

MFJ

Switching Power Supply

Model MFJ-4175

INSTRUCTION MANUAL

CAUTION: Read All Instructions Before Operating Equipment

MFJ ENTERPRISES, INC.

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Thank you for purchasing the MFJ-4175 Switching Power Supply.

The MFJ-4175 Switching Power Supply is a perfect match to power any Solid State Amplifier.

The MFJ-4175 is designed to supply 75 amps continuously at 13.8Vdc. The MFJ-4175 is protected by multiple protection features for a long, trouble-free life.

MFJ-4175 features

1. Reverse Battery Polarity Protection
2. Brown-out Input Protection
3. Over-Current Protection: Cycle-by-cycle peak limiting as well as rated current limiting to maximize the life of the power supply.
4. Over-Temperature Protection: Proportional Fan Control – fan speed is directly proportional to the power supply’s internal ambient temperature. This enables the fan to turn on and off very slowly, minimizing unwanted fan-starting noise.
5. Output Voltage Boost: Steps up the voltage from 13.8Vdc to 14.6Vdc.

Specifications:

Output Voltage	Max Output Current dc	Max Output Power Watt / VA	Input Voltage	Input Voltage Current	Line Frequency
13.8 Vdc	75 amps Continuous	1260 Watts / 1944 VA	108 – 132 Volts AC	18 amp AC	40-70 Hz

Installation

Locate the MFJ-4175 in a location that provides sufficient air space to allow unrestricted airflow in and around the unit. MFJ-4175 should not be located next to your radio.

MFJ-4175 is supplied with an AC line cord with a NEMA 5-15P Plug. Make sure that the AC outlet to be used is capable of supplying 20 amps at 110 Vac with a 3-wire grounded NEMA 5-15P compatible socket. The MFJ-4175 draws 18 amps at the rated output.

Connect the amplifier or load to the output terminal block of the MFJ-4175. Unscrew the set screws on the top of the terminal block with a flat blade screwdriver. To insure that the power cables make secure contact with the MFJ-4175 output terminal, prepare the cable end by twisting stripped end tightly. Bond the end with solder. Connect the Positive cable to the (+) terminal hole. Connect the Negative cable to the (NEG) terminal hole. Screw the set screw tightly to secure the cable in the terminal block. Connect the “Chassis Bonding Lug” on the MFJ-4175 to the amplifier chassis ground or other grounding source.

Main power ON/OFF switch is located on top of the MFJ-4175.

Caution: The MFJ-4175 is a 75 amps power supply, if the output connection is not installed properly, the terminal block will overheat and be destroyed in time.

Reverse Polarity Fuses

The MFJ-4175 is protected against reverse polarity on the DC output. If output is connected incorrectly, the fuses will blow and can be easily replaced. Always use the same size and type fuse that came with the power supply. To change the fuses, use a screwdriver to loosen the screws and remove the fuses. Always replace the fuses with the same type and rating. After inserting the new fuses, tighten the screws firmly.

Output Voltage Boost

MFJ-4175 features a “Voltage Boost” output that will step up the output voltage from 13.8 V to 14.6 Vdc. This feature helps compensate voltage lost when a long power cable is used to power your amplifier. Plug in the modular voltage boost strap plug (supplied) into the jack on the top of the MFJ-4175 to boost the output to 14.6 Vdc.

Battery Charging

The MFJ-4175 gives you three ways to charge your car battery.

1. **Slow Charge.** Simply connect the battery to the output of the power supply. Positive battery post to the MFJ-4175 (+) positive terminal hole and Negative battery post to the (NEG) negative terminal hole.
2. **Fast Charge.** Connect the voltage boost strap plug to the output boost jack on the top of the power supply. This increases the output voltage from 13.8 volt to 14.2 volts to allow fast charging. When the booster plug is removed, the voltage decreases to its normal 13.8 Vdc. **Warning:** To avoid battery damage, remove the booster plug when fast-charging is completed.
3. **IQ Smart Charge:** An IQ Smart Charge microprocessor-controller, MFJ-84 can be installed to make the MFJ-4175 into a smart charger. The optional MFJ-84 Smart Charge controller can be purchased from MFJ. With the “Smart Charge” the MFJ-4175 gives the benefit of Bulk, Absorption and Float stage charging. This increases the charging capacity of the MFJ-4175; decrease charge times and insures proper and safe battery charging without over-charging. The MFJ-84 controller inserts into the voltage boost jack on the MFJ-4175.

FULL 12-MONTH WARRANTY

MFJ Enterprises, Inc. warrants to the original owner of this product, if manufactured by MFJ Enterprises, Inc. and purchased from an authorized dealer or directly from MFJ Enterprises, Inc. to be free from defects in material and workmanship for a period of 12 months from date of purchase provided the following terms of this warranty are satisfied.

1. The purchaser must retain the dated proof-of-purchase (bill of sale, canceled check, credit card or money order receipt, etc.) describing the product to establish the validity of the warranty claim and submit the original or machine reproduction of such proof of purchase to MFJ Enterprises, Inc. at the time of warranty service. MFJ Enterprises, Inc. shall have the discretion to deny warranty without dated proof-of-purchase. Any evidence of alteration, erasure, or forgery shall be cause to void any and all warranty terms immediately.
2. MFJ Enterprises, Inc. agrees to repair or replace at MFJ's option without charge to the original owner any defective product provided the product is returned postage prepaid to MFJ Enterprises, Inc. with a personal check, cashiers check, or money order for **\$10.00** covering postage and handling.
3. MFJ Enterprises, Inc. will supply replacement parts free of charge for any MFJ product under warranty upon request. A dated proof of purchase and a **\$8.00** personal check, cashiers check, or money order must be provided to cover postage and handling.
4. This warranty is **NOT** void for owners who attempt to repair defective units. Technical consultation is available by calling (662) 323-5869.
5. This warranty does not apply to kits sold by or manufactured by MFJ Enterprises, Inc.
6. Wired and tested PC board products are covered by this warranty provided **only the wired and tested PC board product is returned**. Wired and tested PC boards installed in the owner's cabinet or connected to switches, jacks, or cables, etc. sent to MFJ Enterprises, Inc. will be returned at the owner's expense unrepaired.
7. Under no circumstances is MFJ Enterprises, Inc. liable for consequential damages to person or property by the use of any MFJ products.
8. **Out-of-Warranty Service:** MFJ Enterprises, Inc. will repair any out-of-warranty product provided the unit is shipped prepaid. All repaired units will be shipped COD to the owner. Repair charges will be added to the COD fee unless other arrangements are made.
9. This warranty is given in lieu of any other warranty expressed or implied.
10. MFJ Enterprises, Inc. reserves the right to make changes or improvements in design or manufacture without incurring any obligation to install such changes upon any of the products previously manufactured.
11. All MFJ products to be serviced in-warranty or out-of-warranty should be addressed to **MFJ Enterprises, Inc., 300 Industrial Park Rd, Starkville, Mississippi 39759, USA** and must be accompanied by a letter describing the problem in detail along with a copy of your dated proof-of-purchase and a telephone number.
12. This warranty gives you specific rights, and you may also have other rights, which vary from state to state.