

## Technical Services

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## SDU 24-BATEM

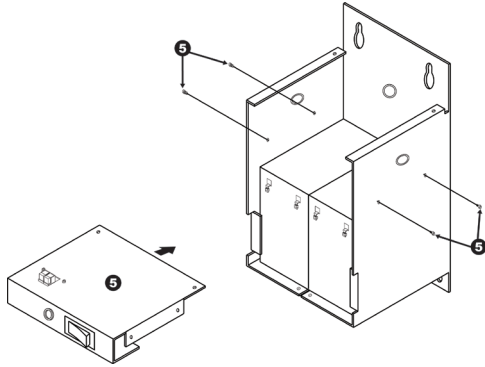
### External Battery



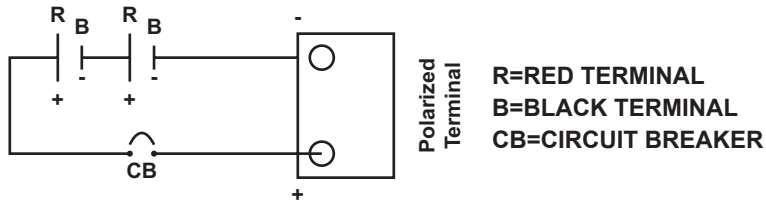
## Instruction Manual



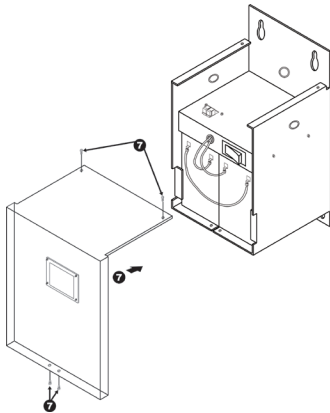
**Step 5:** Slide bracket forward inside the enclosure, secure bracket in place and use the 4 screws to mount the bracket on the enclosure.



**Step 6:** Use the following connection diagram to assure the correct batteries connection to the polarized terminal connector and to the circuit breaker.



**Step 7:** Slide the top cover on the enclosure then use the 4 screws for a secure mounting.



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## Product Registration and Warranty Information

### Product Registration

To register your product for updates and information on service and support:

- Visit the Technical Support section of our Web site at:  
<http://www.solaheviduty.com/support/registration.htm>
- Click on the Product Registration link and fill in the form. This will register your product with Sola/Hevi-Duty.

### Warranty Information

Please see enclosed "Terms & Conditions and Sales Policies & Procedures."

# Important Safety Instructions

Save These Instructions

This manual contains important safety instructions. Read all safety, installation, and operating instructions before operating the Uninterruptible Power System (UPS). Adhere to all warnings on the unit and in this manual. Follow all operating and user instructions.

This equipment is designed for Industrial or Commercial use. This equipment can be installed and operated by individuals without previous training.



## WARNING

Observe all cautions and warnings in this manual. Failure to do so MAY result in serious injury or death. Refer all UPS and battery service to qualified service personnel. Do not attempt to service this product yourself. Never work alone.



## WARNING

Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from the batteries. PROPER DISPOSAL OF BATTERIES IS REQUIRED. REFER TO YOUR LOCAL LAWS AND REGULATIONS FOR BATTERY DISPOSAL REQUIREMENTS.



## CAUTION

Always disconnect this External Battery Module from the SDU Power module before replacing the batteries.



## CAUTION

When replacing the batteries, use the same number and type of batteries. The batteries approved for the SDU 24-BATEM model are presented in the table on page 6 of this manual.



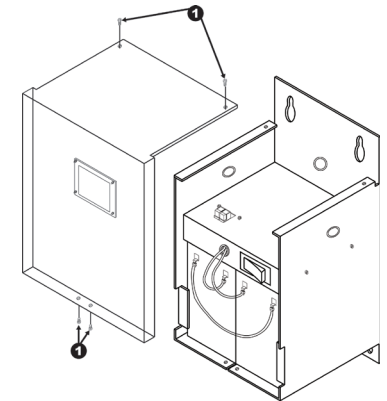
## CAUTION

Do not dispose of battery or batteries in a fire. The battery may explode.

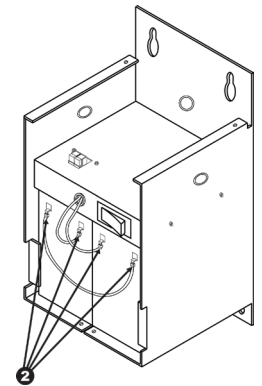
Do not open or mutilate the battery or batteries. Released electrolyte is harmful to skin and eyes. It may be toxic.

For battery recycling information, contact CSB recycling network at : 1 (800)738-7372

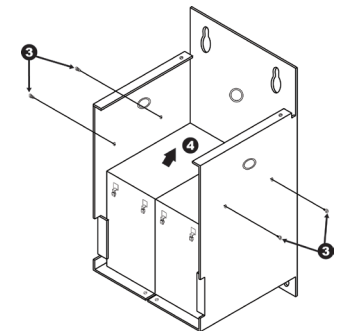
## TO REPLACE THE BATTERIES:



**Step 1:** Remove 4 screws from cover and slide cover forward off enclosure.

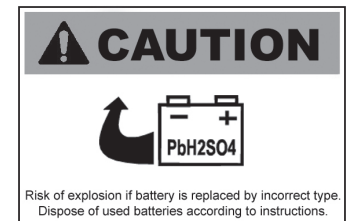


**Step 2:** Remove wires from battery posts



**Step 3:** Remove 4 screws from enclosure but secure bracket in place and then slide bracket forward from enclosure.

**Step 4:** Remove failed batteries and insert new Replaceable Batteries.



## SDU 24-BATEM Battery Replacement Instructions



### CAUTION:

A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed before replacing the batteries:

- Remove rings, watches, and other metal objects.
- Do not lay tools or other metal objects on top of the batteries.
- If the battery replacement kit is damaged in any way or shows signs of leakage, contact your local distributor or Sola/Hevi-Duty representative immediately.
- Do not dispose of batteries in a fire. The batteries may explode.
- Dispose of old batteries according to local codes.



**NOTE:** Caution should be exercised when replacing the batteries because the load is unprotected from disturbances and power outages during this procedure.



### CAUTION

ELECTRICAL SAFETY PRE-CAUTIONS MUST BE FOLLOWED WHEN INSTALLING OR SERVICING THIS EQUIPMENT. TO PREVENT RISK OF ELECTRICAL SHOCK, TURN OFF AND LOCK OUT ALL POWER SOURCES TO THE UNIT BEFORE MAKING ELECTRICAL CONNECTIONS OR SERVICING.

## SDU 24-BATEM Batteries Replacement

The following battery types can be used as a replacement of the SDU 24-BATEM batteries:

Manufacturer	Type	Rating
CSB	GP1272	12 V dc, 7.2 Ah
	GP1272F2	12 V dc, 7.2 Ah
	EVX 1272 F2	12 V dc, 7.2 Ah
YUASA	NP7-12	12 V dc, 7.2 Ah
Kung Long Batteries Industrial Co Ltd	WP7.2-12	12 V dc, 7.2 Ah
	WP1234W	12 V dc, 7.2 Ah
First Power	FP1272	12 V dc, 7.2 Ah
Japan Storage Battery	PXL12072	12 V dc, 7.2 Ah
Toplite	NP7.2-12	12 V dc, 7.2 Ah
Shimastu Electronic	NP7.2-12	12 V dc, 7.2 Ah



### CAUTION

The battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries:

- Remove watches, rings, and other
- Use tools with insulated handles.



### CAUTION

WHEN REMOVING AND INSTALLING THE NEW BATTERIES, EXTREME CARE MUST BE USED NOT TO SHORT METAL CHASSIS PARTS ACROSS THE BATTERY TERMINALS AND NOT TO SHORT THE BATTERIES TO EACH OTHER OR PERSONAL INJURY MAY RESULT.

### LIMITATION OF LIABILITY:

Sola/Hevi-Duty assumes no liability for incidental or consequential loss or damage due to the third party servicing or placement of batteries in Sola/Hevi-Duty products, including but not limited to, liability for injury, loss of life, property damage, loss of use, loss of data, loss of time, inconvenience or commercial loss, or breach of implied or expressed warranties. Any and all such liability is expressly excluded. In no event shall Sola/Hevi-Duty be responsible for any amount. If Sola/Hevi-Duty determines that any third party service work has been performed improperly or in a manner inconsistent with Sola/Hevi-Duty workmanship criteria all existing warranties in effect for that product will become null and void.

## What's Included

1. SDU 24-BATEM: External battery module.
2. SDU 24-EXTBC6: Pair of 6 foot polarized cables for connecting the external battery module to the power module.



**NOTE:** The circuit breaker has to be in the open position "O" prior to installation.

### SDU 24-BATEM Installation:

SDU 24-BATEM can be installed as a stand alone equipment. The NEMA 1 enclosure features removable cover and knockout holes to ease the installation process.

If necessary, the black and red terminals of the polarized cable SDU 24-EXTBC6 can be detached from one another to separate the black wire from the red wire and allow them to slide easily through the conduit.

Before closing the circuit breaker of SDU 24-BATEM, make sure that one end of the red terminals of the polarized cable is connected to the red terminal of the SDU DC UPS power module and the other red terminal end of the polarized cable is connected to the red terminal of the external battery module SDU 24-BATEM. The same approach applies to the black terminals.

## Back Up Time Of SDU DC UPS With SDU 24-BATEM (in minutes) versus load percentage:

**Remark:** Resistive loads were used to measure the battery run time, using other types of load may result in different battery run time.

### DC UPS with SDU 24-BATEM External Battery pack (EBP)

The external battery module SDU 24-BATEM includes 2 user replaceable batteries.

### SDU 10-24 with SDU 24-BATEM

Load	20% (2A)	40% (4A)	60% (6A)	80% (8A)	100% (10A)
1 EBP	135	52	28	19	14

### SDU 20-24 with SDU 24-BATEM

Load	20% (4A)	40% (8A)	60% (12A)	80% (16A)	100% (20A)
1 EBP	48	17	9	6	4

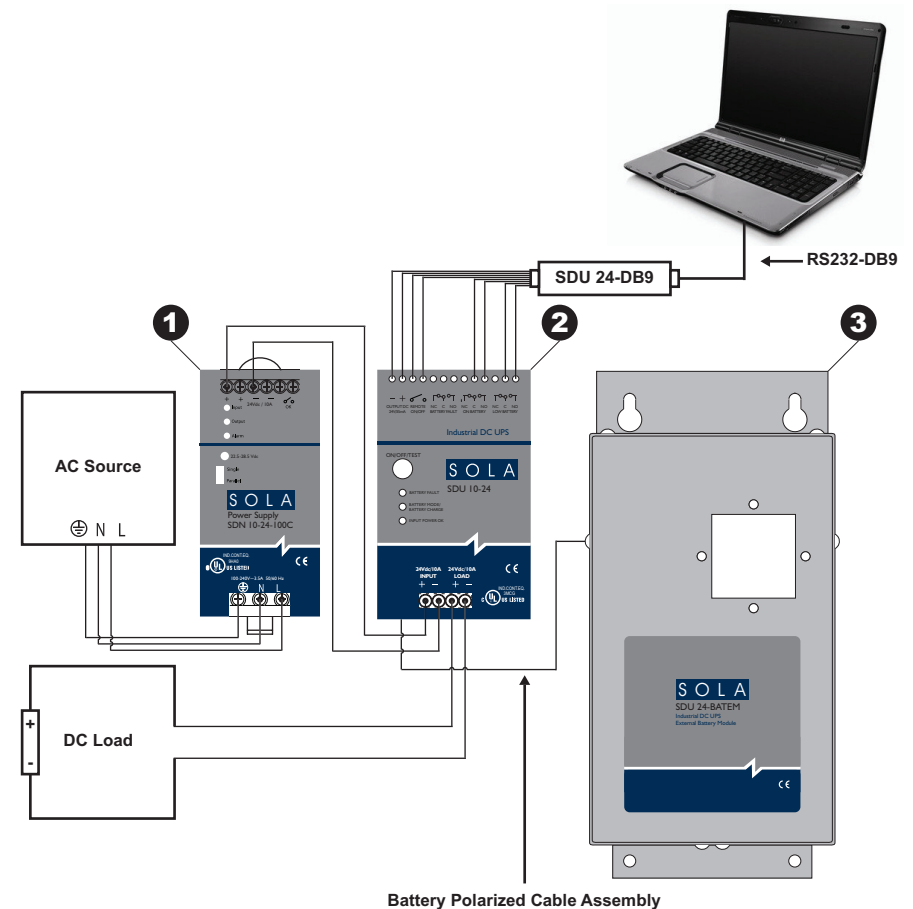
### SDU 24-BATEM Specifications

Parameter	SDU 24-BATEM
Nominal Voltage	24 VDC
Protection	Circuit Breaker: 24V, 25A
Charging Current	0.8A
Enclosure Dimension in. (mm)	11.5 x 5.57 x 4.57 (292 x 142 x 116)
Enclosure Type	NEMA 1
Terminal Connector Type	Polarized Powerpole Connectors
Replaceable Batteries	Replaceable Batteries (Refer to the associated instructions for replacement)
Accessories	6 ft polarized battery cable
Operating Temperature	-20° to +50° C
Charge Temperature	0° to +40° C
Storage Temperature	-20° to +40° C
Humidity	95% no condensation
Safety Standard For DC UPS System*	UL60950-1, IEC 60950-1, UL508, CE CAN/CSA C22.2 No 107-1-01 CAN/CSA C22.2 No 60950-1
Weight lbs (kg)	16 (7.26)
Mounting	Wall/Chassis Mounting

\* SDU DC UPS System includes a power module (SDU 10-24 or SDU 20-24) and one type of the following battery modules (SDU 24-BAT or SDU 24-BATEM)

## SDU DC UPS Wiring Diagram

### DC UPS with External Battery Module SDU 24-BATEM



- 1) AC/DC Power Supply
- 2) Power Module: SDU 10-24 or SDU 20-24
- 3) Battery Module: SDU 24-BATEM

**NOTE:** Only one (1) SDU 24-BATEM module can be connected with the power module SDU 10-24 or SDU 20-24.