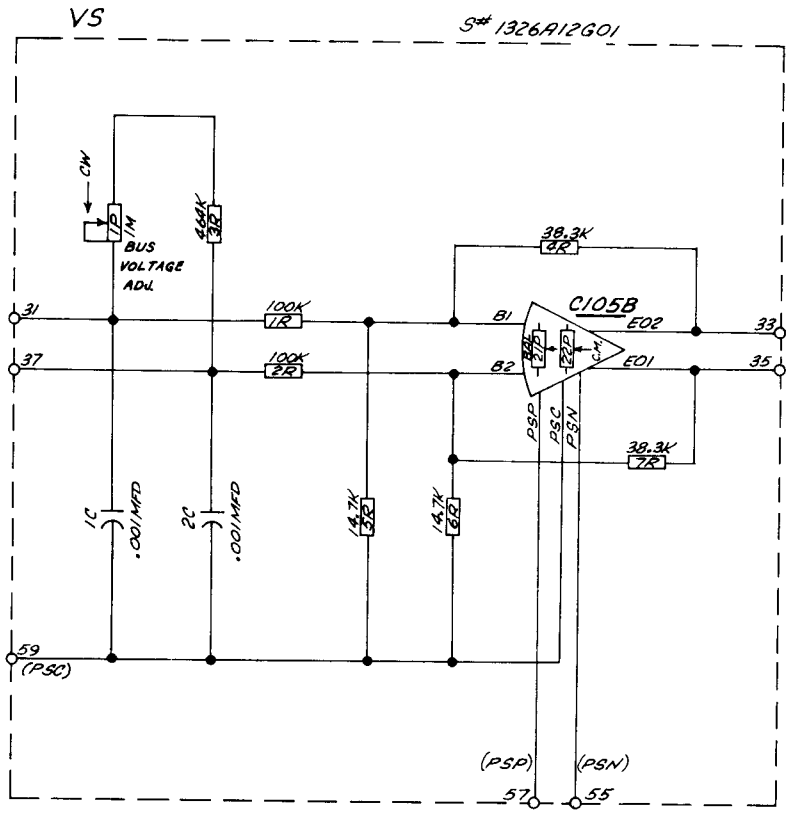
VOLTAGE SENSOR

I. DESCRIPTION

This module is designed to sense the dc bus voltage and transduce it to a regulator signal in the C-56 Thyristor Power System as described in I.L. 16-800-126.

The dc bus voltage is brought from externally mounted attenuating resistors through input resistors to the summing junctions of an operational amplifier featuring differential outputs. The two outputs are of opposite polarity and balanced with respect to common ground, so that either output may be used as a bus voltage signal. The excellent common mode rejection of the differential amplifier permits its use as a quasi-isolation amplifier, since the output remains balanced even though the input may be completely unbalanced with respect to ground. In order to retain the high common mode rejection ratio, the input resistor network to the summing junctions B1 and B2, including external attenuator resistors, must be symmetrical.

Potentiometer 1P and resistor 3R serve as attenuator adjustment together with the external attenuating resistors. The capacitors 1C and 2C provide a 0.1 ms low pass filter to remove sharp spikes before they influence the amplifier performance.



Voltage Sensor Schematic Diagram

II. ADJUSTMENTS

21P --- Differential balance adjustment for the operational amplifier.

22P --- Common mode balance adjustment for the operational amplifier.

1P --- Bus voltage (gain) signal adjustment.

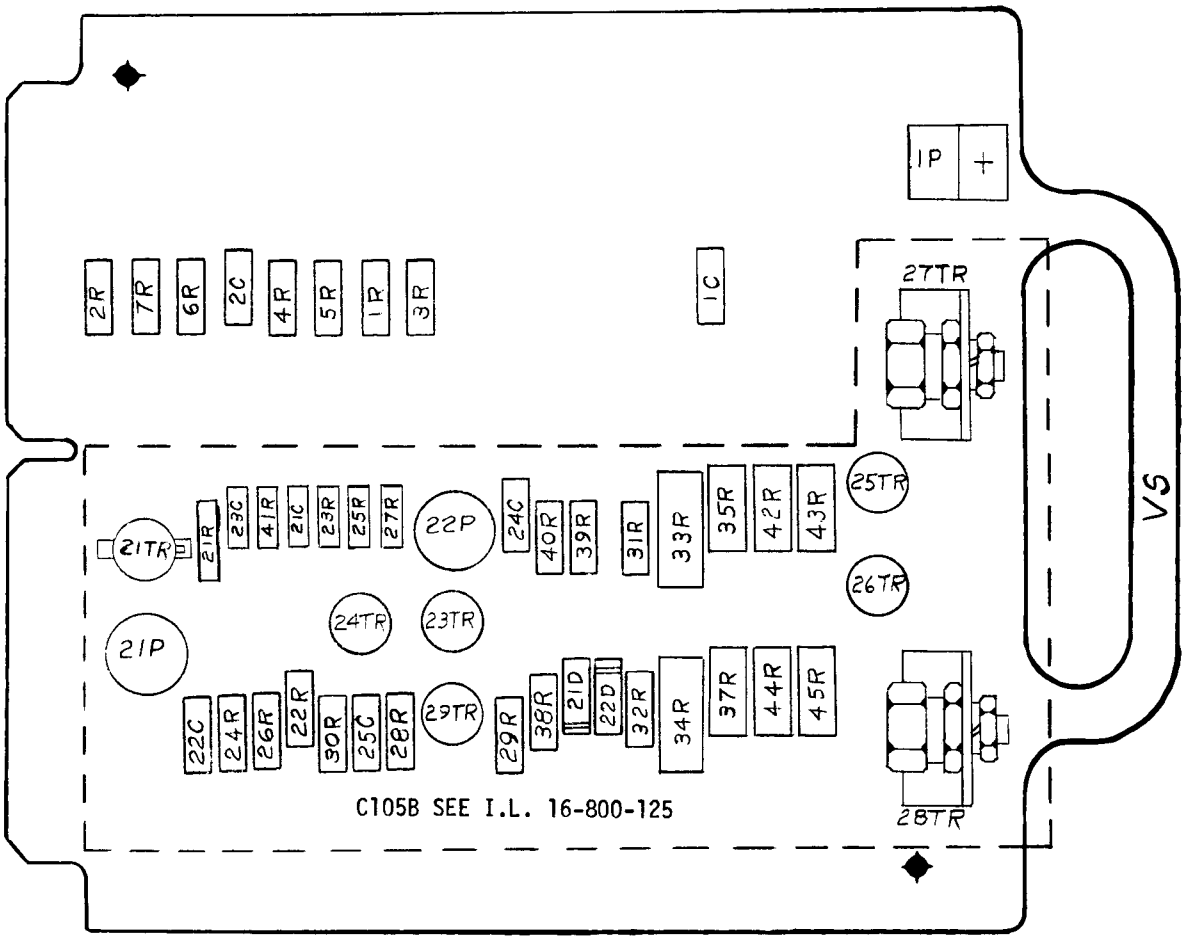
III. SPECIFICATIONS AND RATINGS

FOR AN OUTPUT VOLTAGE SIGNAL OF ±9.6V	
ACTUAL INPUT VOLTAGE RANGE	ATTENUATOR RESISTOR ON 1RP
240 to 270V	316K OHMS
375 to 415V	316K +215K OHMS
470 to 540V	316K +215K +178K OHMS

Ambient Temperature: 0 to 55°C

Power Requirements: PSP: +24V ± 0.5V ... 40mA

PSN: -24V ± 0.5V ... 40mA



PC CARD (Front View)