

DARRAH ELECTRIC COMPANY

5914 MERRILL AVENUE ■ CLEVELAND, OHIO 44102 ■ TEL: 216-631-0912 ■ FAX: 216-631-0440

Power Conversion Solutions - Distribution - D.C. Power Supplies



INST. NO. 1117

10/11/96

DARRAH'S AUTOMATIC CONSTANT CURRENT AND VOLTAGE REGULATOR CIRCUIT

DARRAH PART NUMBER E19001A

PRINT I.D. NUMBER: E5

DESCRIPTION OF OPERATION

Circuit board takes references from the positive bus, shunts, control pot settings and depending on their values, delivers a 0-5 volt dc drive signal to the "E4" firing board.

CIRCUIT BOARD TERMINAL CONNECTIONS

TB1 & TB4: 115 Volt AC Input
TB2 & TB3: Not Used
TB5: Wiper of ACV Control Pot Input
TB6: Low side of AVC & ACC Control Pot Input
TB7: (-) D.C. 0-5 Volt Output Drive Signal
TB8: 0 – 50 mV (+) Shunt Input
TB9: High side AVC Control Pot Input
TB10: Positive Bus Input

(The "RF" resistor drops the positive voltage reference to a required value.) The following formula is used to determine this value:

$$RF = \frac{\text{MAX. D.C. } V > -5V.}{.0005} = \text{ohms}$$

TB11: High side ACC Control Pot Input
TB12: (+) D.C. 0 – 5 Volt Output Drive Signal
TB13: Wiper of ACC Control Pot Input
TB14: 0 – 50 mV (-) Shunt Input

Note: ACV and ACC control pot values are 10K ohm 2 watt.

TROUBLESHOOTING THE E19001A REGULATOR

