



ADJILE SYSTEMS, INC.

SCSI PANTHER USER MANUAL



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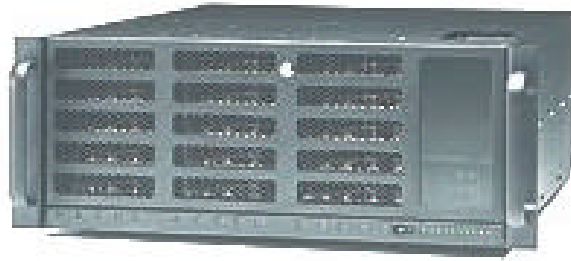
Congratulations on your choice of the Adjile Systems' Panther Rack. This 19" Rack mount enclosure is designed to house the highest quantity of 3.5" low profile disk drives in a 4U rack. The Panther supports fifteen hot swappable low profile SCSI drives with either two half height RAID controllers or one full height RAID controller. The Panther is based on a flexible backplane technology which supports Ultra 160 LVD SCSI (160 MB/sec.) and is downward compatible to Ultra 2 LVD SCSI (80MB/sec.). The design of the backplane boards allow for configuring the drives on a single SCSI bus or multiple SCSI busses.

The Panther has been fully tested and approved by Seagate Technology for thermal and vibration while fully loaded with 15,000-RPM disk drives.

Included with the Panther is a kit to help with the operation of the rack. In the kit is this manual, a screwdriver to adjust the SCSI ID, and a key to secure the door of the panther. Also included with the panther are slide rails to mount the enclosure into a rack.

INSPECTION

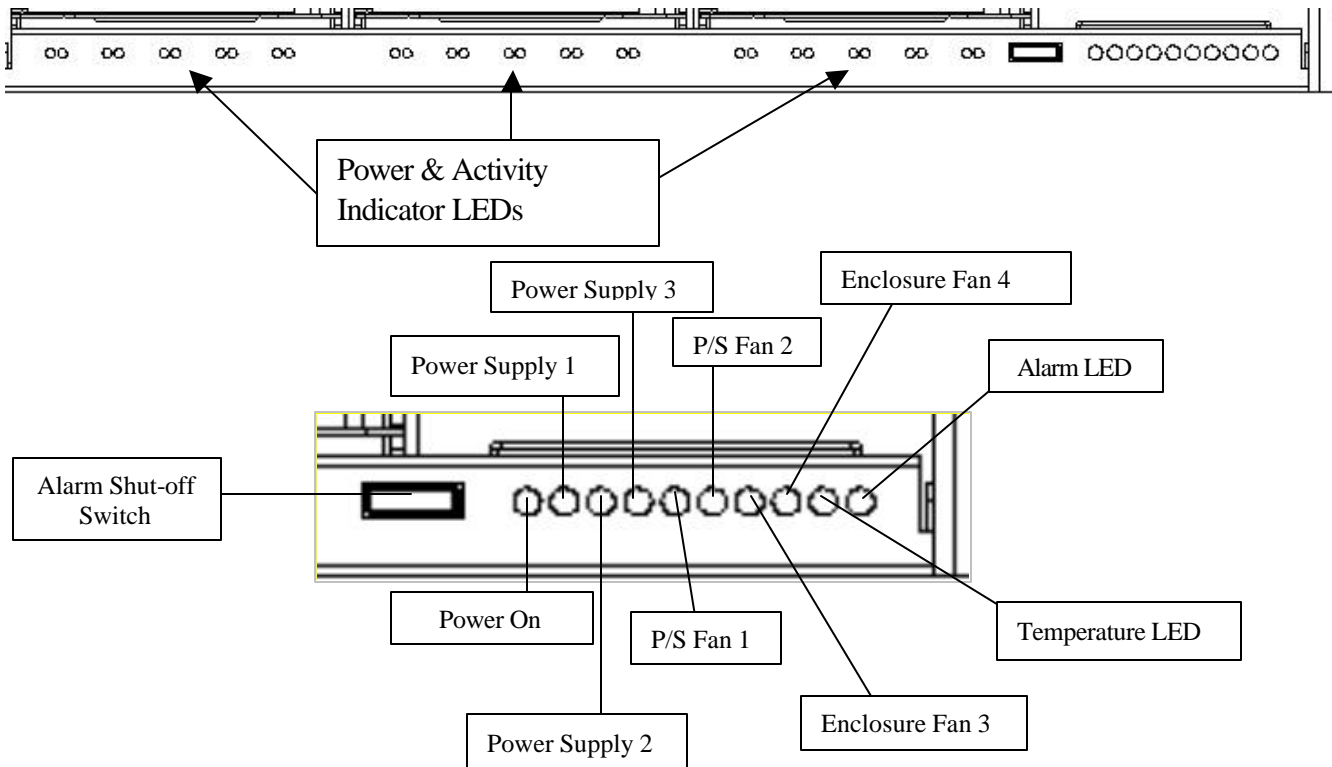
Unpack the enclosure and visually inspect it for any damage that may have occurred during shipment. Retain the original packing and shipping materials in case you need to return the enclosure. Also, verify that you have received all the items that were indicated on the packing list. Once you have completed the inspection you are ready for installation and setup.



On the front of the Panther you will notice a key lock and an LED display. For your security the key lock has been added to the front of the rack to prevent unauthorized access. Starting on the left side of the rack there are power and activity indicator lights for each drive. The power lights are green and indicate power to the drive and the activity lights are amber and indicate activity in the drive. On the right side is the alarm display.

The panther has both audible alarms and LEDs for power fault, fan fault and temperature fault. If a power supply, power supply cooling fan, or enclosure cooling fan fails in the rack an alarm will sound. The alarm alert LED will flash and the appropriate LED will shut off. If the temperature inside the enclosure reaches 110°F/43.3°C an audible alarm will sound and the temperature LED will come on. Also included on the alarm display is an on/off switch for the audible alarm. The alarm shut-off switch can be used to disable the audible alarm, but the LED will continue to flash until the defective component is replaced.

Any failed component should be replaced immediately!



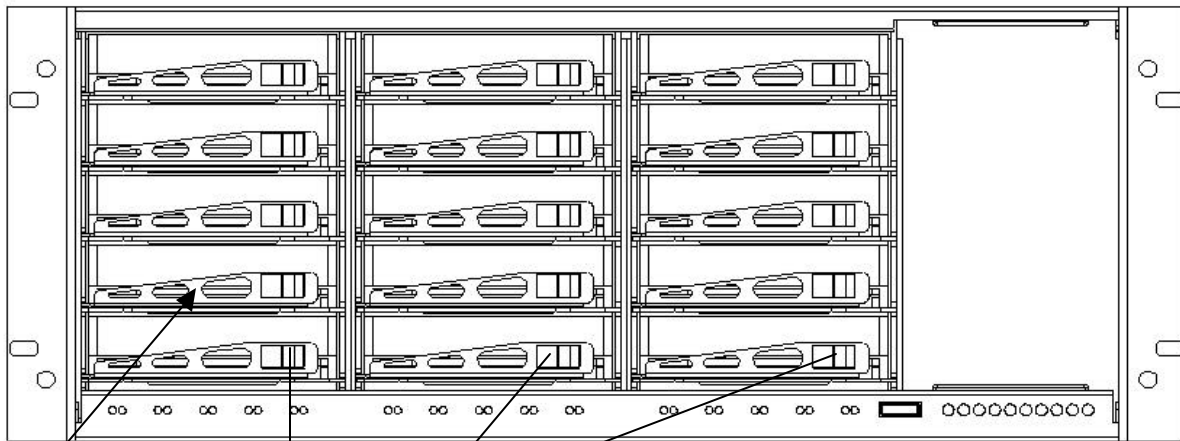


When you open the door you will notice a SCSI ID board at the bottom of the rack. There are three separate backplanes, each accommodates five drives. Each drive has an LED display and a rotary switch. From left to right the first display is for the first drive going from top to bottom. To adjust the SCSI ID take the enclosed screwdriver and turn the rotary switch to the required ID. The chart below shows the SCSI ID numbers and the respective LED Display numbers.

Drive SCSI I.D.

Rotary Switch

DISPLAY	SCSI ID	DISPLAY	SCSI ID
0	0	8	8
1	1	9	9
2	2	A	10
3	3	b	11
4	4	C	12
5	5	d	13
6	6	E	14
7	7	F	15



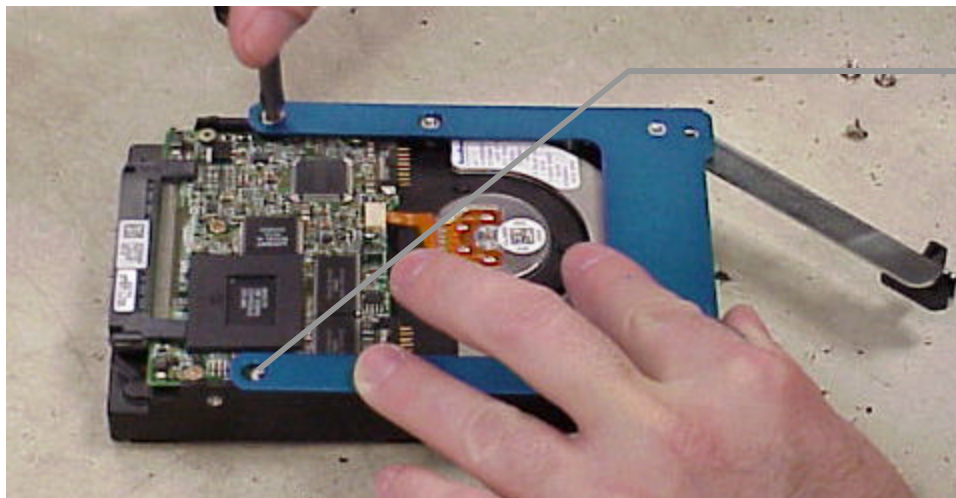
DRIVE SLEDS

Self-Locking Latch

To utilize maximum space and allow for the fifteen drives the canisters have been replaced with a more simple, sleeker design called a drive sled. The drive sleds are self-locking. Simply insert the sled into the enclosure and close the latch; the drive sled is locked into place.

DRIVE TYPES SUPPORTED:

- ~ 3.5" SCSI low profile disk drives
- ~ Up to 15,000 RPM (Hard drive rotational speeds)
- ~ SCA type connector



Drive Mounting Screw

Installing a drive: Remember to set the desired SCSI ID before installing a disk drive. To install the drives, first, remove the desired drive sled from the enclosure and attach the drive into the sled with four screws. Slide the drive sled back into the enclosure and close and lock the latch. Your drive is now installed.

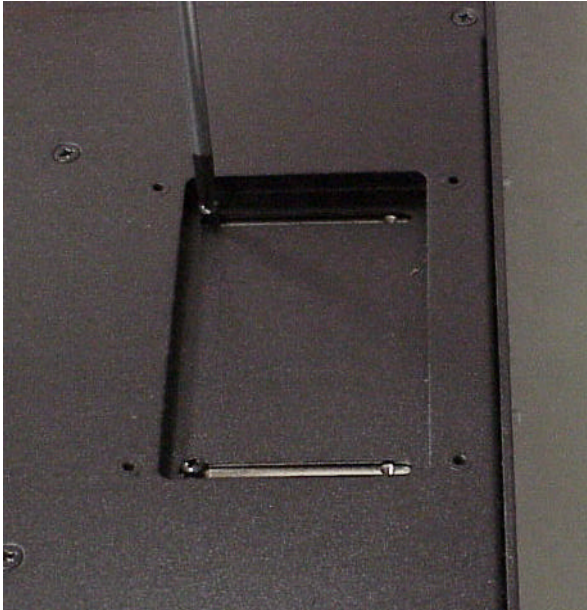
The Panther supports either two half-height RAID controllers or one full-height RAID controller. Tape drives can also be substituted for a controller. There are mounting holes on the top and bottom of the Panther to mount the controller into the enclosure.

The photograph on the right shows a half height RAID controller and half height filler panel installed.



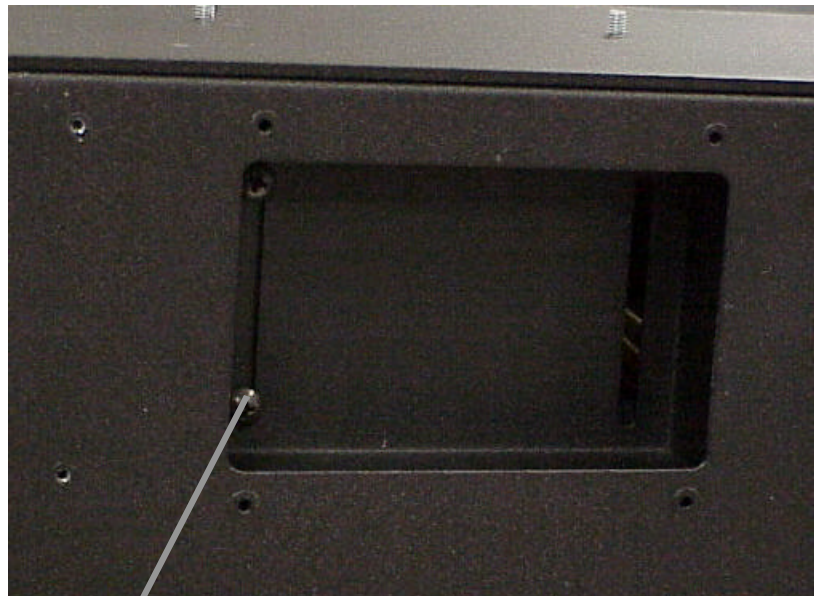
The photograph on the left shows a full height RAID controller being installed.

There are mounting holes on the top and bottom of the Panther to mount the controller into the enclosure.



Top
Mounting
Screw

This is the underside of the Panther rack. Filler panels use screws and nuts on the top and bottom to be secured into the rack. Half height RAID controllers will use two screws on the bottom and two screws on the top to be secured. Full height RAID controllers will use four screws on the bottom and four screws on the top to be secured.



Bottom
Mounting
Screw

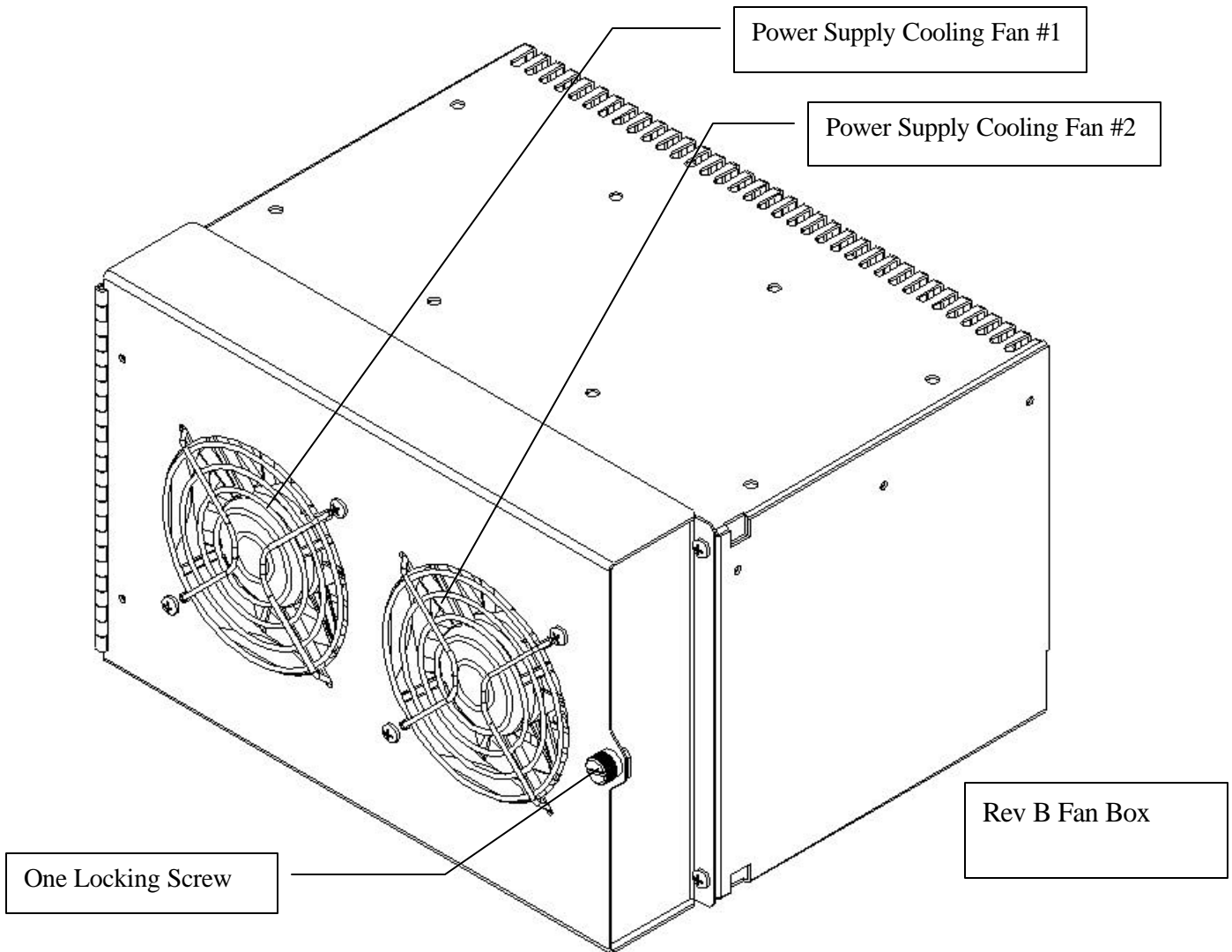
FB33H/FB23H WITH REV B FAN BOX

Adjile Systems Hot Swap Redundant Power System, part number FB33H/FB23H consists of a combiner board, alarm board, and two or three individual 300-watt power supplies. All power supplies run simultaneously balancing the load evenly between the two or three supplies. Each power supply slides into the FBXXH and mates to the combiner board. All device power leads come from the backside of the combiner board.

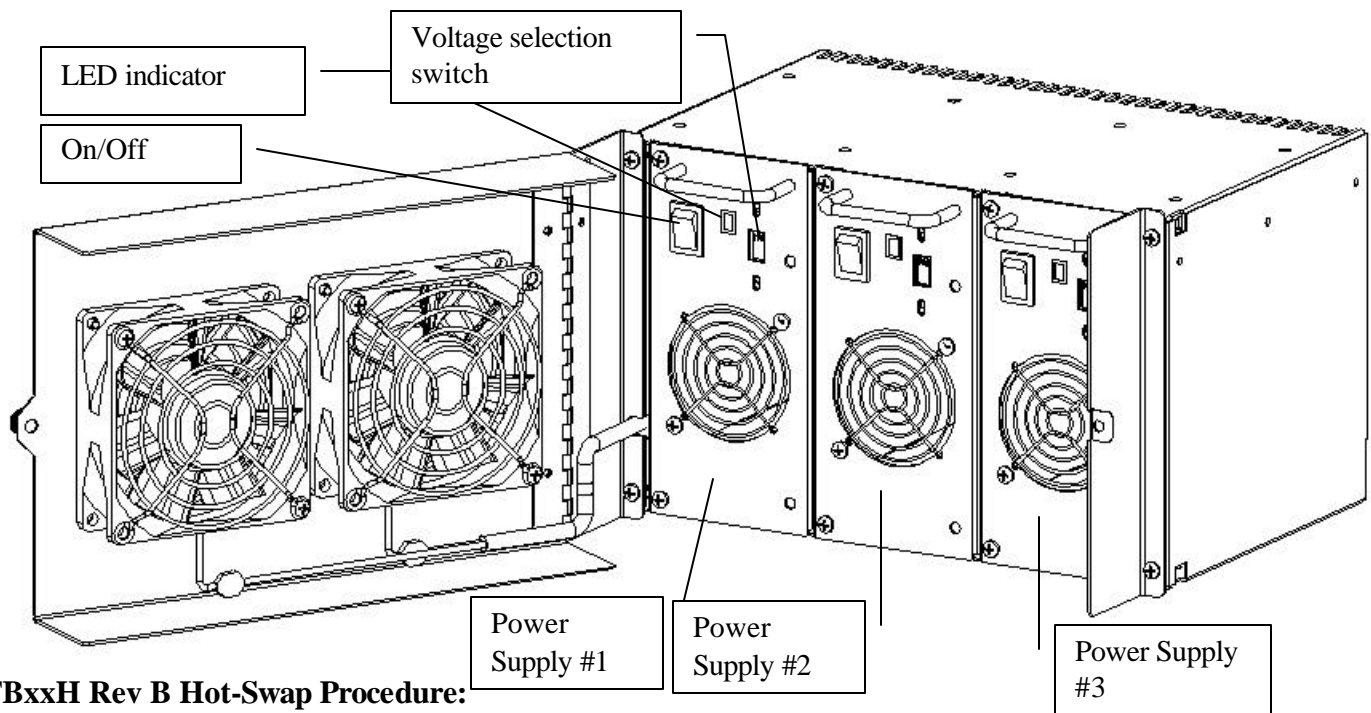
The alarm board, mounted on the back of the combiner board, monitors each power supply, cooling fan and the internal temperature. In the event of a failure an on-board alarm will sound. The display LED on the front of the enclosure will report which type of alarm exists.

The FBXXH Power Systems are redundant and the individual power supplies can be exchanged without shutting down the system. In the event a single power supply fails, the remaining supplies will carry the entire load, balancing it equally until the failed unit is replaced.

The drawing below shows the location of the locking screw that will allow access to the cooling fans and individual power supplies.



Important: Power supply fans should not be removed for more than 15 minutes when power is on.



FBxxH Rev B Hot-Swap Procedure:

To replace a failed power supply remove the one locking screw on the fan box. As the fan box is pulled out disconnect the fan leads. When these leads are disconnected they will cause a failure alert. Once the fan box is open, the individual power supplies are visible.

Replace the power supply corresponding to the front alarm panel.

When replacing or adding an additional power supply, make sure the new supply is turned **off**. Check the voltage setting (110/220) on the new power supply and set it in agreement with the power supplies presently working. **Important: Power supply fans should not be removed for more than 15 minutes when power is on.**

Plug in the new power supply and screw into place. Turn on power switch. The FBxxH will recognize the replacement power supply and automatically distribute the load evenly between the two or three supplies.

Reconnect fan leads and close the fan box being careful not to pinch the wires.

Warranty:

FBxxH and enclosures are warranted against defects for a period of three years from date of manufacture.

NOTE: Only qualified personnel are authorized to work inside the enclosure.

POWER LED's:

To verify operation of individual power supply a Green LED (light emitting diodes) will be on. Power supply fault verification can be accomplished by turning off any one power supply (on rear panel) and checking presence of blinking Red light and audible alarm. Audible alarm switch can be checked by turning audible alarm switch on and off. Turn on all power supplies and put audible alarm switch in desired position.

TEMPERATURE ALARM:

This alarm is activated when the temperature inside the enclosure reaches 110°F/43.3°C. When the alarm is activated, a horn will sound. On the front LED panel, the Yellow LED will stay on and the alarm LED will flash. The yellow LED will remain on until the temperature is back to normal in the enclosure.

POWER SWITCHES:

Three types of switches are located on rear of enclosure. They are:

- 1 Individual power supplies switches located on each power supply.
- 2 Main power switch.
- 3 Battery switch (note not installed in all units).

Before powering on Main Switch, turn on all power supply individual switches and audible alarm switch.

Specifications:

Construction:

Enclosure:

Height: 7.0"

Width: 19.0"

Depth: 24.0"

The panther is constructed of 100% commercial grade steel and aluminum for low electronic emissions, made in the USA.

Environment:

Temperature:

Operating: 0°C to 25°C

Storage: -20°C to 85°C

Humidity:

Operating: 0 – 95% non-condensing

Storage: 0 – 95% non-condensing

Altitude:

Operating: 0 – 10,000 ft

Storage: 0 – 40,000 ft

POWER SUPPLY SPECIFICATIONS:

AC INPUT:

VOLTAGE:

(Auto-Range Input Selection)

Low Range: 90(MIN)---135(MAX)

High Range: 180(MIN)---270(MAX)

FREQUENCY:

47-63Hz

Current:

6.0A Max at 115V AC input, Full Load Condition

3.0A Max at 230V AC input, Full Load Condition

Inrush Current:

60A Max at 115V AC input, Full Load Condition

100A Max at 230V AC input, Full Load Condition

*Cold Start, at 25°C

DC Output:

Voltage	+5V	-5V	+12V	-12V
Min. Load	8.0A	0A	3.0A	0A
Max. Load	30.0A	0.5A	12.0A	0.5A
Regulation	+5/-4%	+10/-10%	+8/-5%	+10/-10%
Ripple&Noise	70mV	150mV	150mV	200mV

Output Power:

302 Watt Max.

Power Efficiency:	72% Min. at 230V AC Line, Full Load Test
Hold-Up Time:	18.7mS Min. at 230V AC input, AC off Point at 0°
Rise Time:	100mS Max.
Over Load Protection:	Over 302 Watt PR 105 to 150% of DC output
Short Circuit Protection:	Activated when any output is short to ground
Power Good Signal:	Turn on delay time: TTL 100-500mS
Hipot Tester:	1.5K VAC, One second

Safety:

Certified under UL-1950 Standard	File No. E129733
Certified under CSA-e.B-1402C Standard	File No. LR-77989

Physical Environment (Ambient):

Temperature Range:	0°C to +45°C (Full Load)
Operating Temperature Range:	+45 to +55°C (Half Load)

Storage	
Humidity:	
Operating	20% to 85% RH.
Storage & Shipping	10% to 95% RH.

Physical Dimension

(Length) x (Width) x (Height)	5-7/8" x 5-1/2" x 3-3/8" 160mm x 140mm x 86mm
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M.T.B.F.:	135,000 Hours, Net
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