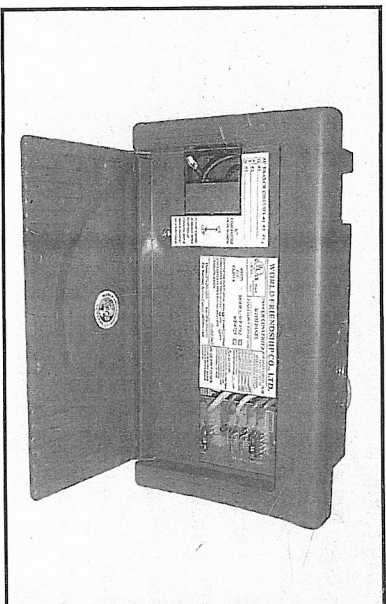
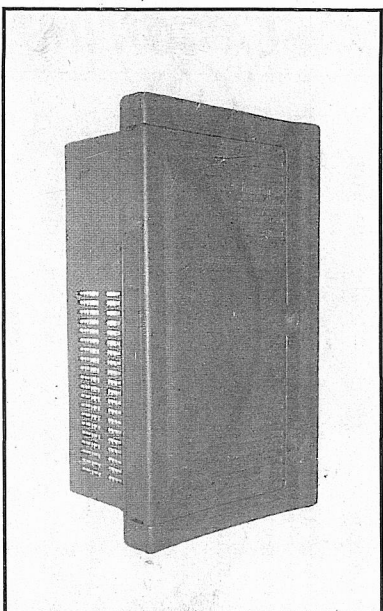


World Friendship Company, Ltd.
8712 and 8725 Power Converter
with Plastic Panel
Installation and Owners Manual



Distributed in the US by CHENG USA, Inc.
Sales (574) 294-8997
Warranty Service (877)294-8997

Installation of the W/FCO 8700 Series Power Converter/Panel



- Select a mounting location near the shore power inlet and battery(s)
- Only mount in a horizontal position.
- Mount in such a way as to provide adequate ventilation to the converter ON ALL SIDES. The unit should be a minimum of 1" off the floor to allow the door to open. Two to three inches would be preferred. Do not mount in an area where the owner may store items as this could effect the efficient operation of the converter.
- **WARNING: DO NOT MOUNT THE CONVERTER/PANEL IN A BATTERY COMPARTMENT OR AN LP GAS COMPARTMENT**
- Use only approved circuit breakers and automotive style fuses. Replace breakers and fuses with only the same size. Same manufacture.
- When routing around the converter be sure that all openings are protected from debris falling into the converter. Metal shavings and debris from the manufacturing process may damage the converter (this is a non-warranty item).
- If reverse polarity fuses have been "blown" during installation check to see that the battery has been connected properly. Replace the fuse with only the same type and rating as the original. Using other fuses could result in the converter being damaged, the vehicle being damaged, injury or other consequences.
- The 8700 Series converter/Panels are not weather tight nor designed for mounting in wet locations. They must be protected from direct contact with water.

INSTALLATION INSTRUCTION

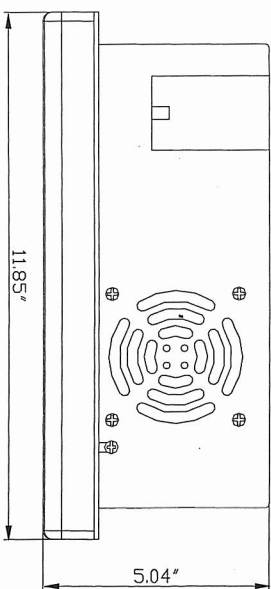
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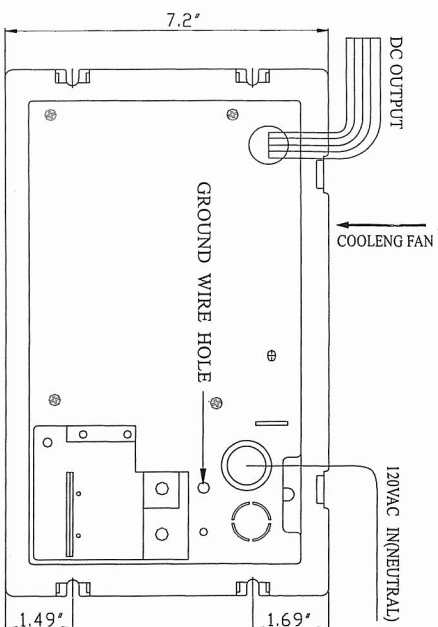
INSTALLATION INSTRUCTION

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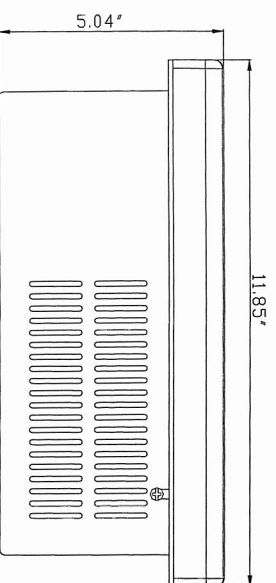
TOP VIEW



REAR VIEW



BOTTOM VIEW



General Information:

- **Clean, constant 12 volt DC power**

Nominal 13.6 VDC. Eliminates need for "filtered" circuits whether or not the battery is installed in the RV.

- **Reverse battery protection**

Prevents permanent damage from incorrect battery hook-up

- **Automatically Cooling Fan**

Operates only under high load conditions-normally not during sleeping hours or when power demand is low. More sleeping comfort.

- **Electronic current limiting**

Automatically shuts down power during overload or short circuit conditions. Automatically returns to normal operation after condition is corrected. No more hassle replacing fuses or resetting circuit breakers.

- **Fast recharge rate**

Depending on battery condition and 12-volt load.

- **Durable performance**

- Four 12 VDC circuits (one battery circuit)
- Main circuit and up to two 120VAC circuits
- Metal hinged door with positive locking mechanism

- **AC Breaker Information:**

- AC Breaker Specification: MAX. 20Amps 120V/240V 1 pole or poles.
- Current Interrupting Rating MAX. RMS SYM. Amperes 10,000 AT 120/240 VOLTS AC

- **AC Breaker Manufacture:**

- 1: "Cutler-Hammer": Type BRD & A
- 2: "SIEMENS": Type QP OR QT

- **DC Fuse Information:**

- DC Fuse use only **Littelfuse**. Type 257 fuse, Compliance UL 67
- WF-8712 : DC Fuse MAX. 15 Amps
- WF-8725 : DC Fuse MAX. 30 Amps



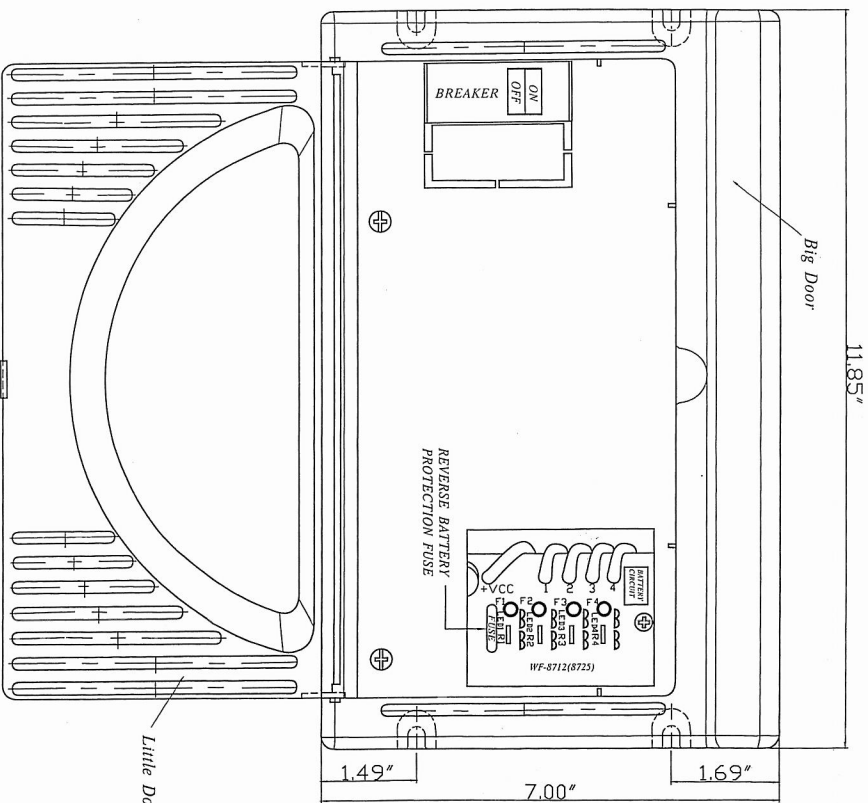
INSTALLATION INSTRUCTION

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INSTALLATION INSTRUCTION

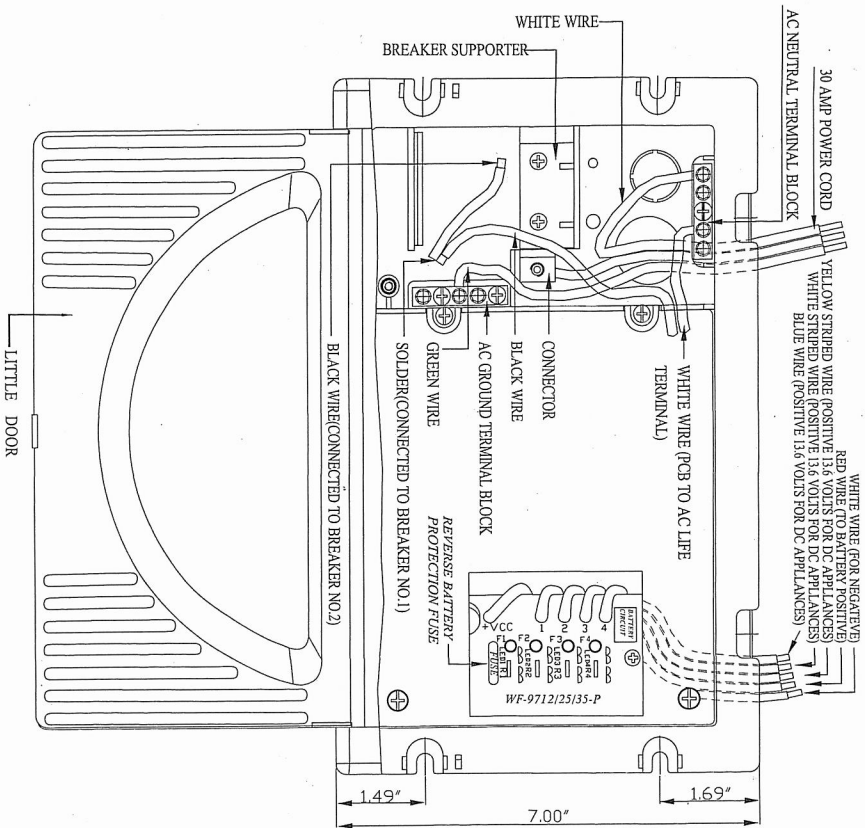
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FRONT VIEW





WIRING DIAGRAM



INSTALLATION INSTRUCTION

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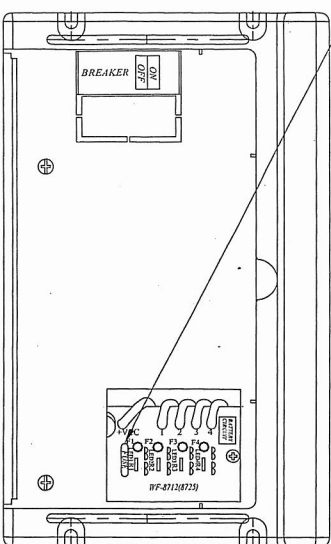
INSTALLATION INSTRUCTION

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If there is power to the converter then check the reverse polarity fuses on the front panel of the WF-8700 series power converters. First visually inspect the fuses for any breaks then if none are seen then using a continuity tester check for continuity.

ATC FUSE

WF-8700 SERIES (12 AMP, 25 AMP)



If fuse(s) are blown this means the RV Battery was accidentally connected in reverse either at the battery or at the converter. Connect properly then replace the fuse(s).

IMPORTANT: These fuses protect converter from damage in the event RV Battery is accidentally connected in reverse. A reverse battery connection even for a second is the only thing that will blow these fuses.

Drawing 3

If converter output voltage reads 13.6 volts, but the battery is still not charging, check for an open automatic reset circuit breaker(if provided), or an open between the converter and distribution panel or an open wire between converter and RV Battery.

If converter fuses check good and 120 V.A.C. and there is power at the outlet, but the converter output still reads zero volts, the converter is not functioning properly and must be replaced. For Warranty service contact 1-877-294-8997. If the RV is out of warranty contact 1-877-294-8997.

If you still have a problem determining if the converter or the unit has a problem contact our Warranty Partner BR Wholesale at 1-877-294-8997.

The WFCO series of 3-stage switch mode power converters are **fully automatic**. The converter senses which mode it needs to be in by checking the condition of the batteries. The three modes include:

Nominal Mode: During this mode the converter output is in the 13.6 VDC range. This is the mode that the converter will function in normally. This mode provides the 12VDC current required by the RV.

Rapid Charge Mode: When the converter senses that the battery voltage is less than 13.2 VDC the converter will **automatically** go into the "Rapid Charge" cycle for a period of 4 hours.

Storage Mode: If the RV is not being used for a period of time and the shore line has been left plugged in the converter will automatically go into the storage mode. The converter senses if there has been any demand. If there is no activity for a period of 48 hours the converter will automatically go into the storage mode. During this mode the converter will place a quick boost into the batteries every 10 hours for a period of ten minutes. It will continue to do this as long as the RV is plugged in and there is no activity. When the converter senses a demand, turning on a light, the converter automatically goes into the "boost mode" for 4 hours and then return to the Nominal Mode (13.6 VDC).

#Description

- 1 Default 13.2V
- 2 Every 10hrs will switch to boost mode 10 minutes
- 3 When battery activity is detected the charger switches to boost mode 4hrs
Then switches to normal mode.
- 1 Default 13.6V
- 2 Default mode
- 3 During 48hrs will automatically switch to storage mode when the battery is
Charged and no activity is detected.
- 1 Default 14.4V
- 2 Boost mode will be 4 hrs, if battery voltage higher than 13.2V
- 3 If battery voltage low than 13.2V the converter will automatically switch to
Boost mode.

Attention:

Use drive to tighten terminal screws. **Do not** exceed 50 IN-LB Torque.



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5. Automatic Microprocessor Operation

Your WFCO power converter is equipped with a microcontroller mounted on the converter's PC board. The microcontroller is fully automatic and requires no additional equipment to operate. The microcontroller continuously monitors the battery condition and determines what mode the converter needs to be in. Below are the functions of the microcontroller.

5-1 Our output voltage control microprocessor has been designed into the converter PC board to avoid the need for additional equipment. When power is initially applied to the power converter, the microcontroller cycles through its modes to determine which mode it needs.

5-2 After the test cycle the power converter moves to the "Normal Mode" (13.6VDC) when the power is on.

5-3 When the output of the power converter is connected to battery and a load is applied (anything in the RV) the microcontroller checks to see which mode it needs to be in.

5-3-1 If the output voltage drops to 13.2VDC, the power converter automatically changes to "Quick Charge Mode" (14.4VDC).

Normally, when the output voltage drops to 13.2 VDC it means that the battery energy is less than 50%.

5-3-2 We designed the quick charge timeout period (time) to be a maximum of 4 hours. After 4 hours of quick charge, the power converter changes back to the normal mode (13.6VDC). This is to avoid battery damaged under a long period of quick charge.

5-3-3 Under the "Quick Charge Mode", when the power converter senses the output voltage is at 14.4VDC. It will change back to normal mode even though the quick charge period is less than 4 hours. **This is important to battery durability and battery life.**

5-3-4 The design of our microcontroller is to "sense" the battery voltage then "make a decision" to select the proper mode automatically.

5-3-5 Note: If the converter cycles into the quick charge mode more than one time check the battery(s) to determine if it has a bad cell.

6. Storage Mode Status:

After a period of 48 hours of sensing no load or demand the microcontroller automatically places the converter in the "storage mode" (13.2VDC)

6-1 While in the storage mode, the microcontroller automatically wakes the converter up and places it into the "quick charge" mode for 10 minutes every 10 hours.

6-2 The power converter will quickly charge the battery at 14.4 VDC, then return back to the storage mode of 13.2VDC.

GENERAL INFORMATION

The 8700 Series power converters, 120VAC to 13.6VDC are intelligent, reliable electronic switch mode converter / battery chargers. The 8700s are UL,cUL (Canadian) Listed. They meet FCC Class B requirements (see below).



FCC Compliance Class B:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which cause the user will be required to correct the interference at his own expense.

Consumer Limited Warranty

for

WFCO Switch Mode Converters

WFCO extends, to the original owner, a Limited Switch Mode Converter Warranty commencing from the original date of purchase for a period of Two (2) years. This limited warranty is extended specifically for and is limited to Recreational Vehicle application and is only valid in the continental United States, Alaska, Hawaii and the Provinces of Canada, WFCO warrants, to the owner, that it's switch mode converter is free from defects in material and workmanship under normal use and service based on its intended use and function and is limited to the repair or replace, at its discretion, of any defective part or defective assembly. Any implied warranties of merchantability and fitness for intended use are limited in duration unless applicable State Law provides otherwise. You may have other rights as specified by each individual state.

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EXCLUSIONS and LIMITATIONS

The OEM warranty specifically does not apply to the following :

- Any switch mode converter that has been repaired or altered by an unauthorized person ;
- Any damage caused by misuse, faulty installation, testing, negligence or accident or any switch mode converter installed in a commercial vehicle.
- Any switch mode converter whose serial number has been defaced, altered or removed;
- Any switch mode converter whose installation has not been in accordance to WFCO instructions.
- Any consequential damages arising from the loss of use of the product including but not limited to: inconvenience, loss of service, loss of revenue, loss or damage to personal property, cost of all services performed in removing or replacing the WFCO switch mode converter.

CONSUMER WARRANTY CLAIM PROCEDURE

Upon determination and validation by the OEM dealer that a WFCO switch mode converter has a defect, the dealer shall contact the WFCO warranty service number (800) 900-2468 and obtain a return goods authorization (RGA) number. This number shall appear on all correspondence with warranty service. Upon validation warranty service shall replace the switch mode converter with a like product. The RGA number shall also be placed on the outside of the carton used to return the product for ease of identification. Do not mark on the converter.