

INSTRUCTIONS

TIME OVERCURRENT RELAY

For Bus Differential Protection

TYPE IAC51H

IN

DRAWOUT CASES

Switchgear

GENERAL  ELECTRIC
SCHENECTADY, N. Y.

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.

TIME OVERCURRENT RELAY

FOR BUS DIFFERENTIAL PROTECTION

TYPE IAC51H

The IAC51H relay is a three unit, time overcurrent relay with special internal connections to permit using it for testing the integrity of the current transformer secondary circuits in a bus differential scheme.

Except for connections, and the double-end case, this relay is the same as the IAC51D described in the included instructions, GEH-1265. The internal connections are shown in Fig. 1, and the outline and panel drilling in Fig. 2.

The application for which this relay is intended is exemplified in Fig. 3. With these connections the relay gives differential protection for clearing ground faults on the bus. The relay can also be used to check for accidental grounds in the current transformer secondary circuits.

Referring to the diagram, it can be seen that removing the lower connection plug from the IAC will disconnect the transformers on the outgoing circuits, thus leaving no return path for the currents in the secondaries of the transformers on the incoming circuits, except through the operating coils of the IAC relay. Hence, if there are no accidental additional grounds, all three units of the IAC relay should close the contacts.

The procedure for checking the circuits of the outgoing circuit transformers is exactly the same as described above, except that the upper connection plug is removed instead of the lower.

In order to prevent false tripping of the breakers when the connection plug is removed, the trip circuit is wired through circuit 1-11 of the IAC. This circuit is broken by the removal of the plug. The auxiliary relay, Type HGA, in the diagram, picks up when the IAC relay operates during the test. Its normally closed contacts will then remain open long enough for the IAC contacts to open, after the connection plug is replaced.

The HEA auxiliary relay is used to multiply the contacts of the IAC.

This test scheme depends upon load current to operate the IAC and is not applicable in cases where the load current is insufficient for this purpose.

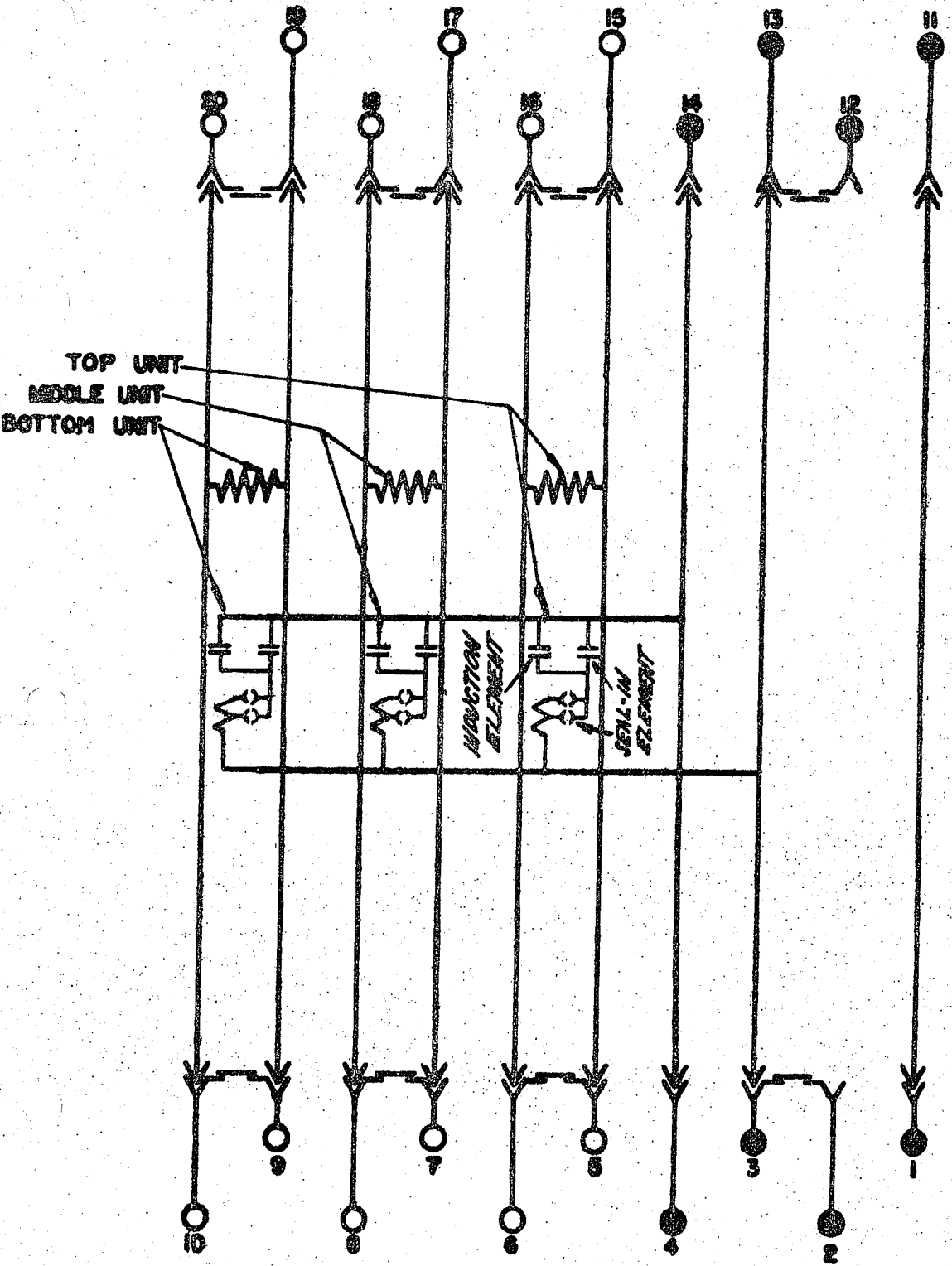


FIG. 1
INTERNAL CONNECTIONS FOR THE TYPE IAC5IH RELAY. (BACK VIEW).

(K-6400119)

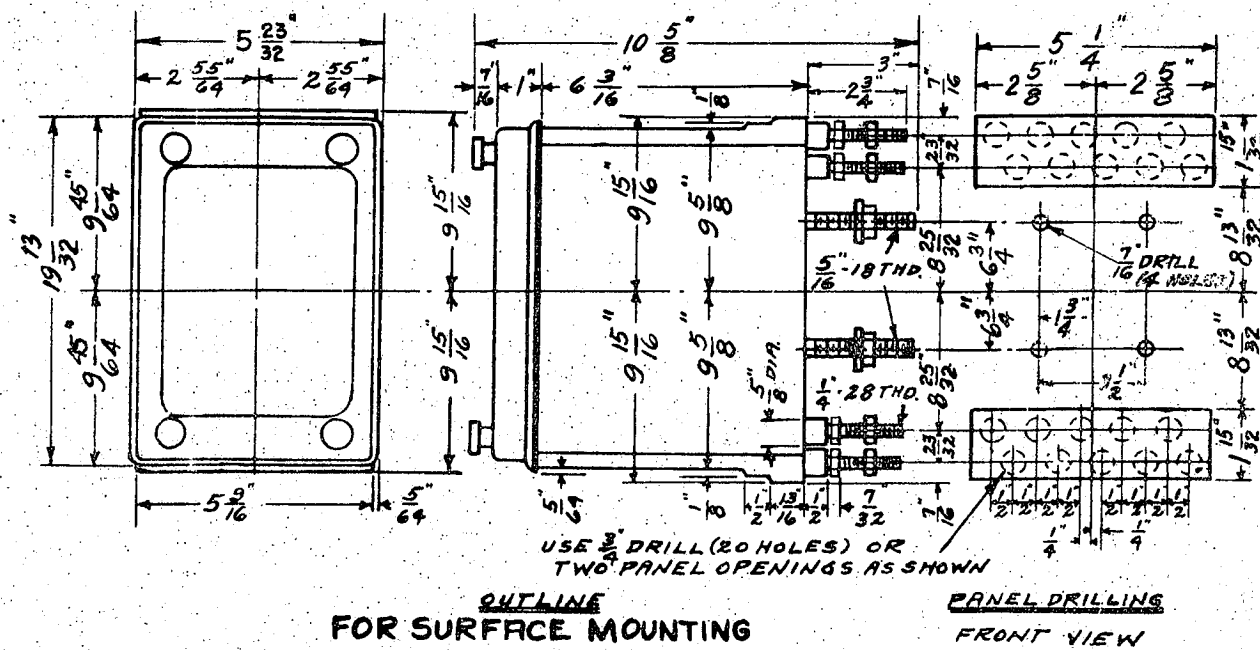
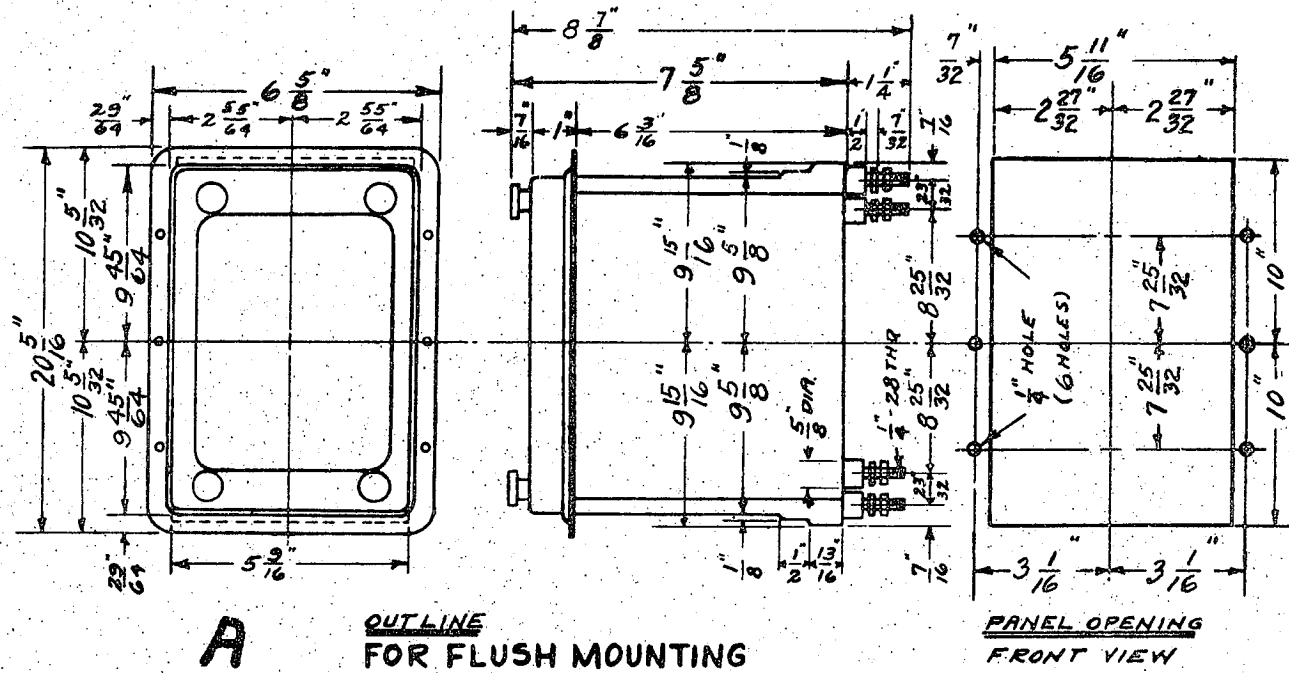


FIG. 2
 OUTLINE AND PANEL DRILLING FOR DRAWOUT CASE - THREE UNIT - DOUBLE END.

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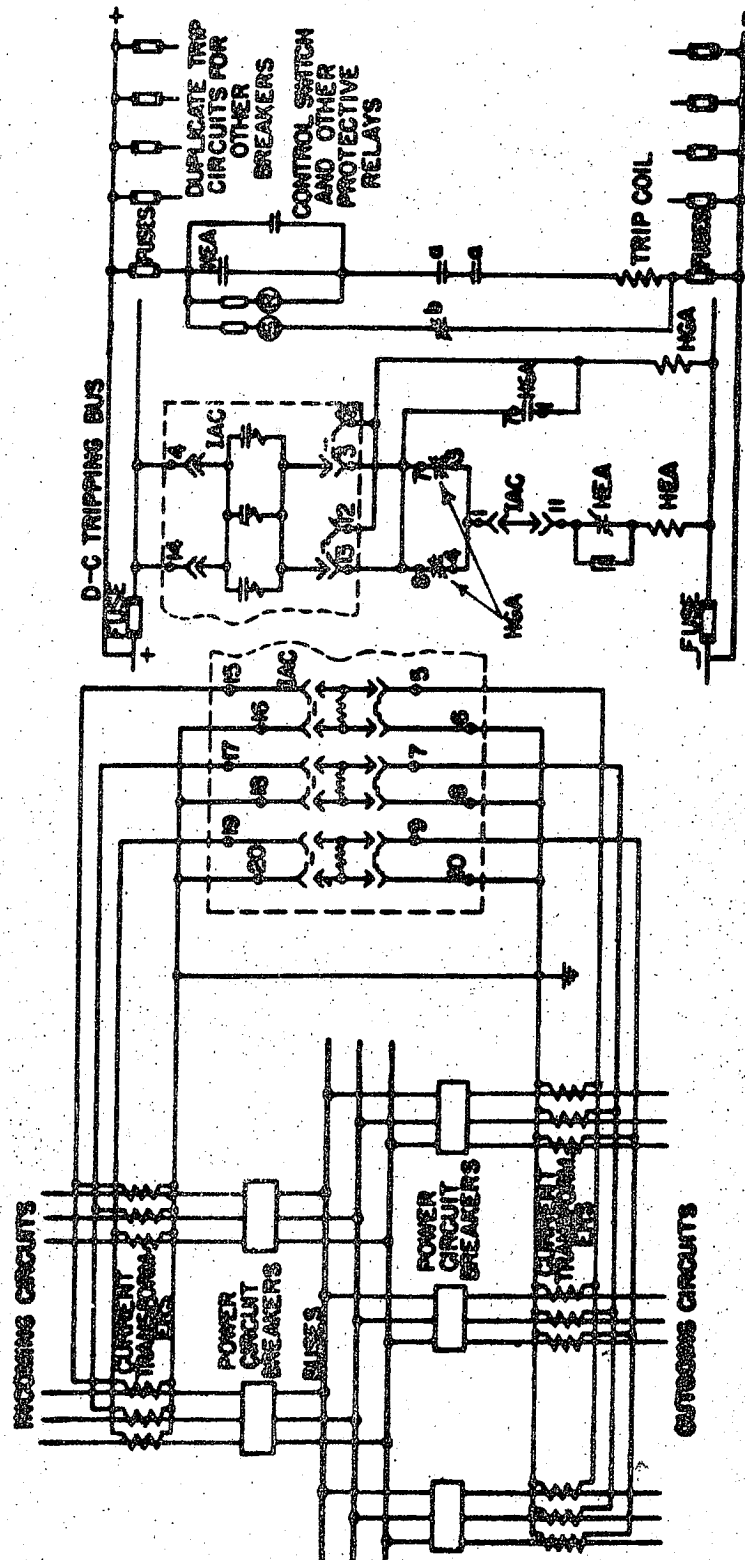


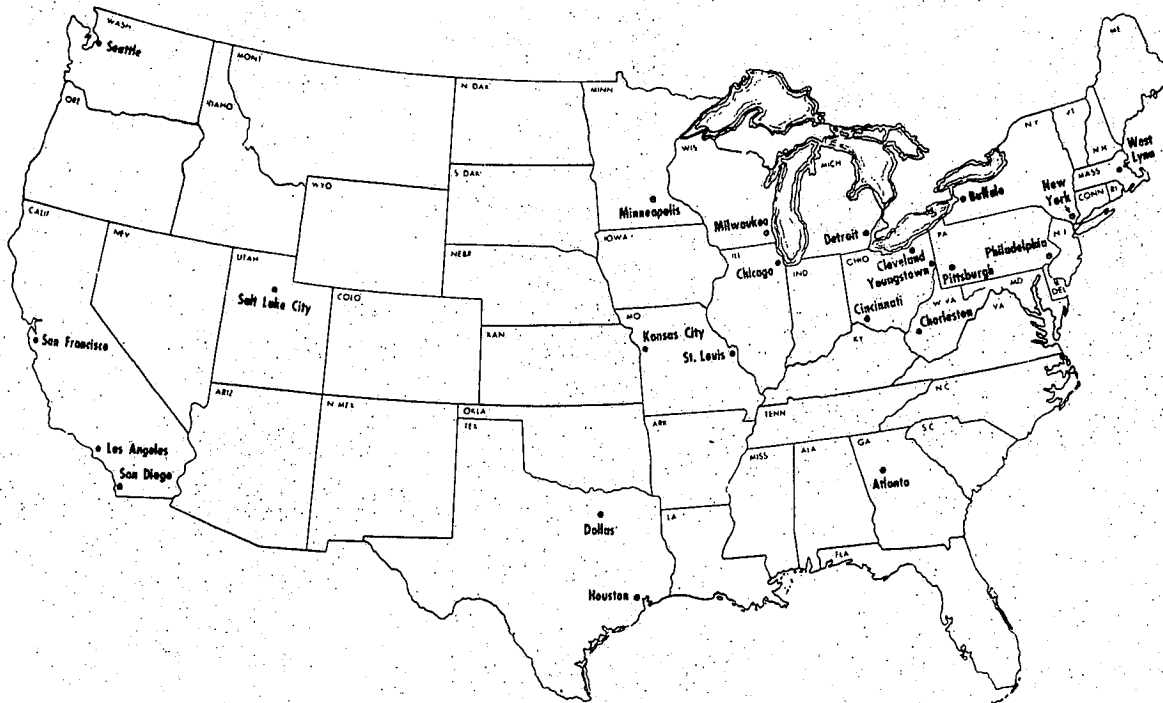
FIG. 3
BUS DIFFERENTIAL PROTECTION USING THE TYPE IAC51H RELAY.

(K-6400161)

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