



# INSTRUCTIONS

GEK-24953

## SOLENOID CONVERTER CARD

193X299A\_G01

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*These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to General Electric Company.*

**GENERAL**  **ELECTRIC**

**PRELIMINARY**

**INSTRUCTION**

**SOLENOID CONVERTER CARD,  
193X299A\_G01**

**1.0 GENERAL**

This instruction provides basic information regarding the subject card. Refer to the system elementary diagrams for additional information relating to the overall system operation.

**2.0 DESCRIPTION**

The solenoid converter card converts the plunger position of a center-tapped mechanically variable reactor (solenoid) to a DC voltage. The solenoid and the solenoid converter are mainly used as a feedback element for position control of a dancer loop. The "Min. Adj." potentiometer, P401, is adjusted for a minimum output voltage with the solenoid plunger at one end position. If the solenoid plunger is moved, the output voltage is increased, reaching a maximum at the other end of travel.

The "Aux." potentiometer, P402, may be used as a position reference to which the converter output is compared.

The output filter section reduces the inherent 120 Hz ripple voltage to less than .1V peak-to-peak. The output load impedance should be in the order of 18K ohm for a rated output of 10 volts.

**3.0 ADJUSTMENTS**

- 3.01 Position the solenoid plunger at the end position required for minimum converter output.
- 3.02 Adjust P401 for minimum output voltage between the "Neg." and the "Pos." test posts on the card or with the instrument card if ordered and connected to the converter output.
- 3.03 If P402 is used, refer to the system instructions for proper adjustments.
- 3.04 Check for proper polarities. (If reversed, repeat the above steps with the converter output minimized with the solenoid plunger at the opposite end position).

- 3.05 Refer to the system instructions for additional adjustment procedures.

**4.0 TROUBLESHOOTING**

- 4.01 Check for proper connections to the card receptacle:

115V AC (+10%, -5%) between tab 6 and 10.  
Solenoid centertab to tab 26, end terminals to tabs 8 and 9.

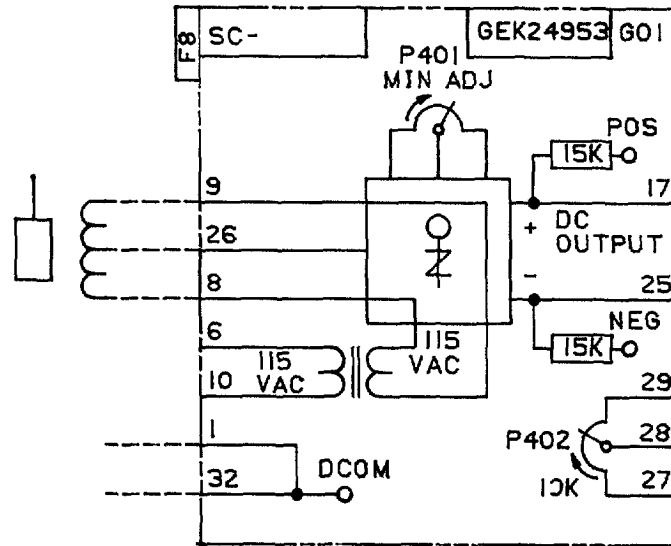
- 4.02 Output voltages:

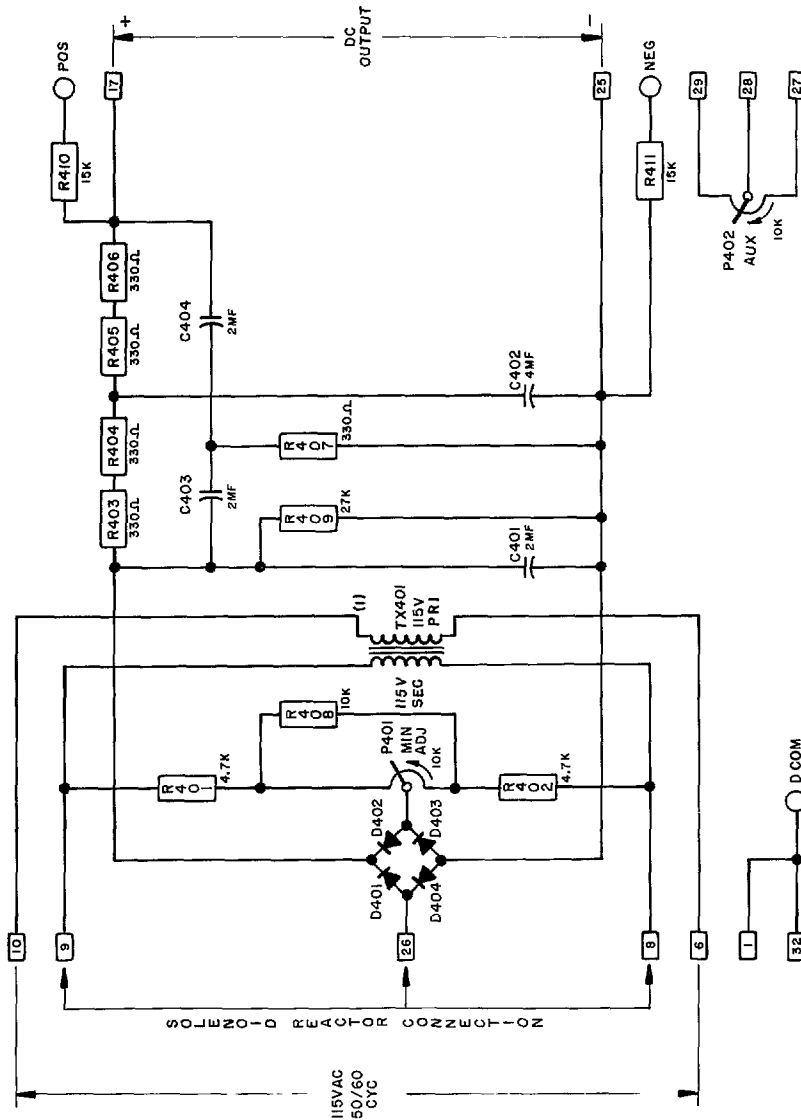
Minimum — less than 1V DC

Maximum — at least 10V DC with a load resistor of 18K ohm or larger.

Ripple — not to exceed .1V peak-to-peak from 1V to 10V output.

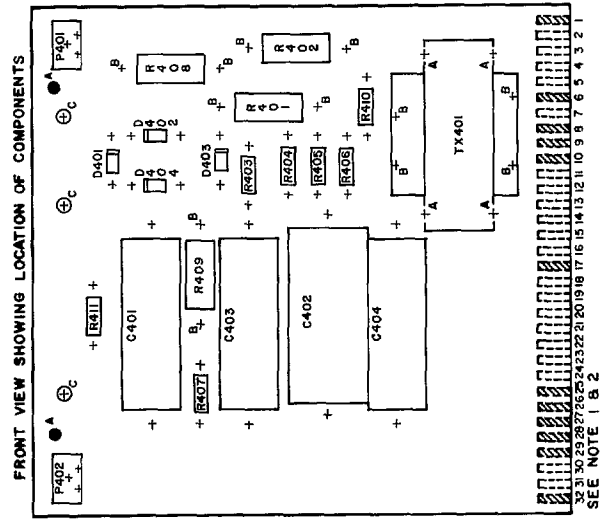
**FUNCTIONAL BLOCK DIAGRAM**  
**SOLENOID CONVERTER**





NOTES

- I. REFER TO THE INSTRUCTION BOOK FOR DETAILED OPERATION.
- II. NUMBERS INSIDE THE SMALL RECTANGLES INDICATE TAB NUMBERS, WHICH CORRESPOND TO MATCHING RECEPTACLE NUMBERS.



- NOTE 1 INDICATED TAB NUMBERS CORRESPOND TO MATCHING RECEPTACLE NUMBERS
- 2 CROSS MATCHED TABS INDICATE TABS USED
- 3 CARD SIZE, 5.500-05 X 5.130-008

GROUP	KEY LOCATIONS
601	26-27   12-13   4-5

HOLE TABULATION  
 ALL HOLES .040 DIA  
 EXCEPT THE HOLES  
 TABULATED BELOW  
 LOC DIA QUAN  
 A .157 6  
 B .062 12  
 C .081 3

FRONT VIEW SHOWING LOCATION OF COMPONENTS

SEE NOTE 1 & 2

**GENERAL ELECTRIC COMPANY  
SPEED VARIATOR PRODUCTS OPERATION  
ERIE, PENNSYLVANIA 16531**

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GEK-24953 (4/81) 500 (P)