

INSTRUCTIONS

Switchgear

Types

**IBC51A(-)Y1, IBC52A(-)Y1, IBCC51A(-)Y1
IBCC52A(-)Y1, IBCP51A(-)Y1, IBCP52A(-)Y1**

**DIRECTIONAL OVERCURRENT
RELAYS**

GENERAL  ELECTRIC

NOTES

DIRECTIONAL OVERCURRENT RELAYS TYPE IBC

INTRODUCTION

This instruction book includes a copy of GEH-1267 which describes the basic Directional Overcurrent Relays, Type IBC. These instructions are supplemented by the description below of the instantaneous element, thus forming complete instructions

for the relays with these elements. The addition of the instantaneous element constitutes a special relay of the same model type as the standard, with the addition of "Y1" in the model nomenclature.

INSTANTANEOUS ELEMENT

DESCRIPTION

The instantaneous element is a small instantaneous hinge-type element which may be mounted on the right front side of the induction unit. Its contacts are normally connected in parallel with the contacts of the main unit. Its coil is connected in series with the operating coil of the main unit.

When the current reaches a predetermined value, the instantaneous element operates, closing the contact circuit and raising its target into view. The target latches in the exposed position until released by pressing the button beneath the lower left-hand corner of the relay cover.

The instantaneous element operates over a 4 to 1 range and has its calibration stamped on a scale mounted beside the adjustable pole piece. Time-current characteristics are shown in Fig. 1.

RATINGS

The instantaneous element is designed to use

either of three coils having pick-up ranges of 4 to 16, 10 to 40 and 20 to 80 amperes respectively. The current closing rating of the contacts is 30 amperes for voltages not exceeding 250 volts.

BURDENS

Burden data on the instantaneous element coils are given in the following table:

Coil	Freq.	Amp.	Volt Amp.	Imp. Ohms	PF
4-16	60	5	5.0	.20	.95
	50	5	5.0	.20	.95
	25	5	4.4	.17	.98
10-40	60	5	0.83	.033	.95
	50	5	0.80	.032	.95
	25	5	0.65	.027	.98
20-80	60	5	0.21	.008	.95
	50	5	0.20	.008	.95
	25	5	0.15	.007	.98

INSTALLATION

MOUNTING

The outline and panel drilling dimensions for the Type IBC52A(-)Y1 relay are shown in Fig. 8 of this supplement. Outline and panel drilling dimensions for the other relays in this group are shown in Fig. 22 of the included GEH-1267.

CONNECTIONS

Internal connections for the various relay types are shown in Fig. 2 to 7 inclusive in this supplement.

ADJUSTMENTS

Select the current above which is desired to have the instantaneous element operate and set the adjustable pole piece so that its hexagon head is even with the desired calibration on the scale. To raise or lower the pole piece loosen the locknut and turn it up or down and then tighten in position.

The contacts should be adjusted to make at about the same time and to have approximately 1/8" wiper. This adjustment can be made by loosening the screws holding the stationary contacts and moving the contacts up or down as required.

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-28888 Type IBC Directional Overcurrent Relays

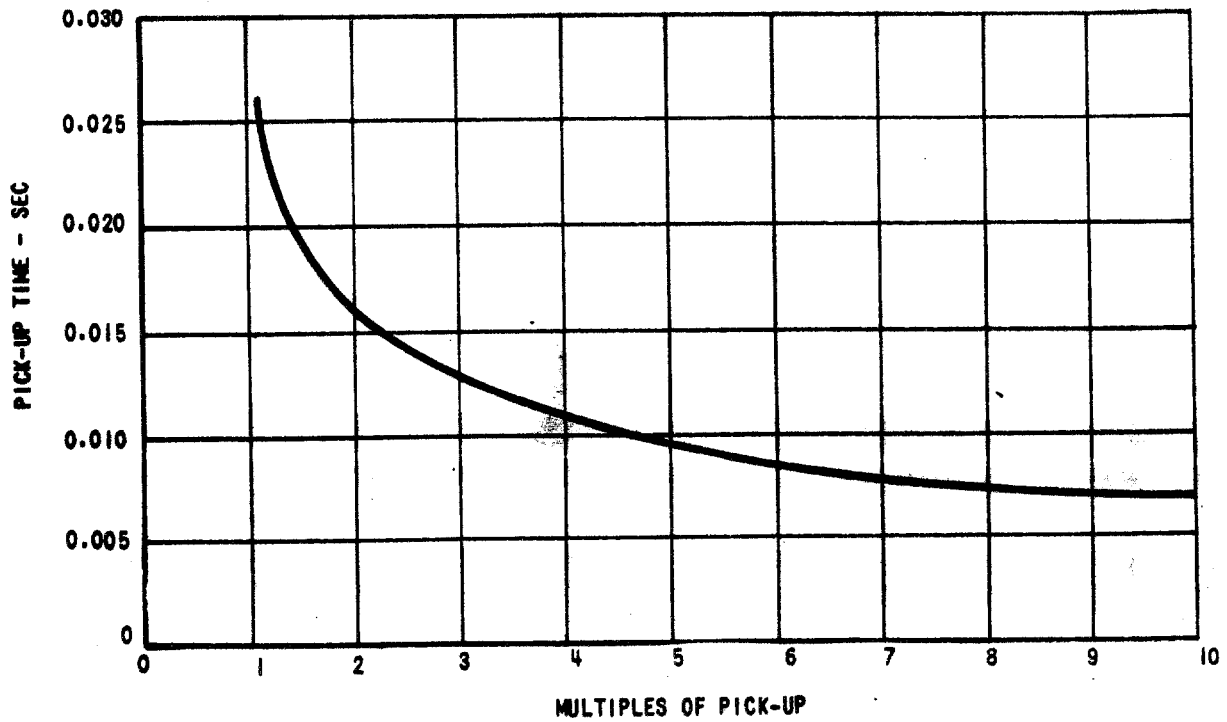


Fig. 1 Time-current Characteristic of the Instantaneous Element

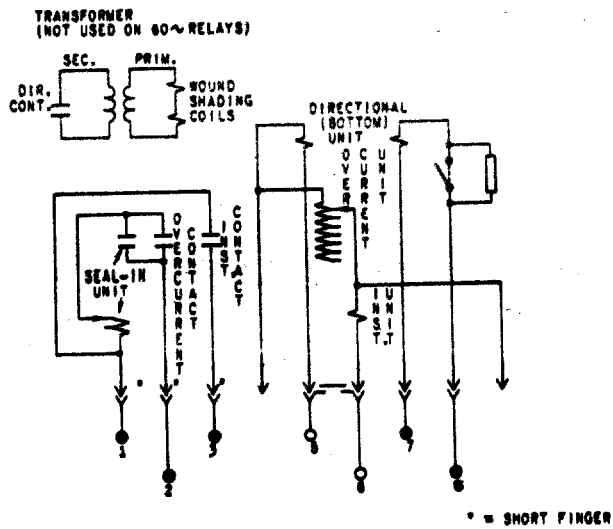


Fig. 2 Type IBC51A(-)YI Relay, Internal Connections (Front View)

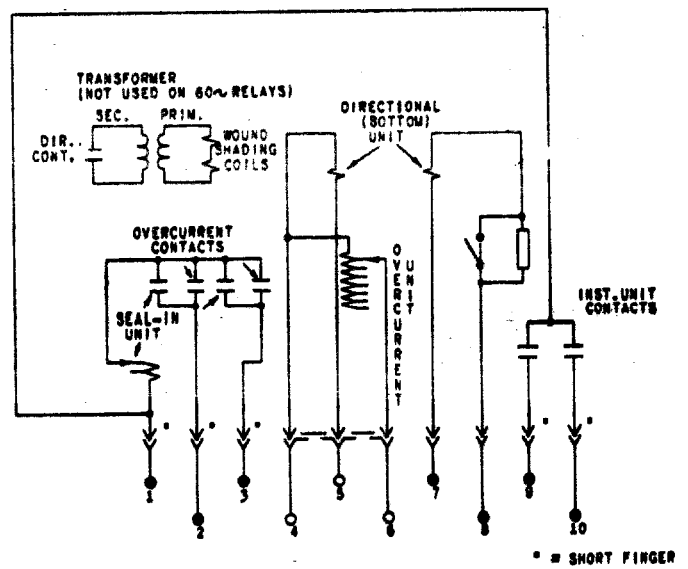


Fig. 3 Type IBC52A(-)YI Relay, Internal Connections (Front View)

(K-6306872)

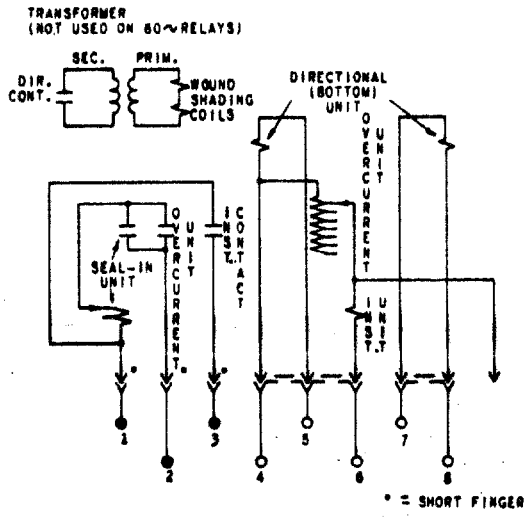


Fig. 4 Type IBC51A(-)YI Relay, Internal Connections (Front View)

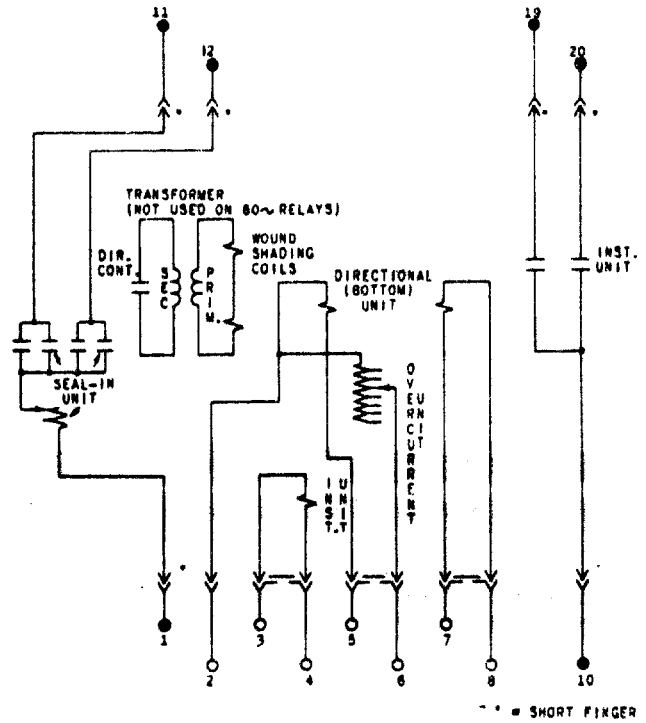


Fig. 5 Type IBC52A(-)YI Relay, Internal Connections (Front View)

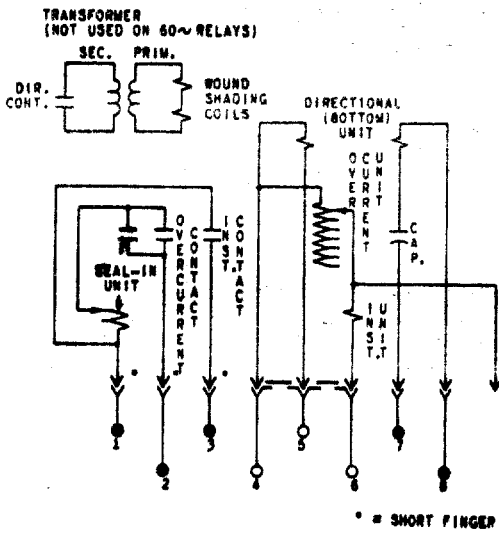


Fig. 6 Type IBCP51A(-)YI Relay, Internal Connections (Front View)

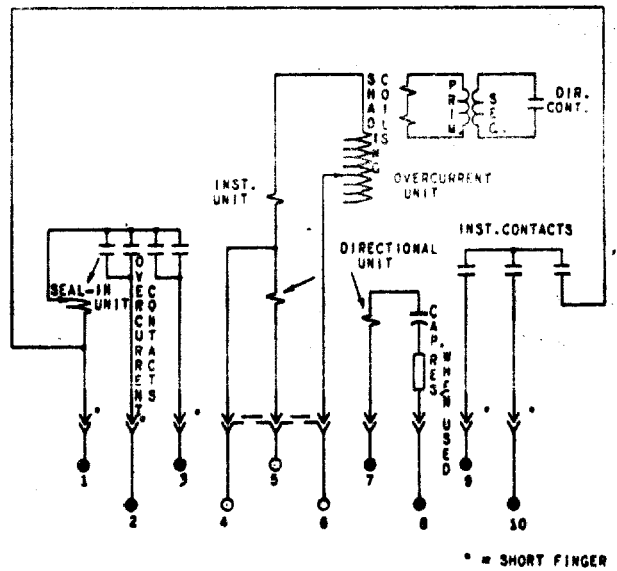


Fig. 7 Type IBCP52A(-)YI Relay, Internal Connections (Front View)

GEI-28888 Type IBC Directional Overcurrent Relays

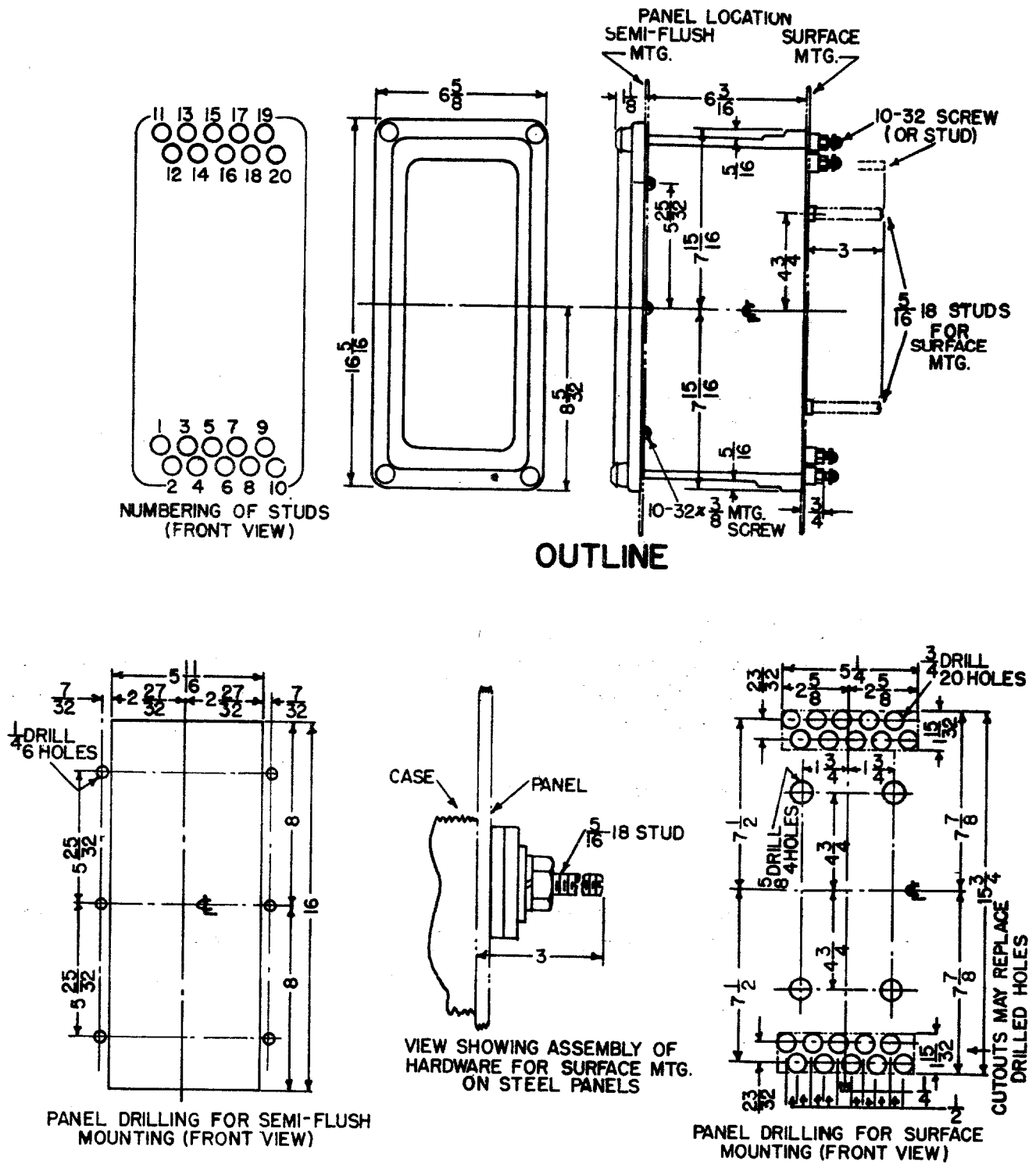


Fig. 8 Outline and Panel Drilling Dimensions for Type IBC52A(-)YI Relay