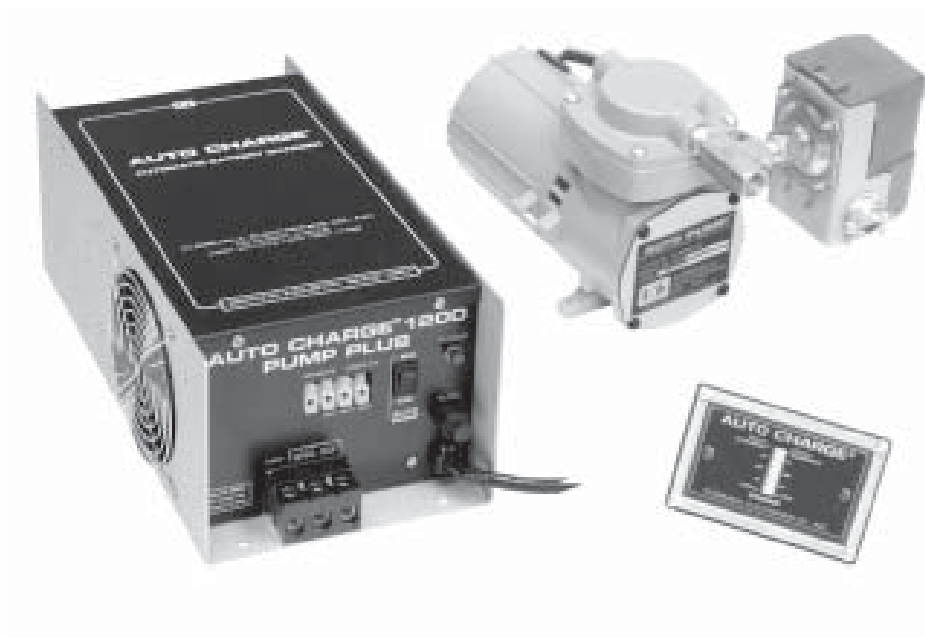


INSTRUCTION MANUAL

AUTO CHARGE 1200 PUMP PLUS AUTOMATIC BATTERY CHARGER



MODEL # 091-9-1200

INPUT : 115 volt, 60 Hz, 10 amps

OUTPUT: 40 AMPERES

3 YEAR WARRANTY



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INTRODUCTION

The AUTO CHARGE 1200 PUMP PLUS is a compact, completely automatic, single channel battery charger designed for vehicles with a single battery system. The charger is ruggedized to withstand the shock and vibration encountered by vehicle mounted equipment.

The AUTO CHARGE 1200 PUMP PLUS operates an 091-9 air compressor. With the selector switch in the AC position the compressor runs only when the AC power is applied. With the selector in the DC position the compressor will operate when the AC power is ON or OFF. In either position the compressor operates from the vehicle's batteries, the charger automatically recharging the batteries as required.

The battery charger features:

- Electronic remote sensing of true battery voltage, eliminates the need for sensing wires
- Automatic current limiting
- Remote Battery charge/condition indicator
- Power "ON" LED indicator

Charge Controls & Electronic Remote Sensing

The Auto Charge 1200 Pump Plus contains a precision voltage controller to maintain the battery's charge. Automatic electronic remote sensing measures the true battery voltage, eliminating the need for the additional sense wires. The output current of any charger is inherently a series of pulses whose frequency is determined by the power line frequency. Therefore there are brief intervals during which no charging current flows. During this brief interval the Auto Charge 1200 Pump Plus measures and stores the battery voltage. This battery voltage is compared to a standard and any error is detected and used to control the charger output to the desired level. There is no "trickle charge" and therefore no danger of overcharging and water boil-off.

Automatic Current Limiting

When batteries are severely discharged, some batteries can be overloaded due to the high charging current required. The Auto Charge 1200 Pump Plus contains an automatic current limit. This circuit limits the output current to the rated 40 amperes when charging a deeply discharged battery or if the starter cranks the engine while charging. The current limiter thus eliminates the need for an ignition interlock circuit.

Battery Charge Condition Indicator

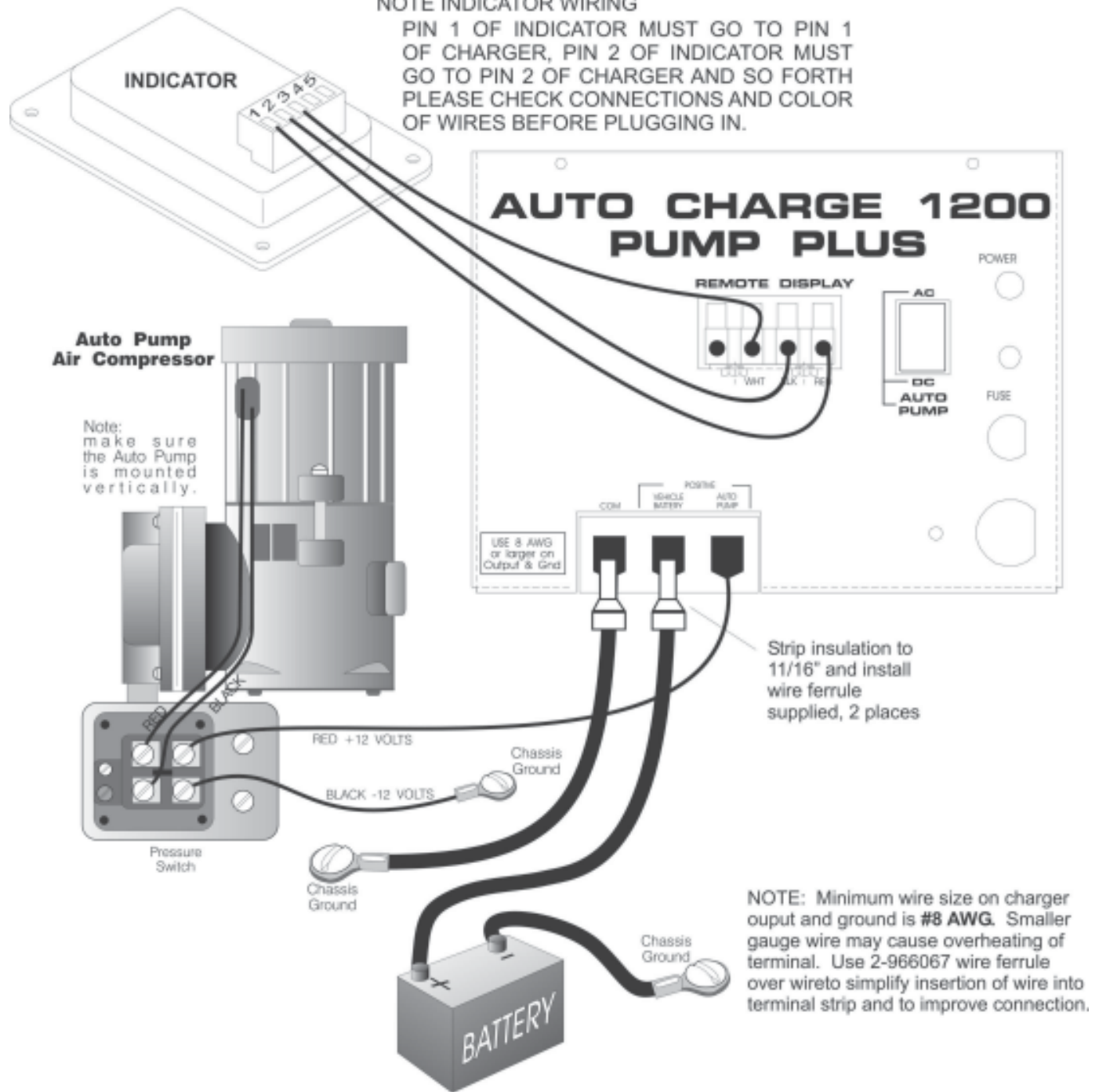
This indicator shows the charge condition of the battery in 10 levels from “LOW CHARGE” to “FULLY CHARGED”. This device indicates a defective battery when a bar graph does not rise to the “FULLY CHARGED” level after an extended period of charging.

NOTE: If a battery is being charged with an external load of 4 to 10 amperes across it's terminals, the bar graph may move down 1 or 2 levels. This does not indicate a defective battery.

Installation Wiring Diagram

NOTE INDICATOR WIRING

PIN 1 OF INDICATOR MUST GO TO PIN 1 OF CHARGER, PIN 2 OF INDICATOR MUST GO TO PIN 2 OF CHARGER AND SO FORTH PLEASE CHECK CONNECTIONS AND COLOR OF WIRES BEFORE PLUGGING IN.



WIRE SIZE CHART

CONNECTION	DEFINITION	WIRE SIZE
COM	NEGATIVE CHARGING LEAD	8 AWG
VEHICLE BATTERY	POSITIVE CHARGING LEAD FOR BATTERY	8 AWG
AUTO PUMP	POSITIVE OUTPUT FOR AUTO PUMP	14 AWG

IMPORTANT: WIRE SIZE IS FOR A LENGTH OF 10 FEET. IF WIRING IS TO BE LONGER, 6 AWG WIRING IS REQUIRED, ADDITIONAL INFORMATION IS AVAILABLE ON REQUEST.

Specifications:

Input: 115 volt, 60 Hz, 10 amperes

Input Fuse: 15 ampere, fast acting

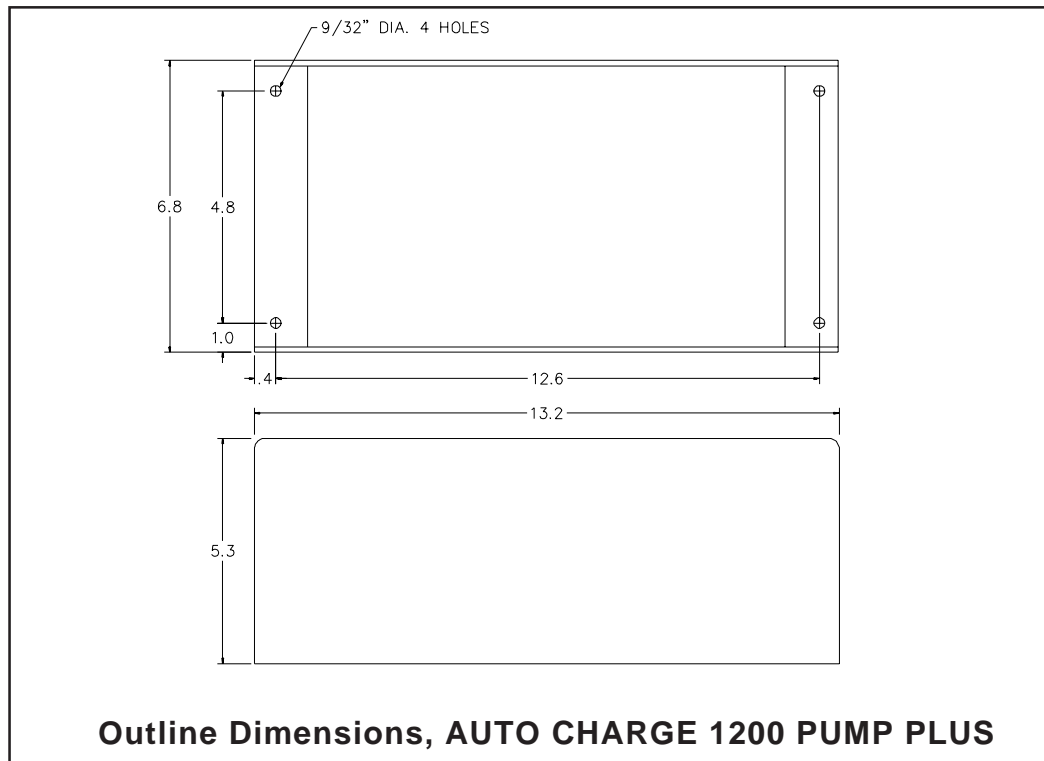
Output: 12 volts D.C. 40 amperes Max.

Remote Sensing: Electronic, sense wires not required

Indicators: Power: Red LED, indicates 115 volts power applied

Bar Graph: indicates charger output and state of charge of battery

Weight: 21 lbs



INSTALLATION RECORD & WARRANTY

Date Installed _____

Installed By _____

Vehicle Identification _____

Vehicle Owner _____

WARRANTY

All products of Kusmaul 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.

Kusmaul Electronics Company, Inc. shall have no liability for damages of any kind to associated equipment arising from the installation and /or use of the Kusmaul 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.