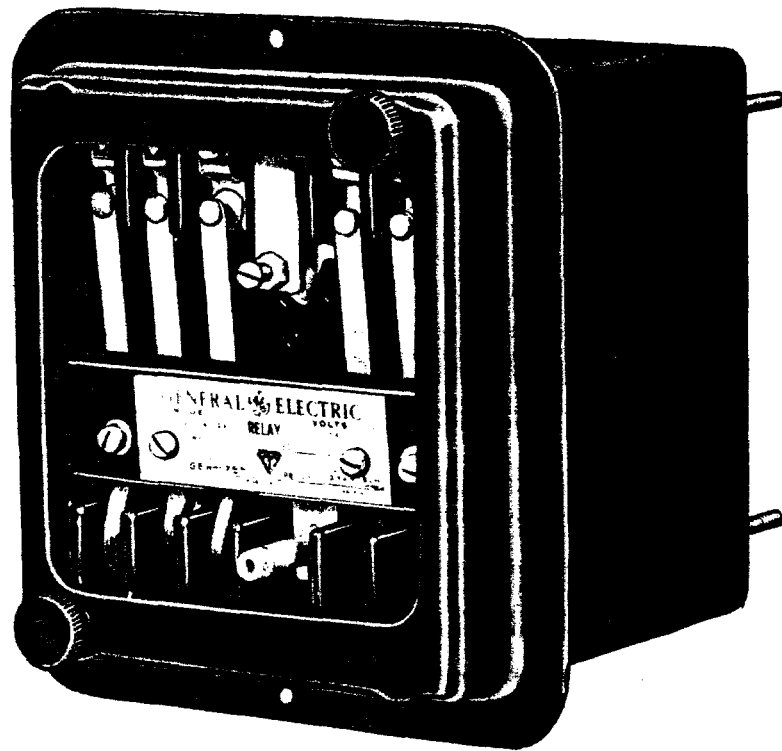




INSTRUCTIONS

GEH-1755B

MULTICONTACT AUXILIARY RELAY



Type HFA11A

LOW VOLTAGE SWITCHGEAR DEPARTMENT

GENERAL  ELECTRIC

GEH-1755 Multi-Contact Auxiliary Relays Type HFA

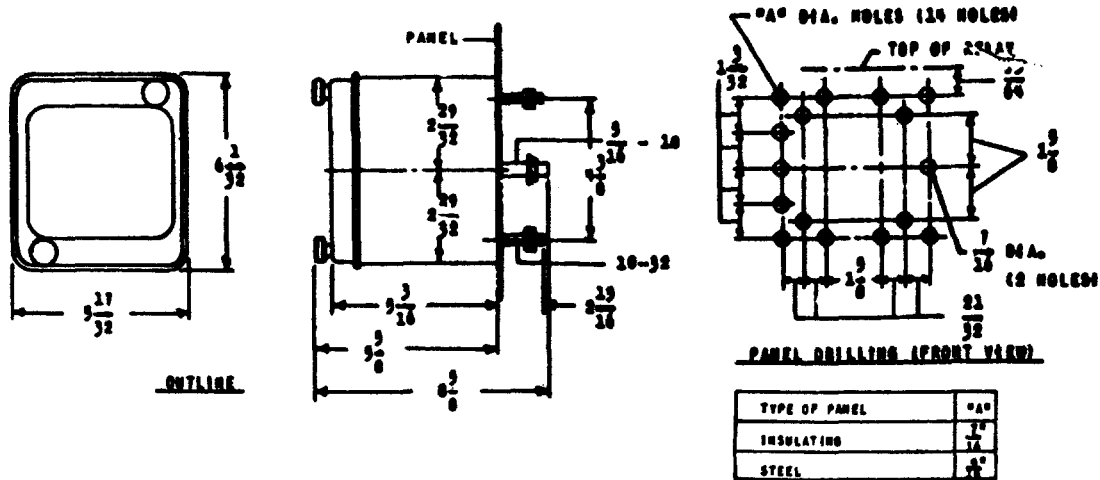


Fig. 1 Outline and Panel Drilling Dimensions for Type HFA Relay in Standard Case.

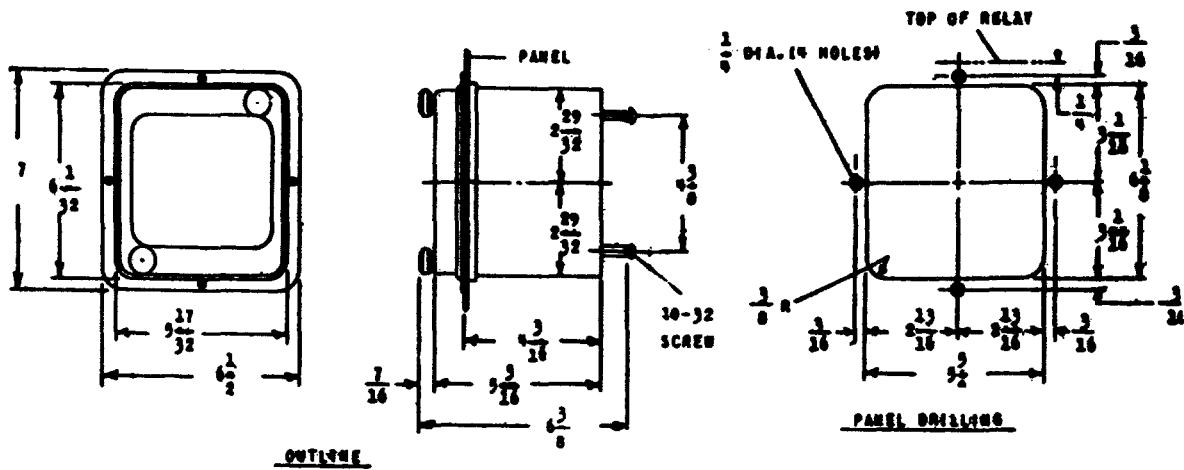


Fig. 2 Outline and Panel Drilling Dimensions for Type HFA Relay in "F" Case.

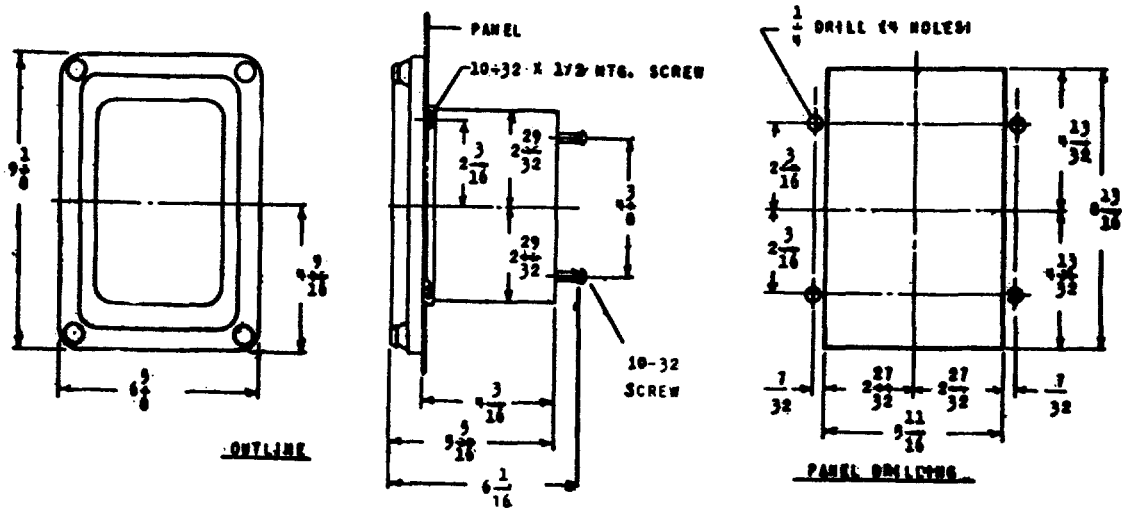


Fig. 3 Outline and Panel Drilling Dimensions for Type HFA Relay in "E" Case.

(K-6375767) Fig. 1

(K-6375768) Fig. 2

(K-6375766) Fig. 3

MULTI-CONTACT AUXILIARY RELAYS

TYPE HFA

INTRODUCTION

The Type HFA relays are instantaneous, multi-contact self-resetting, hinged armature auxiliary relays designed for use where a number of operations must be performed simultaneously. They are available with six electrically separate contact circuits adaptable for either circuit-opening or circuit-closing applications. The moving contacts of the relay are operated by the hinged armature which is actuated by the operating coil and restrained by an adjustable control spring. All models are designed for instantaneous dropout.

The relays are mounted in a molded compound case suitable for surface mounting only. The addition of a steel flange makes the case suitable for semiflush panel mounting. There are two types of flange available which allow mounting of the relay either with its own cover or with a cover that matches those used on the size S-1 case for drawout relays.

The transparent cover attaches to the case or flange and also carries the reset mechanism when one is required. Each cover screw has provision for a sealing wire. The case has stud connections at the top and bottom for external connections.

Unless the relays are ordered with specific contact arrangement, they are shipped with six circuit closing contacts (code 60) as shown on cover. The contact arrangement can be easily changed to provide any of the combinations shown in Fig. 4. (See Adjustments.)

RATINGS

The relays are available with coil ratings for standard voltages up to 575 volts for 25, 50 or 60 cycles a-c and up to 250 volts d-c.

The current closing rating of the contact is 12 amperes. The current carrying rating is 12 amperes continuously or 30 amperes for one minute. The interrupting ratings (non-inductive circuits) for the various voltages are as follows:

D-C		A-C	
Volts	Amps	Volts	Amps
12	30	115	30
24	15	230	20
32	10	460	15
48	8	575	10
125	3		
250	1		

BURDENS

D-C Coils		A-C Coils		
Watts		Cycles	Volt Amps	Watts
Cold	Hot			
8.5	6.5	25	10	4
		50	23	9
		60	32	12

RECEIVING, HANDLING AND STORAGE

These relays, when not included as a part of a control panel, will be shipped in cartons designed to protect them against damage. Immediately upon receipt of the relay, an examination should be made for any damage sustained during shipment. If injury or damage resulting from rough handling is evident, a claim should be filed at once with the transportation company and the nearest Sales Office of the General Electric Company notified promptly.

Reasonable care should be exercised in unpack-

ing the relay in order that none of the parts are injured or the adjustments disturbed.

If the relays are not to be installed immediately, they should be stored in their original cartons in a place that is free from moisture, dust and metallic chips. Foreign matter collected on the outside of the case may find its way inside when the cover is removed and cause trouble in the operation of the relay.

INSTALLATION

LOCATION

The location should be clean and dry, free from dust and excessive vibration, and well lighted to facilitate inspection and testing.

MOUNTING

The relays should be mounted on a vertical surface. Surface mounting on steel panels require an insulating bushing for each terminal. These

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.

GEH-1755 Multi-Contact Auxiliary Relays Type HFA

are supplied with the relay on request. The outline and panel drilling dimensions are shown in Fig. 1 to Fig. 3 inclusive.

CONNECTIONS

The internal connection diagram is shown in Fig. 5.

ADJUSTMENTS

PICKUP

The relays are adjusted at the factory to pick-up at 80 percent of rating for a-c coils, and 60 percent of rating for d-c coils. Normally these adjustments should not change; if it is necessary to readjust the relay the knurled adjusting nut should be lifted 1/16 inch, turned clockwise to raise pick-up or counter clockwise to lower pickup, and then reseated in the hexagonal groove in the armature tailpiece.

MAINTENANCE

CONTACT CLEANING

In cleaning fine silver contacts, a flexible burning tool should be used. This consists of a flexible strip of metal with an etched roughened surface, resembling in effect a superfine file. The polish-

ing action is so delicate that no scratches are left, yet corroded material will be removed rapidly and thoroughly.

CONTACTS

The contacts should not require readjustment since they are self-aligning.

Any contact circuit can be changed from circuit opening to circuit closing, or vice versa, by removing the fixed contact, turning it over and replacing it. After the change the contacts should be checked to see that all circuit closing contacts make simultaneously when the relay is operated by hand, and that all circuit opening contacts reclose simultaneously when the relay is allowed to dropout. All moving contacts should have at least 3/64 inch wipe when in their operated position. It may be necessary to bend the moving contact arms to realize these requirements.

The burnishing tool described is included in the standard relay tool kit obtainable from the factory.

RENEWAL PARTS

It is recommended that sufficient quantities of renewal parts be carried in stock to enable the prompt replacement of any that are worn, broken, or damaged.

When ordering renewal parts, address the near-

est Sales Office of the General Electric Company, specify quantity required, name of part wanted, and give complete nameplate data, including serial number. If possible, give the General Electric Company requisition number on which the relay was furnished.

RELAY TYPE	CODE†	CONTACT ARRANGEMENT					
		1	2	3	4	5	6
HFA11A	60	a	a	a	a	a	a
	31	a	a	a	b	a	a
	42	a	a	b	b	a	a
	33	a	a	b	b	b	a
	24	a	b	b	b	b	a
	15	a	b	b	b	b	b
	06	b	b	b	b	b	b
a = NORMALLY OPEN CONTACT b = NORMALLY CLOSED CONTACT † = EACH RELAY IS AVAILABLE ONLY WITH THE CONTACT CODES SPECIFIED							

Fig. 4 Contact Arrangement Codes

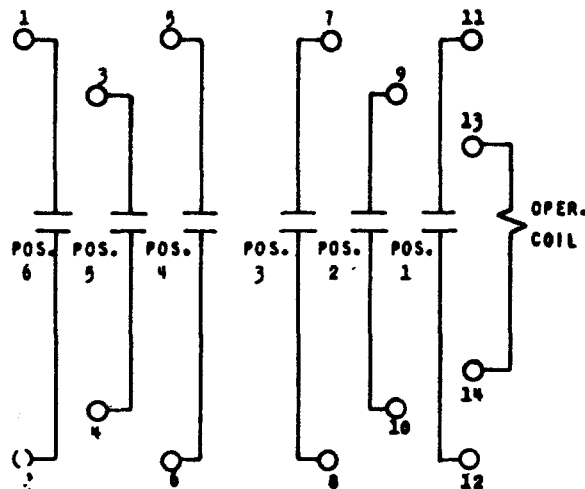


Fig. 5 Type HFA11A Relay Internal Connections

(K-6375833) Fig. 4

(K-6375768) Fig. 5