, or loss of use of, any equipment, lost sales or profits or delay or failure to perform this warranty obligation.

Limitations & Claims

This warranty does not cover any Marathon Power UPS or any properly connected electronic equipment which has been improperly installed, overloaded, abused or altered in any manner, or is not used under normal operating conditions, or in accordance with any labels or instructions, and does not cover any damage to properly connected electronic equipment resulting from a cause other than a "surge".

Damage caused by failure to provide a suitable installation environment for the product (including, but not limited to, lack of a good ground) will not be covered by this warranty. This warranty does not apply to damage caused by direct lightning strikes, or damage caused by electrical disturbances that exceed published product specifications. These products are intended to limit the maximum amplitude of transient voltage surges on power lines to specified values. They are not intended to function as surge arrestors. The UPS is intended to be installed on the load side of the service entrance and has been tested to verify that transient voltage surges are limited when subject to non-repetitive transient voltage surge events. This warranty excludes any incidental, indirect, special or consequential damages, including without limitation, labor for removal or reinstallation of the Marathon Power UPS or any connected electronic equipment, data loss or alteration loss of equipment use, lost sales or profits and any such damages for delay or failure to perform this warranty obligation. This warranty is in lieu of and excludes all implied warranties of merchantability or fitness for use. In addition, the warranty does not cover restoration of lost data and reinstallation of software. Some states may not allow the exclusion or limitation of incidental or consequential damages or other remedies, so the above exclusions or limitations may not apply to you.

Take the following steps to file a warranty claim: Contact us at Marathon Power, Inc., Attn: Returns, 2538 E. 54th Street, Huntington Park, California 90255 or call (310) 689-2328 within 30 days of the occurrence. Be prepared to provide detailed information about the event, any damage, the UPS model number, purchase date and location. You will then be provided with a Return Authorization Number (RAN), and be instructed to forward your proof of purchase (receipt), an explanation of the event and your UPS. If Marathon Power determines that the damage was due to a "surge", we may request that all connected equipment be submitted for evaluation. Marathon Power is not responsible for shipping costs. In the event that the equipment has been damaged by a "surge" Marathon Power will reimburse you for repair or replacement at fair market value (on a pro rata basis) as indicated by the respective amounts above. The warranty coverage is above and beyond, only to the extent needed, of that provided by any other source, including but not limited to any connected equipment coverage, any manufacturer's warranty or insurance policy. To receive payment for repair to damage due to a "surge," the original purchaser should (upon prior approval from Marathon Power) have such equipment repaired by an authorized service center of such equipment's manufacturer. The original purchaser will submit a repair bill along with a statement from the repair facility documenting the nature of the damage and how it was sustained to said equipment.



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