

## INSTRUCTION MANUAL

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# DUAL 12 Volt-20 Amp

## AUTOMATIC BATTERY CHARGER

**MODEL #091-145HO-12**

INPUT: 120 Volts, 50/60 Hz AC  
OUTPUT 1: 12 Volts, DC, Isolated  
OUTPUT 2: 12 Volts, DC, Isolated

3 YEAR WARRANTY



KUSSMAUL ELECTRONICS CO., INC.

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# **INTRODUCTION**

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The Auto Charge Dual 12 volt-20 amp. Battery Charger is a compact, completely automatic charger designed specifically for installations that require 24 volts for starting and 12 volts for accessories. The two batteries are connected in series to obtain 24 volts and the output of each charger is connected to each battery. Each output of the charger is individually controlled to charge it's particular battery and is electrically isolated from the other. Two separate ammeters indicate the output current to each battery.

Construction of the Auto Charge Dual 12 volt-20 amp Battery Charger is extremely rugged to withstand the shock and vibration encountered in vehicle mounted equipment. Each output operates completely automatically and stops charging its battery when the battery is fully charged. There is no trickle charge, and therefore no danger of overcharging and water boil-off. Any parasitic loads on the batteries such as radios, lights, etc., are automatically supplied by the respective charger output.

# **INSTALLATION**

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The Auto Charge Dual 12 Volt-20 amp Automatic Battery Charger should be installed in an area with adequate ventilation. Wiring is illustrated in figure 1 and figure 2.

1. Mount the charger using the four holes provided for this.
2. Connect the wiring from the batteries to the Output Terminal Strip.
3. Double- check all wiring before proceeding.
4. Connect the A.C. power through the provided line cord (attached to the charger).
5. Pilot light will show that the charger has power.

Figure 2 illustrates this charger connected to two batteries in series. Each battery is individually charged and charging ceases automatically when that battery is fully charged. Thus if battery 1 requires more charging due to the accessory load, charging to battery 1 will continue even after the charger has stopped charging battery 2. This ensures that both batteries will be fully charged but neither will be over-charged.

# INSTALLATION

## 2 INDIVIDUAL BATTERIES

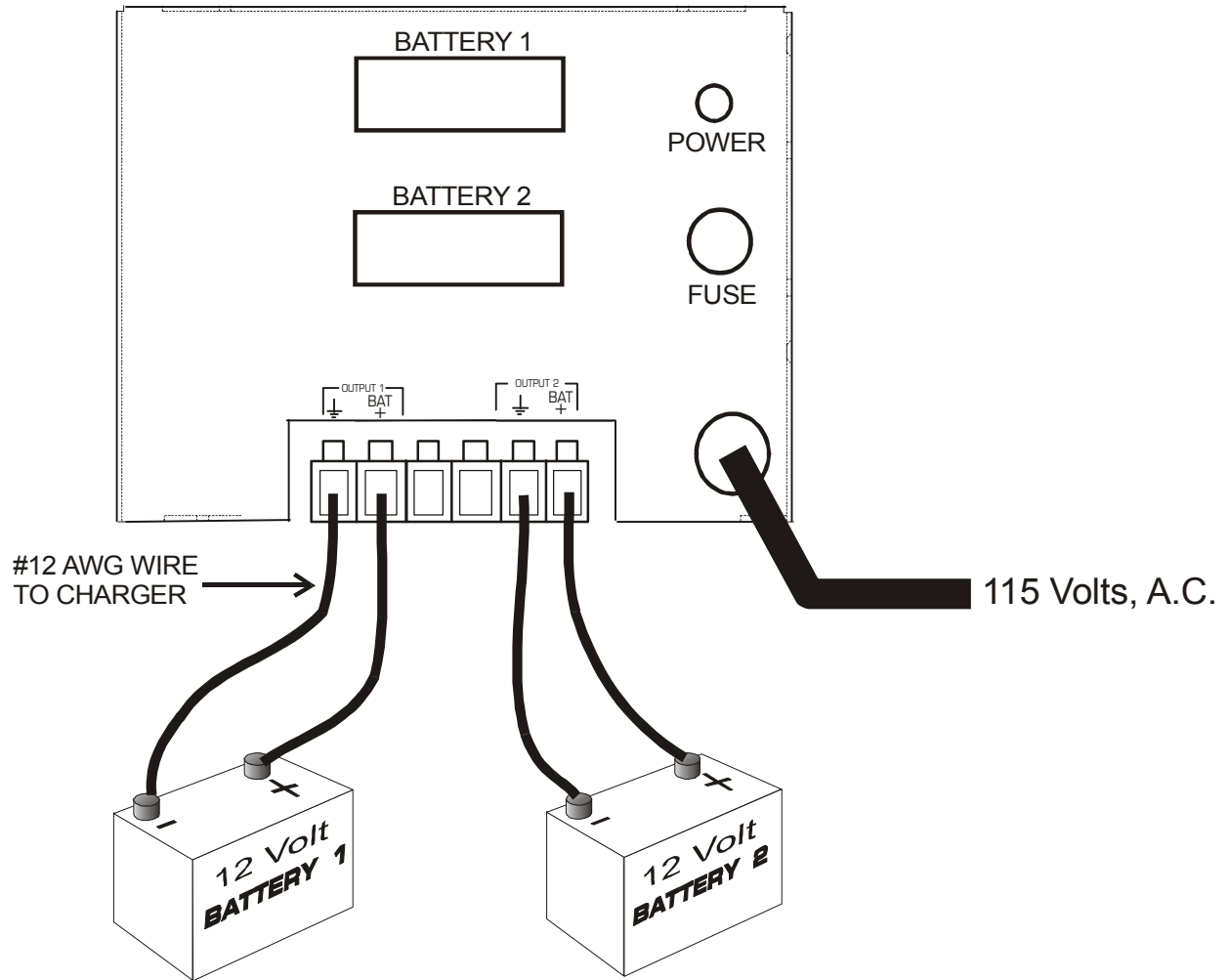
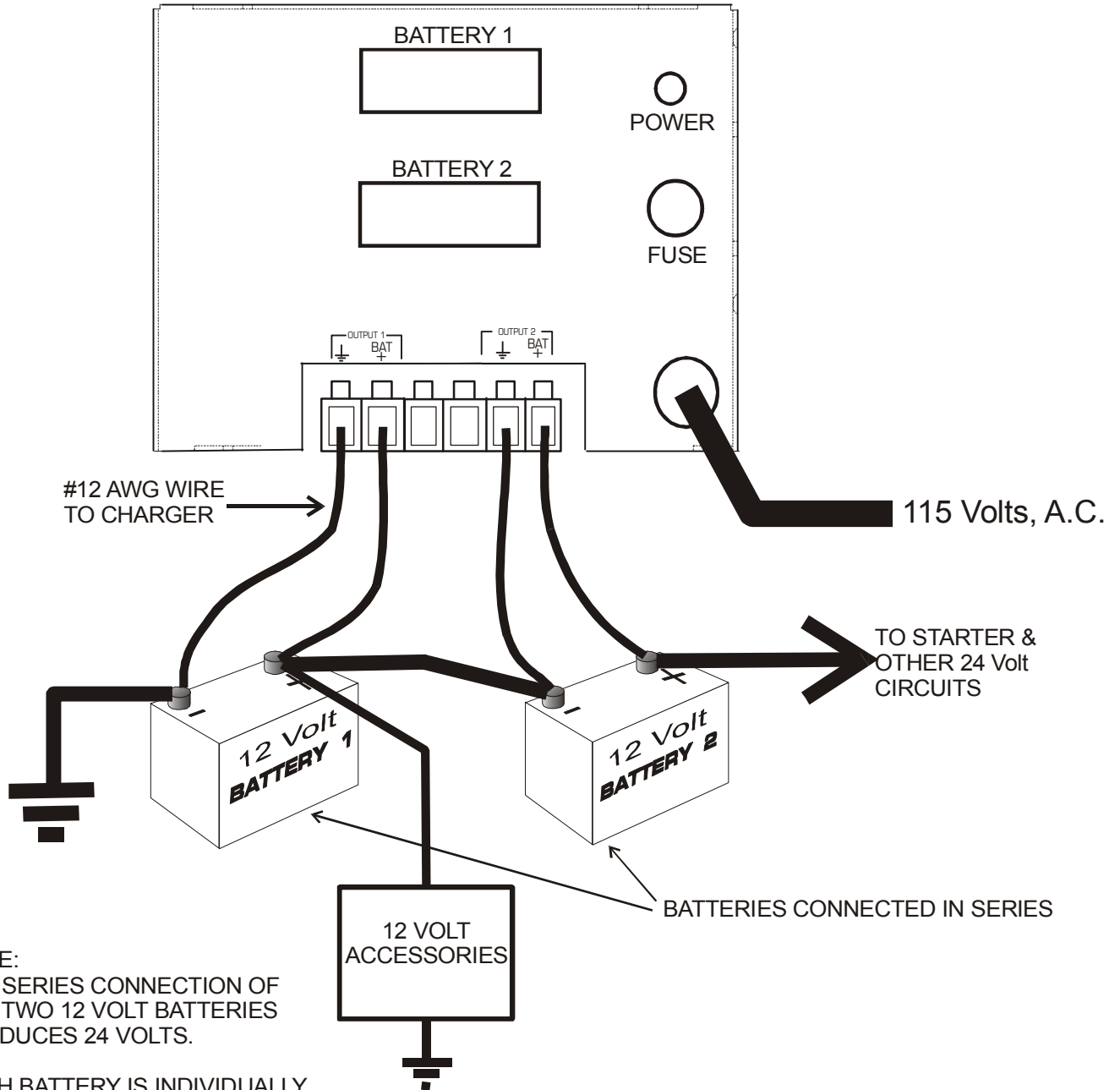


Figure 1

# INSTALLATION

24 Volt Starter, 12 Volt Accessories



NOTE:  
THE SERIES CONNECTION OF  
THE TWO 12 VOLT BATTERIES  
PRODUCES 24 VOLTS.

EACH BATTERY IS INDIVIDUALLY  
CHARGED AT 12 VOLTS. THUS,  
EVEN THOUGH THE BATTERIES  
MAY SUPPLY DIFFERENT LOADS,  
EACH BATTERY IS AUTOMATICALLY  
SUPPLIED WITH THE CORRECT  
CHARGING CURRENT. WHEN EACH  
OF THE BATTERIES IS FULLY CHARGED  
IT'S CHARGER STOPS CHARGING.

Figure 2

# **SPECIFICATIONS & OUTLINE**

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**Input Voltage:** 115 VAC, 50/60 Hertz

**Input Fuse:** 15 Amperes (normal blow)

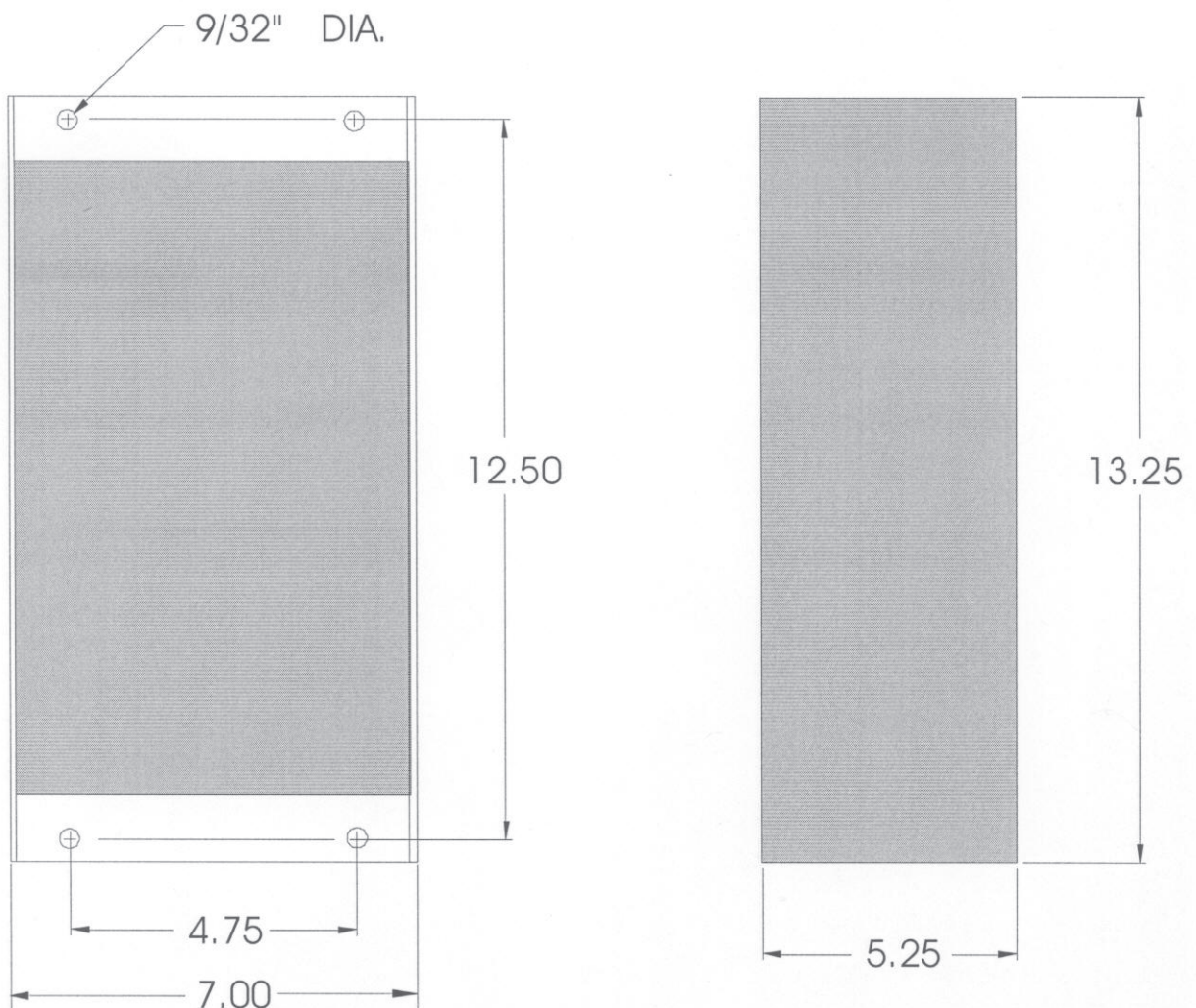
**Input Current:** 8 Amperes A.C.

**Output Voltage:** Dual 12-volt outputs

**Output Current:** 20 Amperes D.C. per output

**Charge Indicators:** 0 to 25 Amperes per output

**Weight:** 22 lbs



# **INSTALLATION RECORD & WARRANTY**

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**Date Installed** \_\_\_\_\_

**Installed By** \_\_\_\_\_

**Vehicle Identification** \_\_\_\_\_

**Vehicle Owner** \_\_\_\_\_

## **WARRANTY**

All products of Kussmaul Electronics Company Inc. are warranted to be free of defects of material or workmanship. Liability is limited to repairing or replacing at our factory, without charge, any material or defects which become apparent in normal use within 3 years from the date the equipment was shipped. Equipment is to be returned, shipping charges prepaid and will be returned, after repair, shipping charges paid.

Kussmaul Electronics Company, Inc. shall have no liability for damages of any kind to associated equipment arising from the installation and /or use of the Kussmaul Electronics Company, Inc. products. The purchaser, by the acceptance of the equipment, assumes all liability for any damages which may result from its installation, use or misuse, by the purchaser, his or its employees or others.