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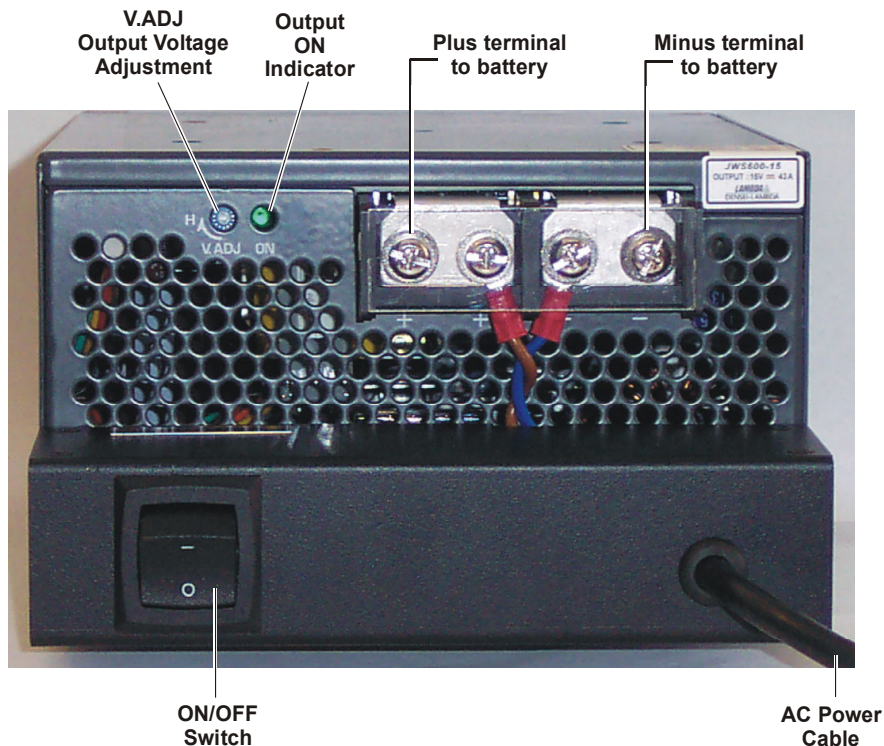
Power Supply FPN5590B Operator Manual

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This symbol is used in this manual to indicate an operating procedure, practice and so forth, which if not followed correctly, could result in bodily injury and/or damage to, or destruction of equipment.





Safety Precautions

- a. The FPN5590B is equipped with a protective earth (ground) terminal, for protecting the user against electrical shock and to ensure electromagnetic compatibility (EMC). The protective earth (ground) connection can only fulfil its function if the FPN5590B power cable is inserted in a mains socket equipped with a reliable earth connection.
- b. An external user-provided 20A slow-blow fuse must be used to protect the AC power input line to the FPN5590B. For continued protection against risk of fire, replace fuse only with fuse of the same type and rating.
- c. FPN5590B uses internal forced air cooling:
 - o Take care to providing enough open space around the unit for free air circulation.
 - o Do not cover the unit and its cooling vents while in use!
 - o Avoid exposing the FPN5590B to direct sun radiation for prolonged intervals.
- d. FPN5590B is designed for indoor operation. Avoid operating the FPN5590B under excessive humidity and prevent water condensation.
- e. Protect the FPN5590B against water and chemical spillage.
- f. Incorrect connection or replacement of the attached battery may result in explosions. Used batteries must be properly disposed off, in accordance with the applicable regulations.
- g. Do not attempt to open FPN5590B case. Maintenance and repair activities may only be performed by authorized, trained personnel.
- h. The manufacturer cannot be held responsible or liable for damages caused by disregarding safety instructions.

1. Description

The FPN5590B is an AC-powered power supply unit for use with the MICOM-2 and MICOM-3 HF-SSB radio transceivers.

The FPN5590B accepts single-phase AC input voltages in the range of 85 to 265 VAC, 47 to 63 Hz, and therefore it can be used in the United States of America as well as in other countries. The AC input voltages must be applied through an external 20 A slow-blow fuse.

The FPN5590B has an ON/OFF switch, and a green ON indicator that lights when the JWS600 provides normal output voltage.

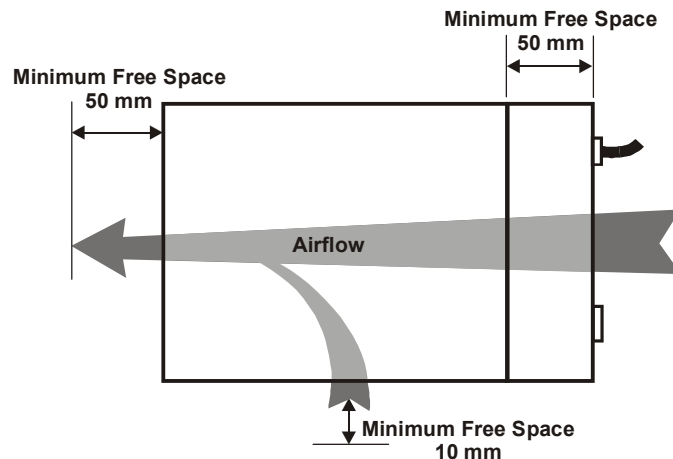
The nominal output voltage is 13.8 VDC and the maximum output current is 43 A. A voltage adjustment enables setting the output voltage within the range of 13.5 to 18.0 VDC. The output voltage is factory set, and normally will not require adjustment.

Backup batteries (recommended capacity – 80 Ah lead acid) can be connected across its output: when a backup battery is connected, the radio transceiver can continue operating on battery power during mains failure or in case the FPN5590B is switched off.

The output is protected against excessive loading by current limiting with automatic recovery, therefore the unit will not shut down when charging a battery, even if the battery voltage is low. It is recommended to connect a 30 A fuse in series with the battery positive terminal.

The unit is also protected against overvoltage and overheating: in case one of these protections are activated, FPN5590B will be automatically turned off. Set the unit ON/OFF switch to OFF, and wait a few minutes or as necessary for the unit to cool off before returning the switch to ON.

FPN5590B uses internal forced air cooling. The direction of air flow, and the intake and exhaust vents are identified below, together with the minimum space required to sufficient airflow.



To avoid overheating and excessive internal temperatures that may result in automatic switch-off, take care that the unit is not covered, that no other equipment is placed above and that it is not operated near a heater. Also avoid direct exposure to sun.

Note that the transceiver draws current from the battery even the transceiver is switched off. Therefore, it is recommended to disconnect the transceiver from the battery if the radio is not used for prolonged periods. The FPN5590B does not draw current from the battery upon switch off or mains failure.

2. Technical Data

Input

Input Voltage

85 to 265 VAC, 47 to 63 Hz

External Input Protection Fuse

20 A, slow-blow

External AC Power Leads

AWG12 (3.5 mm²), copper

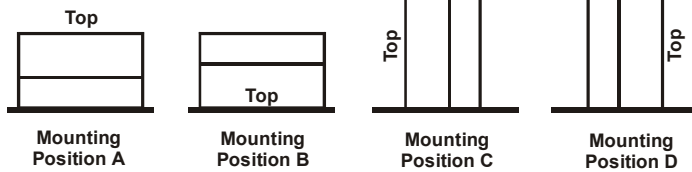
Output

Output Voltage

Nominal 13.8 VDC; can be adjusted within range of 13.5 to 18.0 VDC

Maximum Output Current

43 A. See derating data versus mounting position below



Output Power Leads

AWG10 to AWG18 (5.5 to 0.83 mm²), copper; gage depends on load current

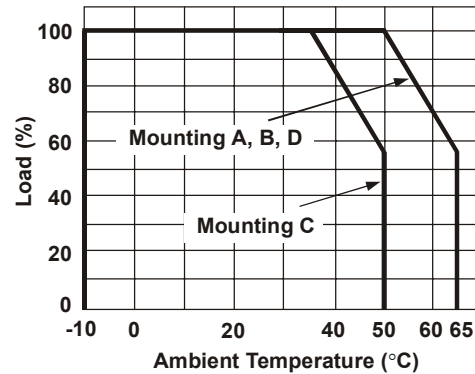
Other Data

Case Dimensions (L × W × H)

Approx. 260 mm × 160 mm × 100 mm

Battery

Lead-gel or lead acid, 13,8 VDC, maximum 80Ah



3. Extent of Delivery

The FPN5590B package includes:

- FPN5590B unit.
- Operator manual (this manual).

4. Optional Accessories

The following accessories are available:

- Battery connection cable, including series 30A fuse.
- Battery (approved type) 12VDC, min. 15Ah.

5. Installation and Operation

Installation and operation may only be conducted by authorized and qualified personnel.

5.1 Installing FPN5590B

Install the FPN5590B in the prescribed position, on a flat, clean surface, and fasten with four M4 screws. The maximum allowed penetration of the mounting screws is 6 mm (7/32 in.)

The recommended screw tightening torque is 1.27 N×m (13.0 kgf×cm).

5.2 Connecting FPN5590B to Backup Battery and Radio

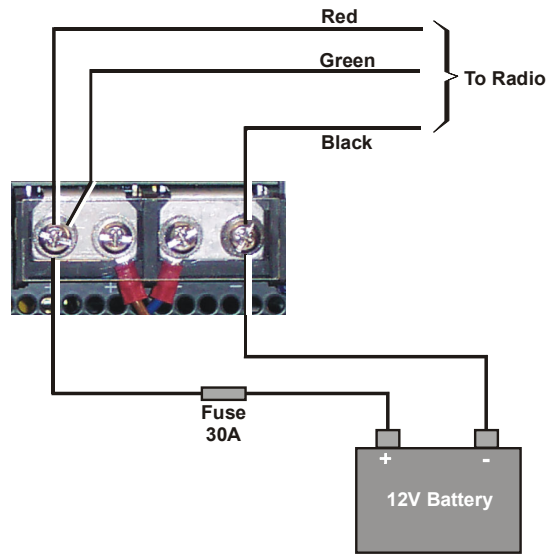


Warning

Risk of explosion if incompatible battery is used or battery is incorrectly connected!

M5 screws are used on the terminal strip. The recommended screw tightening torque is 2.50 N×m (25.5 kgf×cm).

Battery and Radio Connections



5.3 Operating Instructions

1. Set the ON/OFF switch to OFF.
2. Connect the AC power cable to the prescribed outlet.
3. Set the ON/OFF switch to ON. Check that the green ON indicator turns on.

6. Cleaning

Remove dirt with soft, clean brush.

Clean external surfaces only with soft cloth moistened with water. Avoid extensive contact with water.

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