

INSTRUCTION MANUAL

**AUTO CHARGE 12 DV
AUTOMATIC BATTERY CHARGER**

MODEL #091-12DV-12

NOTE :

This charger is designed for
vehicles with single batteries
either negative or positive ground

INPUT : 115/230 volt, 50/60 Hz

3 YEAR WARRANTY



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INTRODUCTION

This manual describes the installation and wiring for the Auto-Charge 12DV Automatic Battery Charger. It is suggested that the installer read The entire instructions to become familiar with the tasks involved before starting.

INSTALLATION

The installation of the vehicle wiring provides a direct connection between the battery and the Auto-Charge 12DV Automatic Battery Charger. The battery is automatically charged at constant voltage. For deeply discharged batteries or if the charger is operated while the vehicle is started, a current limiter automatically limits the output to 12 amperes. Input power may be either 115 volts or 230 volts, 50 or 60 Hz. A recessed voltage selector switch is provided on the end panel near the output terminal strip.

The Auto-Charge 12DV uses remote sensing and therefore four wires are necessary to connect to the battery. Two wires charge the battery while an additional two wires detect the battery voltage. These connections are made on the output terminal strip.

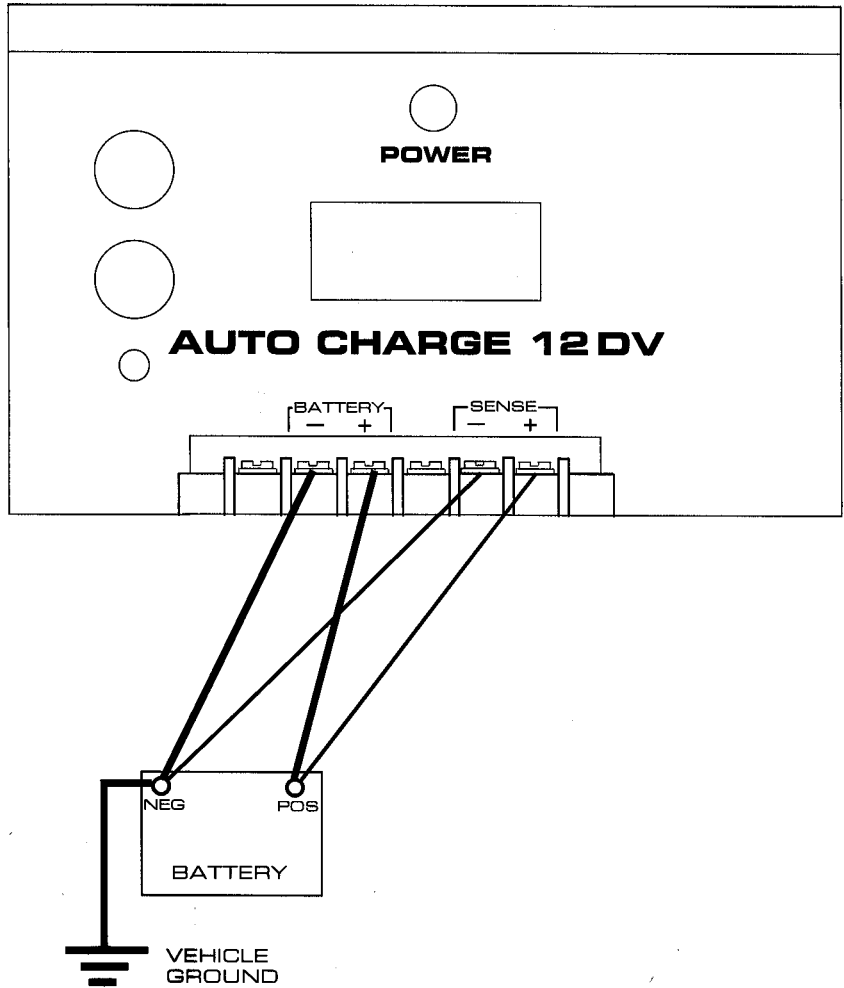
The Auto-charge 12DV Automatic Battery Charger should be installed in an area with adequate ventilation. A power cord is supplied for connection to the input power source. A switch on the end panel of the charger selects either 115 volts or 230 volts. Set this switch to the proper position to correspond to the input voltage before applying power to the charger.

1. Mount the charger using the four holes provided. See figure 1.
2. Connect the wiring from the batteries to the Output Terminal Strip. Spade lugs that have been securely crimped or soldered should be used
3. Connect the wiring to the batteries. Ring lugs that have been securely crimped or soldered should be used.
4. Double check all wiring before proceeding.
5. Wire the A.C. power line to the power source and check the position of the Voltage Selector Switch.
6. The pilot light will light to show that the charger has power.
7. The ammeter will indicate how much current is flowing to the battery. A charging current limit of 12 amperes is factory set.

*****NOTE*****

**DO NOT APPLY 230 VOLTS TO THE CHARGER WITH
SELECTOR SWITCH IN THE 115 VOLT POSITION SERJIOUS
DAMAGE MAY RESULT**

INSTALLATION WIRING DIAGRAM



WIRE SIZE CHART			
CONNECTION	ITEM	DEFINITION	WIRE SIZE
BAT-	BATTERY NEGATIVE	NEGATIVE CHARGING LEAD FOR BATTERIES	14 AWG
BAT+	BATTERY POSITIVE	POSITIVE CHARGING LEAD FOR BATTERY # 1	14 AWG
SENSE -	NEGATIVE SENSE	NEGATIVE VOLTAGE SENSE LEAD. DETECTS VOLTAGE	16 AWG
SENSE +	POSITIVE SENSE	POSITIVE VOLTAGE SENSE LEAD. DETECTS VOLTAGE	16 AWG

IMPORTANT: Wire size is for a maximum length of 20 feet. If wiring is to be longer, larger wiring is required. Additional information is available on request.

NOTE: The sense leads **must** be connected to the battery for the charger to operate.

SPECIFICATION & OUTLINE

SPECIFICATIONS:

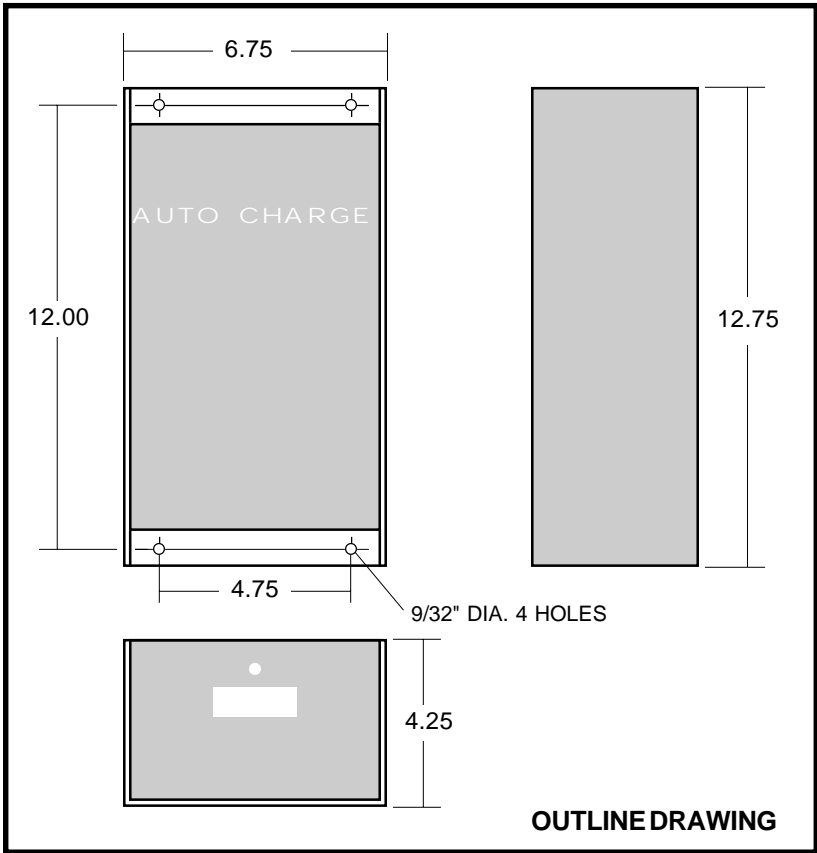
Input: 230/115V 50/60Hz, switch selectable

Output Volts: Adjustable, 13.25 volts nominal

Output Current: 0-12 amps, D.C., Current Limited

Charge Indicator: 0-15 amps

Weight: 16 lbs



SPARE PARTS LIST

PART NUMBER	DESCRIPTION
B091-349	Assembly, Control Board
2480	Transformer, Power
SPW405-S	Transformer, Power, PC Mount
B-511-2	Rectifier Bridge
A091-15-017	Sense Resistor Assembly
EM 5822	Meter, 0-15 Amp D.C.
2150-A1	Light, Indicator, Neon
LM3900	Integ. Circuit, Quad Op Amp
IP15WB-1K	Potentiometer, trimming, 1K
LM7812	Integ. Circuit, Volt Reg
2N4401	Transistor, NPN
1N4004	Diode, Rectifier
1N914	Diode, Signal
1N751	Diode, 5.1V Zener
779	Line Cord
11Z2101	Transformer, Trigger
V802 210.51/250	Switch, Voltage Select

INSTALLATION RECORD & WARRANTY

Date Installed _____

Installed By _____

Vehicle Identification _____

Vehicle Owner _____

WARRANTY

All product 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.

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.