



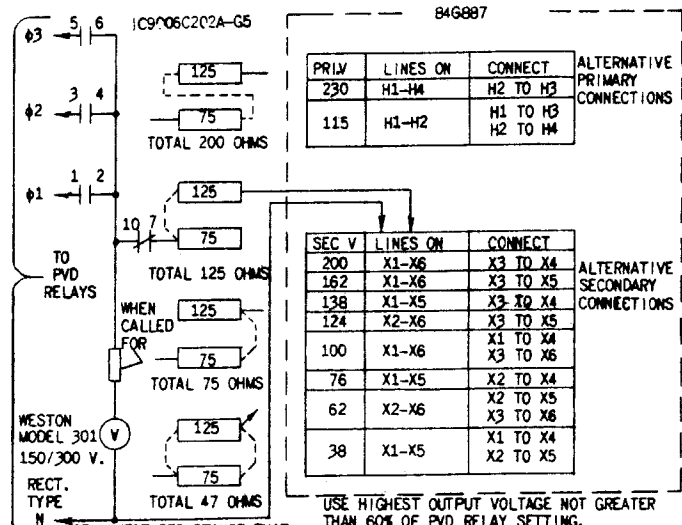
INSTRUCTIONS

GEI-50290

RELAYS

**PVD PERIODIC
TESTING EQUIPMENT**

LOW VOLTAGE SWITCHGEAR DEPARTMENT
GENERAL  ELECTRIC



USE LOWEST RESISTANCE THAT WILL NOT EXCEED 100 WATTS LOAD IN CASE OF SHORT CIRCUIT.

CONTACTS HANDLE END	16SB1ED710-FRONT VIEW						
	3-0	2-0	1-0	0CV	1-S	2-S	3-S
1			X		X		
2			X		X		
3		X				X	
4		X				X	
5	X						X
6	X						X
7				X	X	X	X
8				X	X	X	X
9				X	X	X	X
10				X	X	X	X

Fig. 1 External Connections for Monitoring of Bus Protection Using Type PVD Relays

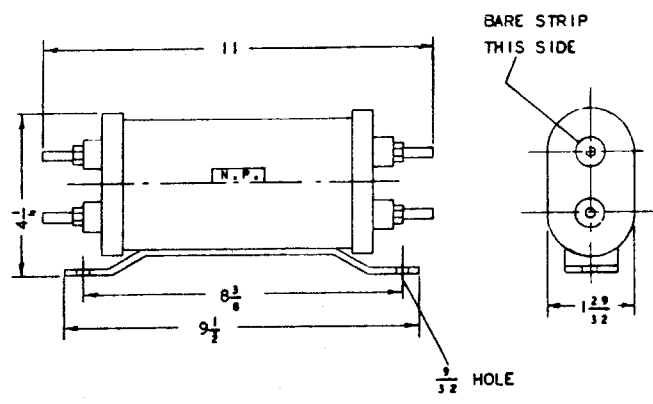


Fig. 2 Outline of Test Resistor for PVD Test Equipment

Fig. 1 (K-6375729)

Fig. 2 (403A119)

PVD PERIODIC TESTING EQUIPMENT

DESCRIPTION

The equipment necessary to determine whether anyone of the bus current transformers is either open circuited or short circuited consists of the following:-

1 Test transformer	9T53Y8049
1 Test resistor	IC9006C202AG-5
1 Test switch	16SB1ED710SST(*)K
1 Voltmeter	Weston Model 301

The test transformer has input windings which can be used for 115 or 230 volts. The secondary

windings can be so connected as to obtain 38, 62, 76, 100, 124, 138, 162 or 200 volts.

The test resistor consists of a 75 ohm and a 125 ohm resistor which may be connected in several combinations to give 47, 75, 125 or 200 ohms.

The test switch is a seven position, spring return, SB-1 switch used to apply the test connection to each of the three phases.

The voltmeter is used as the indication of an abnormal condition.

OPERATION

The transformer secondary voltage must be chosen so that the applied voltage is less than 60 percent of the relay pick-up and therefore, there will be no danger of false tripping. The value of test resistance to be used should be such that in case of a short circuit the test resistor load will not exceed 100 watts.

To check against the presence of short circuited current transformers, the test switch is turned to either 1-S, 2-S or 3-S to check all phases. This condition impresses a test voltage across the PVD relay and test resistor in series. If there is no shorted CT the impedance across the PVD relay is large compared to the test resistor and most of the applied voltage will appear across the PVD terminals. The voltmeter, which is connected across the PVD terminals will indicate this. However, if there is a shorted circuited CT, the drop across the PVD will be much lower. Comparison of readings with those taken during

installation will show whether an abnormal condition exists.

To check against the presence of open circuited CTs, the test switch is turned to either 1-0, 2-0, or 3-0 to check all phases. This places the voltmeter across the PVD relay. If one of the CTs is open circuited or connected to the wrong number of turns and its primary is carrying load currents less than the pick-up of the relay, the remaining CTs will apply a voltage to the PVD relay which can be noted on the voltmeter. If the CTs are correct, a much smaller voltage should be seen at the voltmeter.

The off or OCV position of the test switch connects the voltmeter across the output of the test transformer. This allows a check to be made to insure that the test voltage applied is less than 60 percent of the relay pick-up.

INSTALLATION

CONNECTIONS

The connection diagram for this equipment is shown in Fig. 1.

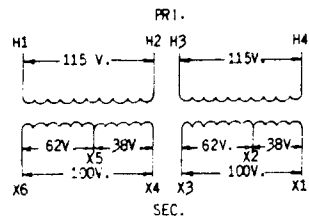
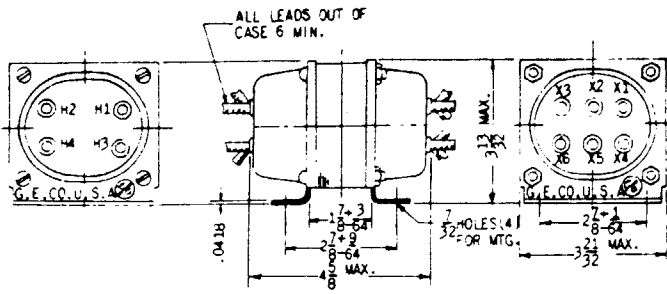
MOUNTING

The following table lists the figure numbers of the outline and panel drilling dimensions for the components of this test equipment.

COMPONENT	FIG. NUMBER
Test Transformer	3
Test Resistor	2
Test Switch	4
Voltmeter	5, 6

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 the General Electric Company.

GEI-50290 Test Equipment Type PVD Relay



APPROX. WEIGHT - 5-1/4 LBS.
 CAT. NO. 84C887 & 9T53Y8049
 RATING - 50/60 CY - .050 KVA. - 115/230 V. PRI. - 38/76/100/200 V. SEC.

Fig. 3 Outline and External Connections for Test Transformer used with PVD Test Equipment

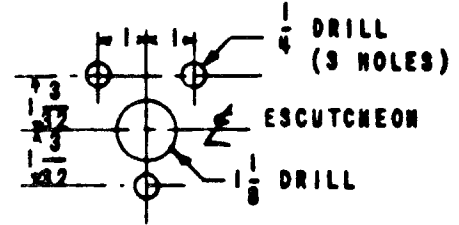


Fig. 4 Panel Drilling Dimensions Diagram for Test Switch Used with PVD Test Equipment

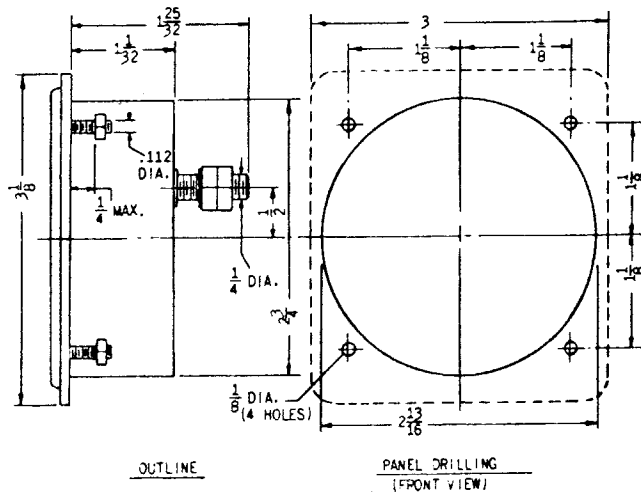
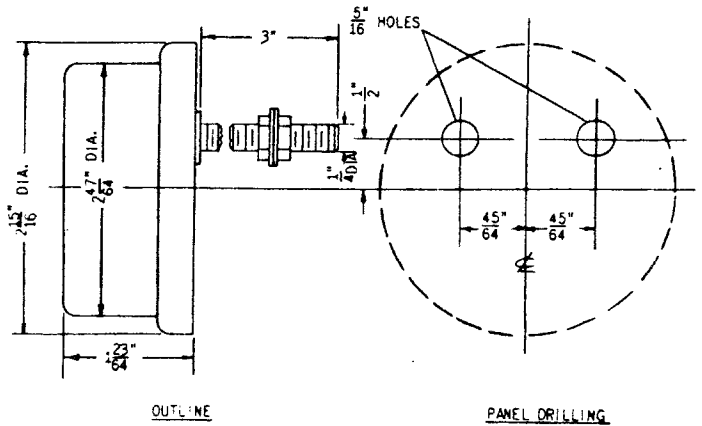


Fig. 5 Outline and Panel Drilling Dimensions Diagram for Test Voltmeter (1/8 inch maximum panel thickness) used with PVD Test Equipment



FOR MOUNTING ON INSULATING PANEL BY MEANS OF TERMINAL STUDS.

Fig. 6 Outline and Panel Drilling Dimensions Diagram for Test Voltmeter used with PVD Test Equipment