

INSTRUCTION MANUAL

UV-OV RELAY

PRECISE - PROGRAMMABLE VOLTAGE DETECTOR

MODEL # 091-45TD

**A BATTERY SYSTEM VOLTAGE
MONITOR WHICH DETECTS OVERVOLTAGE
AND UNDERVOLTAGE CONDITIONS AND
PROVIDES A TIME DELAY FOR THE OUTPUT**

3 YEAR WARRANTY



KUSSMAUL ELECTRONICS CO., INC.

170 CHERRY AVE., WEST SAYVILLE, N.Y. 11796

TEL: in NY 631-567-0314

TOLL FREE: 800-346-0857

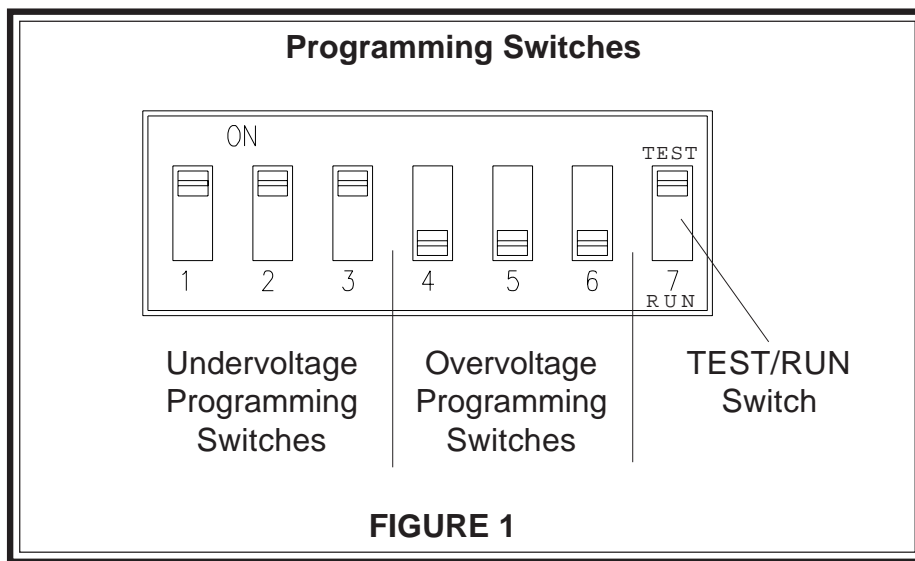
FAX: 631-567-5826

INTRODUCTION

The UV-OV Relay is a device which continuously monitors the voltage of a battery system and detects overvoltage and undervoltage conditions. A set of contacts are provided for each of these conditions. The values of the overvoltage and undervoltage detection points are easily and independently programmable by accessible “DIP” switches behind the removable cover. An adjustable time delay of 8 to 150 seconds is provided.

INSTALLATION

Figure 1 is a view of the programming switches with the snap-on top cover removed. Refer to this figure when programming the unit.



- (a) Select the desired undervoltage trip point from the column to the far right in table 1 below.
- (b) Set switches #1, #2 and #3 to the settings shown in table 1 corresponding to the selected trip point in step (a).

Switch #1	Switch #2	Switch #3	Trips Below:
OFF	OFF	OFF	13.01 Volts
OFF	OFF	ON	12.76 Volts
OFF	ON	OFF	12.52 Volts
OFF	ON	ON	12.29 Volts
ON	OFF	OFF	12.07 Volts
ON	OFF	ON	11.85 Volts
ON	ON	OFF	11.64 Volts
ON	ON	ON	11.44 Volts

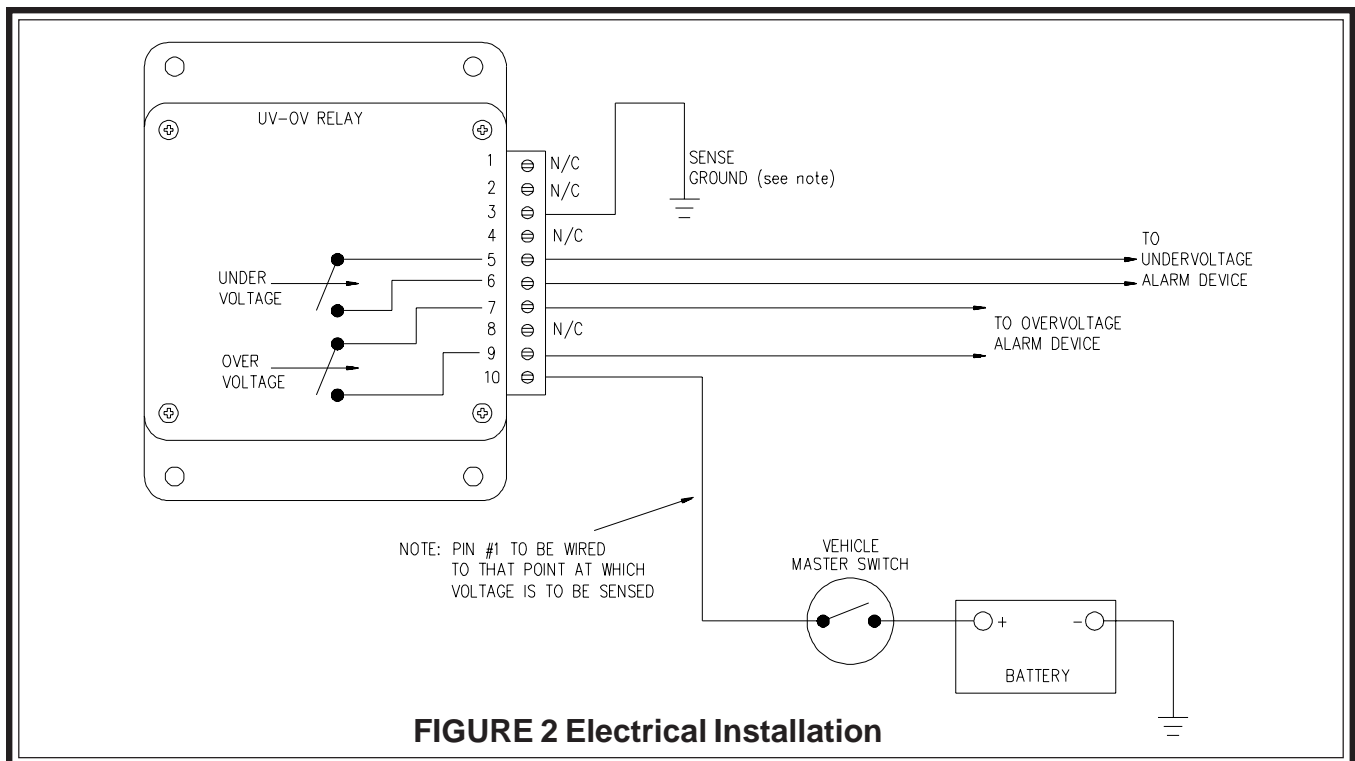
TABLE 1 Undervoltage Programming

- (c) Select the desired overvoltage trip point from the column to the far right in table 2 below
- (d) Set switches #4, #5, and #6 to the settings below in table 2 corresponding to the selected trip point in step (c).

Switch #4	Switch #5	Switch #6	Trips Below:
OFF	OFF	OFF	15.06Volts
OFF	OFF	ON	14.84Volts
OFF	ON	OFF	14.63Volts
OFF	ON	ON	14.42Volts
ON	OFF	OFF	14.22Volts
ON	OFF	ON	14.03Volts
ON	ON	OFF	13.84Volts
ON	ON	ON	13.66Volts

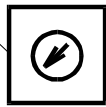
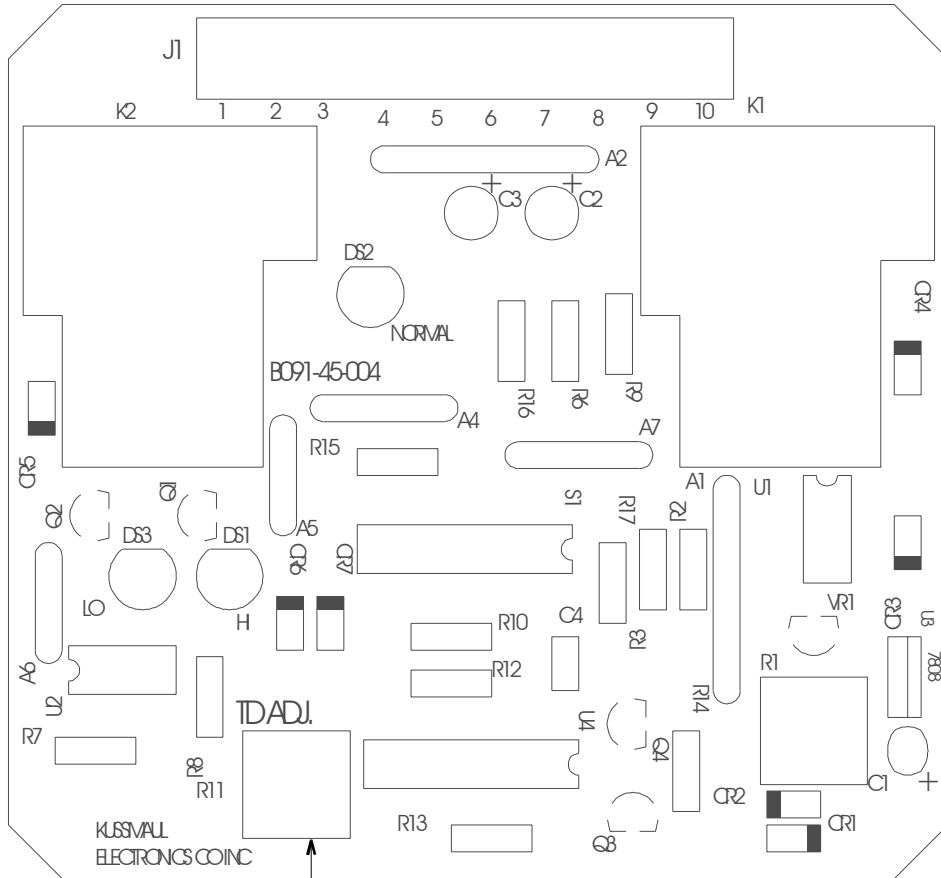
TABLE 2 Overvoltage Programming

- (e) Set switch #7 to “RUN” operation if it is not already in that position. This allows approximately 1 second of time delay for the trip points to act, and filters alternator ripple.
- (f) For mechanical installation, refer to figure 3 for the hole pattern and sizes.
- (g) For electrical installation, refer to figure 2 which shows the connections to various parts of the vehicle. The alarm contacts can be connected to alarm lamps via ground or +12 volts. Figure 4 shows a scheme for a ground hookup while Figure 5 shows a hookup for +12 volts.

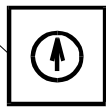


TIME DELAY ADJUSTMENT

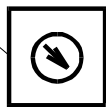
1. Remove cover
2. Locate time adjust trimmer
3. Adjust to desired time delay, note that trimmer is factory set for 150 seconds



MAXIMUM COUNTERCLOCKWISE = 8 sec..

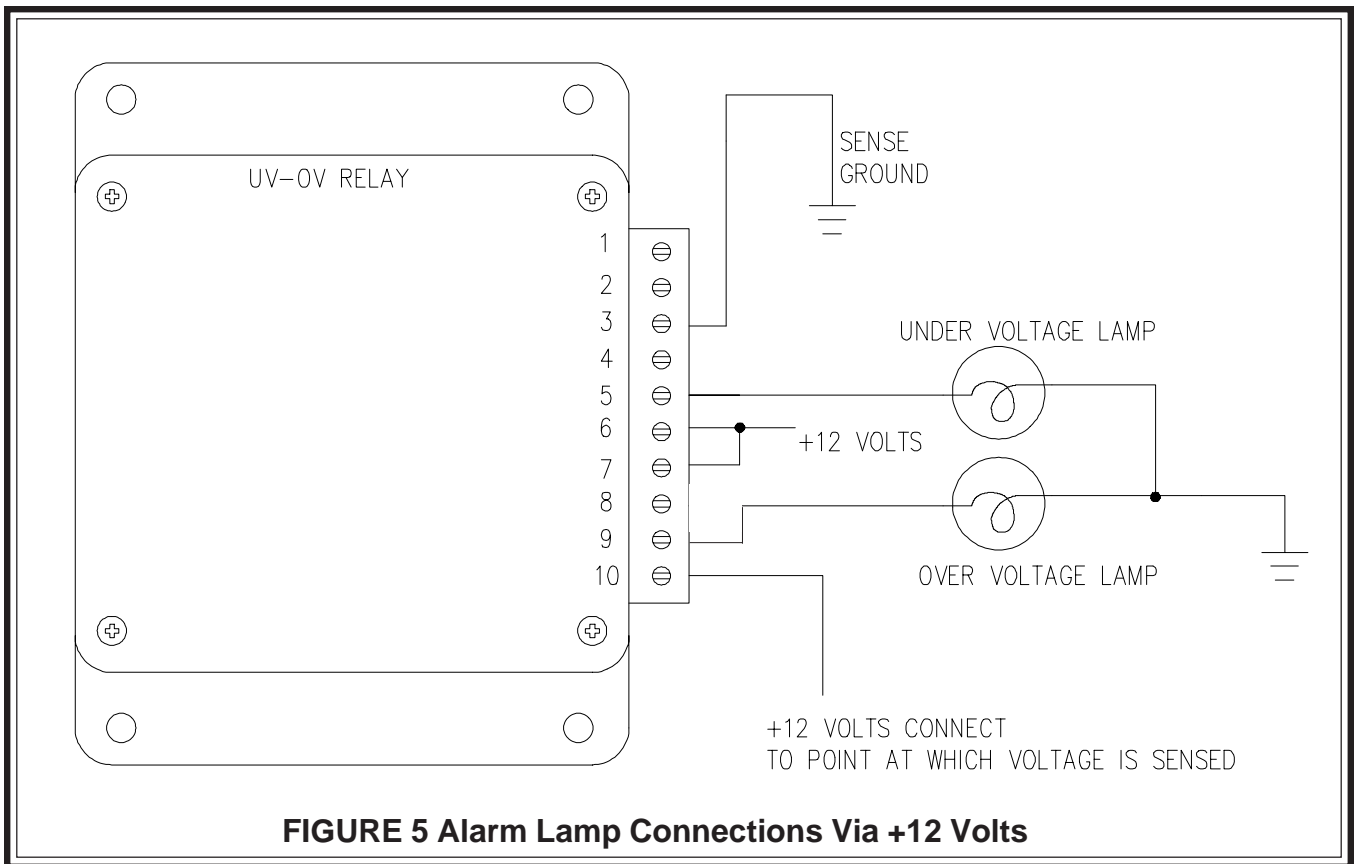
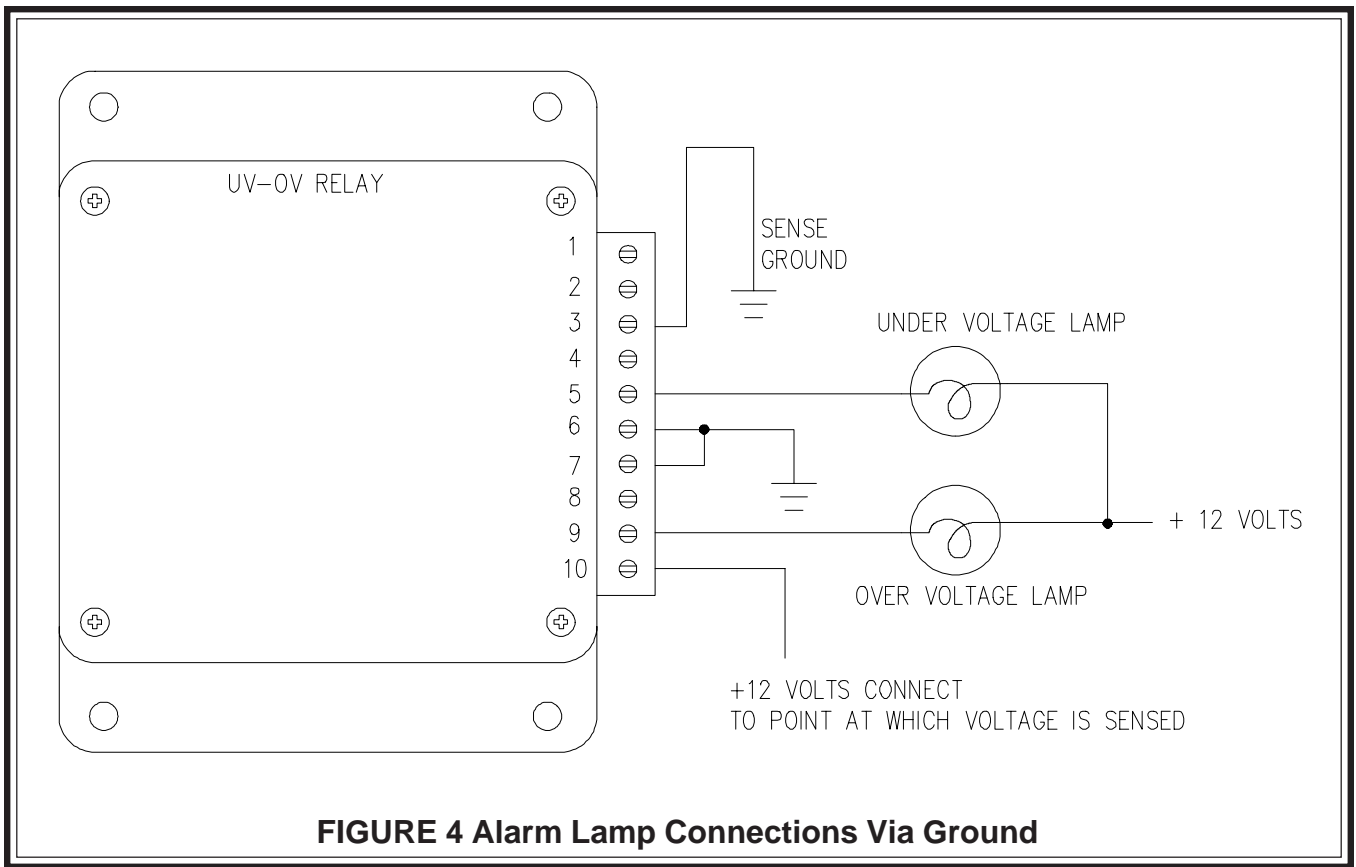


MID POSITION = 80 sec.

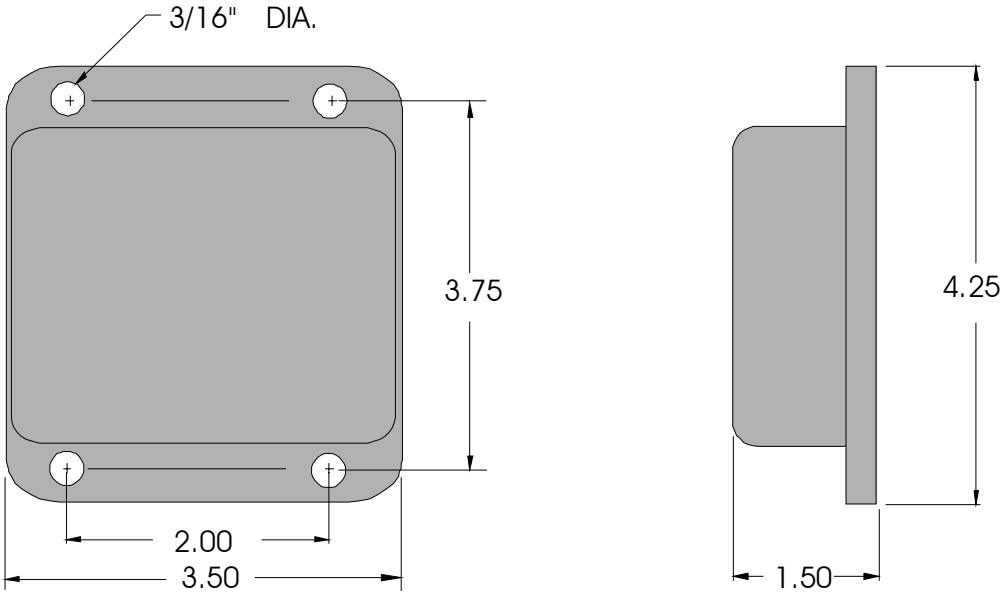


MAXIMUM CLOCKWISE = 150 sec..

FIGURE 3



SPECIFICATION & OUTLINE



INSTALLATION RECORD & WARRANTY

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.