TN835 High Current AC to DC Power Supplies

The PSA-12-40-RB-00 and PSA-12-60-RB-00 AC switching power supplies provide a regulated +13.8 Vdc to the output terminals. The power supplies are 19" rack mountable and include battery revert capability. An input fuse, electronic current limiting and voltage limiting protection, transient voltage suppressor and thermistor are built into the unit as standard protection to safeguard the unit from abnormal conditions. The power supply uses active current sharing technology to distribute the load current among two or three 20 Amp modules. This reduces stress on individual components and increases reliability.

For remote sensing, status signals are available on the rear of the power supply on a female DB25 connector.

Specifications

Input Voltage Range	120 Vac or 220 Vac (Switch Selectable)
Input Frequency Range	50 / 60 Hz
Output Voltage	+13.8 Vdc
Output Current	40 Amps continuous @ +13.8 Vdc (+60°C) **PSA-12-40-RB-00** 60 Amps continuous @ +13.8 Vdc (+60°C) **PSA-12-60-RB-00**
Operating Temperature	-40°C to +60°C continuous duty

Installation

1. Mount the unit to the 19" rack.
2. Select the input voltage by sliding both AC voltage select switches on the rear of the power supply. Be certain that both switches are on the same voltage setting.

WARNING: Damage to the unit and personal injury might occur if both the AC voltage select switches are not set on the same voltage setting.

3. Connect the load to the output terminal block connector marked "SYSTEM", with proper polarities in mind. Tighten the output terminal block screws to secure the wires.
4. Connect the backup battery (if applicable) to the output terminal block connector marked "BATT", with proper polarities in mind. Tighten the output terminal block screws to secure the wires.
5. While the switch is in the OFF position, connect the supplied AC power cord to the AC input socket.
6. Plug the unit into an AC source capable of handling the rated input current (7 Amps or 12 Amps).
7. Turn the AC switch (located on the front panel) to the ON position to operate the unit.

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Battery Backup

During normal operation, the power supply provides all of the necessary power to the output while float charging the battery that is connected at the battery backup output. In the event that the AC power source is interrupted, the battery will start to supply power to the load through an isolation diode; however, the load voltage will be 0.4 Vdc lower than the battery voltage. The power resistors used to float charge the battery limit the charging current to a value based on a 100Ah deep cycle battery.

Alarm and Status Signals

For remote monitoring, the power supply is equipped with a female DB25 connector (on the rear of the power supply behind a protective panel) that outputs various alarm and status signals such as:

Pin Number	Pin Description	Voltage Out
Pin 1	AC Good signal	+15 Vdc if AC Voltage present / 0 Vdc if AC voltage not available
Pin 2	+5 Vdc reference signal	+5 Vdc
Pin 3	No connection	N/C
Pin 4	Fan Good signal	+5 Vdc if both fans are good / 0 Vdc if one or both fans not functioning
Pin 5	No connection	N/C
Pin 6	Current signal	System current out analog signal (0 Vdc ~ +5 Vdc)
Pin 7	Module 1 Good signal	+5 Vdc If Module is Good 0 Vdc If Module is not functioning or not present
Pin 8	Module 2 Good signal	
Pin 9	Module 3 Good signal	
Pin 10	Module 4 Good signal	
Pin 11	No connection	N/C
Pin 12	Temp warning signal	+5 Vdc if the temperature inside the unit is over 48°C
Pin 13	System VOUT Signal	+13.8 Vdc
Pin 14-15	Ground	Ground

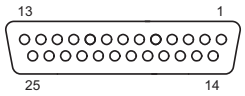

Figure 1: Pin Layout of the DB25 Connector

LED Status Display

An LED status indicator (located on the front panel) identifies how many modules are connected on the board and are working. The display also shows the status of the AC input and the DC output signals.

The green LED status indicator will be lit when:
• AC line voltage is preset
• DC output voltage is present
• Module voltage is present

The yellow LED status indicator will be lit when:
• Module is not present in the slot
• Module is not producing any output