

INSTRUCTIONS

GEI-15593A

Instantaneous Auxiliary Relays

TYPES

HMA11A
HMA11B

HMA12A
HMA12B

HMA13A
HMA13B

HMA15A

The type HMA relay is an instantaneous auxiliary device whose contacts are opened and closed by the movement of a hinged armature. The following models are supplied for operation on all standard voltages both a-c and d-c. All back connected relays are supplied either with or without cover; front connected models are available without cover only. Internal wiring diagrams for all models are shown on the reverse side of this sheet.

The HMA11A is a back connected relay having double-pole double-throw contact arrangement. The two moveable contacts are electrically separate and are held in position on the armature by means of a textolite contact carrier and spring housing. The HMA11B is similar to the HMA11A except that it is front connected.

The HMA12A is a back connected model and has a single-pole, double-throw, double-break contact arrangement. The moving contact consists of a contact bridge mounted directly on the armature by a spring and post arrangement. In a closed position the moving contact bridges either the front or back set of contacts. The HMA12B is similar to the HMA12A except that it is front connected.

The HMA13A and HMA13B are similar respectively to the HMA12A and HMA12B except that the moving contact bridge has been wired to a terminal stud so that the relay has two normally open and two normally closed contacts with the moving contact common to all four.

The HMA15A is similar to the HMA11A except that it has a special holding coil winding and has but one circuit opening contact.

INSTALLATION

The relay can be mounted on either a horizontal or vertical surface. Insulating bushings for steel panel mounting will be supplied at no extra charge if they are specified in the order. The outline and drilling plan of each model is shown on the other side of this sheet.

ADJUSTMENT

All relays are properly adjusted at the factory. Relays for direct current service are adjusted to pick up at 60 per cent of their rating when cold and 80 per cent when hot. Relays for alternating current service are adjusted to pick up at 80 per cent of their rating.

Normally it should not be necessary to make any further changes in these adjustments. If, however, the correct pick-up is not realized, adjustments can be made by changing the tension of the armature restraining spring. This is accomplished by bending the projecting spring holder on the armature stop. The spring tension should not be so low that the back contact wipe is sacrificed.

CONTACTS

The contacts of the HMA relay are self-aligning and should not require adjustment. If it becomes necessary to clean the silver contacts, use a thin fine file. Never use such material as emery paper or crocus cloth as they imbed non-conducting material in the contact surface.

INTERRUPTING RATINGS OF CONTACTS IN AMPERES

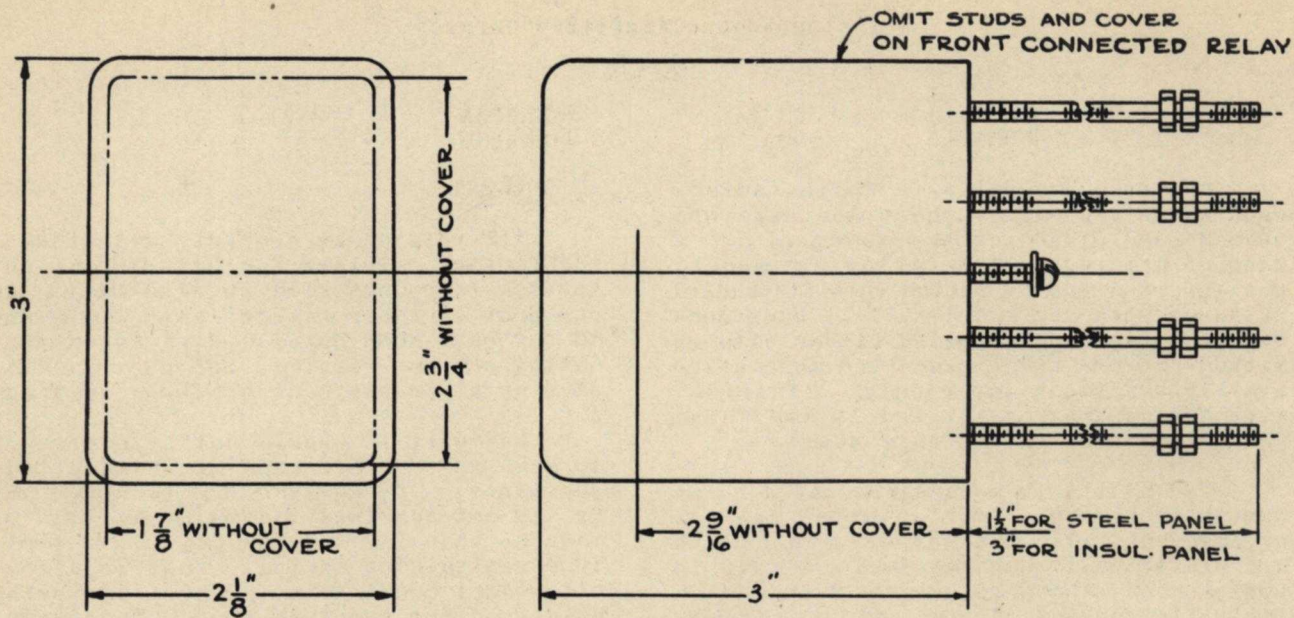
Volts		Single Break	Double Break
A-C	D-C		
NONINDUCTIVE CIRCUITS			
...	6-32	15	30
...	48	10	20
...	125	1.5	3
...	250	0.25	0.5
115	...	20	30
230	...	13	25
460	...	5	10
INDUCTIVE CIRCUITS			
...	6-32	7.5	20
...	48	3	7.5
...	125	0.75	1.0
...	250	0.1	0.25
115	...	15	15
230	...	10	10
460	...	5	5

BURDENS

Volts	Frequency Cycles or D-c	D-c Resistance Ohms (25 C)	Watts (25 C)	Volt-amperes
6	D-C	5.5	7
12	D-C	21	7
24	D-C	81	7
32	D-C	146	7
48	D-C	335	7
125	D-C	2160	7
115	60	270 (d-c)	5.5	9.5
230	60	1030 (d-c)	5.5	9.5

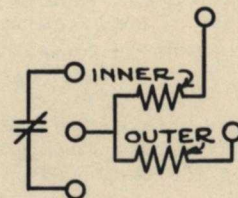
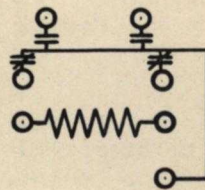
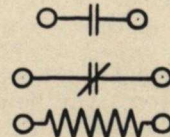
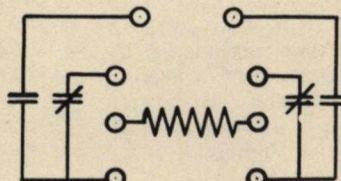
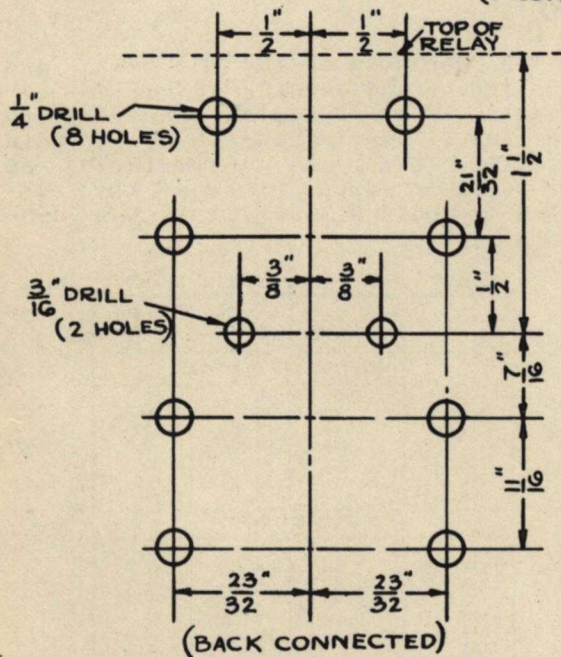


SCHENECTADY, N.Y.



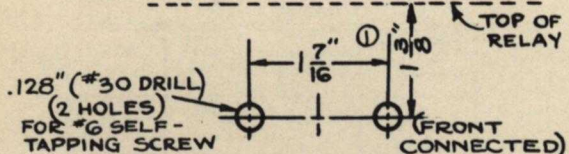
OUTLINE

(FRONT & BACK CONNECTED RELAYS).



INTERNAL CONNECTIONS

(FRONT VIEW)



PANEL DRILLING (FRONT VIEW)

FIG. 1 OUTLINE, PANEL DRILLING, AND INTERNAL CONNECTIONS OF TYPES HMA11A-B, HMA12A-B, HMA13A-B, AND HMA15A RELAYS (K-6209564)