INSTRUCTIONS Switchgear

INSTANTANEOUS AUXILIARY RELAYS

HGA11H, HGA11J, AND HGA11K

INTRODUCTION

These relays are double-pole, hinged armature type relays suitable for application wherever a high-speed, low energy device is required. Details of construction of the individual relays are given in the paragraphs entitled DESCRIPTION.

RATINGS

These relays are available with coil ratings for standard voltages up to 575 volts at 25, 50 or 60 cycles a-c and up to 250 volts d-c. The d-c relays are also available with coil current ratings up to 5 amperes.

The current closing rating of the contacts is 30 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	24	48	125	250	115	230	460
Amps	12	6	3	1	25	15	5

BURDENS

D-C COILS				A-C COILS			
Coil Rating		R	Watts	Coil Rating		Z*	Volt-
Volts	Amps	Ohms		Volts	Cycles	Ohms	Amps.
250		12900	4.84	575	60	22000	15.0
125		3250	4.82	460	60	14200	14.9
48		500	4.61	230	60	3800	13.9
32		205	4.97	115	60	1000	13.2
24		130	4.43	575	50	26700	12.4
12		35	4.11	460	50	17000	12.4
6		9	4.00	230	50	4250	12.4
	1	4.43	4.43	115	50	1020	13.0
	2	1.10	4.40	575	25	33500	9.87
	3	0.46	4.14	460	25	28300	7.50
	4	0.244	3.90	230	25	7070	7.50
	5	0.16	4.00	115	25	1768	7.45

* Impedance measured with relay energized.

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 unpacking 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.

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.

SWITCHGEAR DEPARTMENT,
GENERAL ELECTRIC
PHILADELPHIA, PA.

DESCRIPTION

The contact circuits of these auxiliary relays are closed or opened by moving contact arms controlled by a hinge-type armature, which in turn is actuated by the operating coil and restrained by an adjustable control spring.

The armature, magnet assembly and contact assemblies are all mounted on a compact molded Textolite base provided with a mounting strap. The relays are front connected. The three types differ only in the manner in which they are mounted. The cover of the Type HGA11J relay is suitably notched to provide for the entrance of connection leads.

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 relay should be mounted on a vertical surface. The figures showing the outline and panel drilling dimensions are given in the following table.

RELAY	OUTLINE	PANEL DRILLING	MOUNT FROM
HGA11H	Fig. 4	Fig. 2	Rear
HGA11J	Fig. 5	Fig. 2	Rear
HGA11K	Fig. 6	Fig. 3	Front

CONNECTIONS

The internal connection diagram for these relays is shown in Fig. 1.

ADJUSTMENTS

The relays have been adjusted at the factory to operate at 60 percent of rating (cold) if for d-c, or 80 percent of rating if for a-c. This adjustment can be restored if necessary by shifting the control spring to a different notch in the armature tailpiece. A coarser adjustment may be obtained by shifting the control spring to a different hole in anchor pin. The spring tension should not be set so low that the "b" contact wipe is lost.

MAINTENANCE

PERIODIC TESTING

Auxiliary relay equipment should be checked for operation of regular intervals, preferably at the same time the associated devices are inspected.

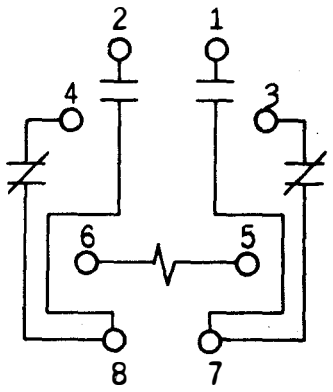
CONTACT CLEANING

For cleaning fine silver contacts, a flexible burnishing tool should be used. This consists of a flexible strip of metal with an etched roughened surface, resembling in effect a superfine file. The polishing action is so delicate that no scratches are left, yet corroded material will be removed rapidly and thoroughly.

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

RENEWAL PARTS

When ordering renewal parts, address the nearest 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.



(K-6154155) Fig. 2

Fig. 1 Type HGA11H, HGA11J and HGA11K Relays, Internal Connections (Front View).

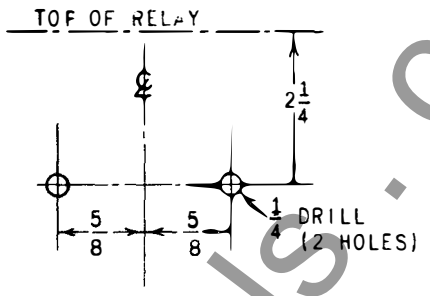


Fig. 2 Panel Drilling Dimensions for Type HGA11H and HGA11J Relays.

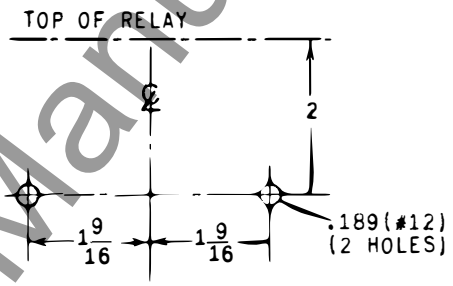
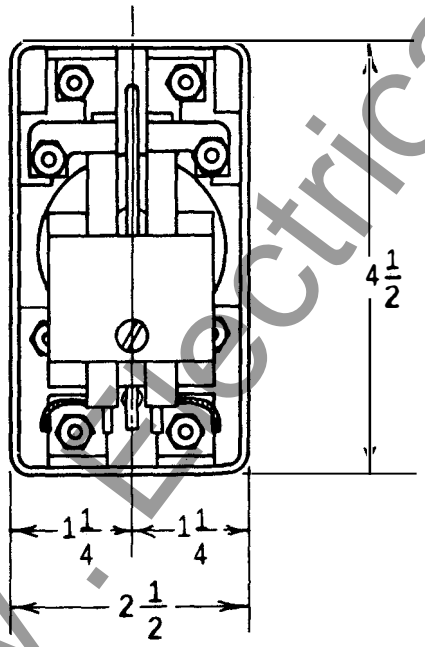
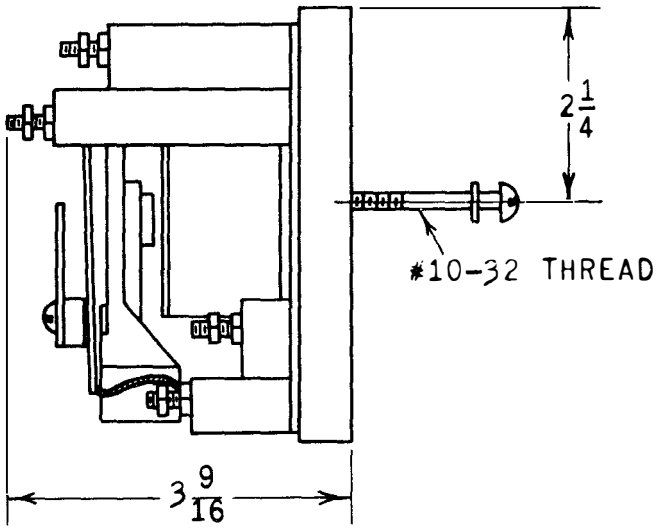


Fig. 3 Panel Drilling Dimensions for Type HGA11K Relay.

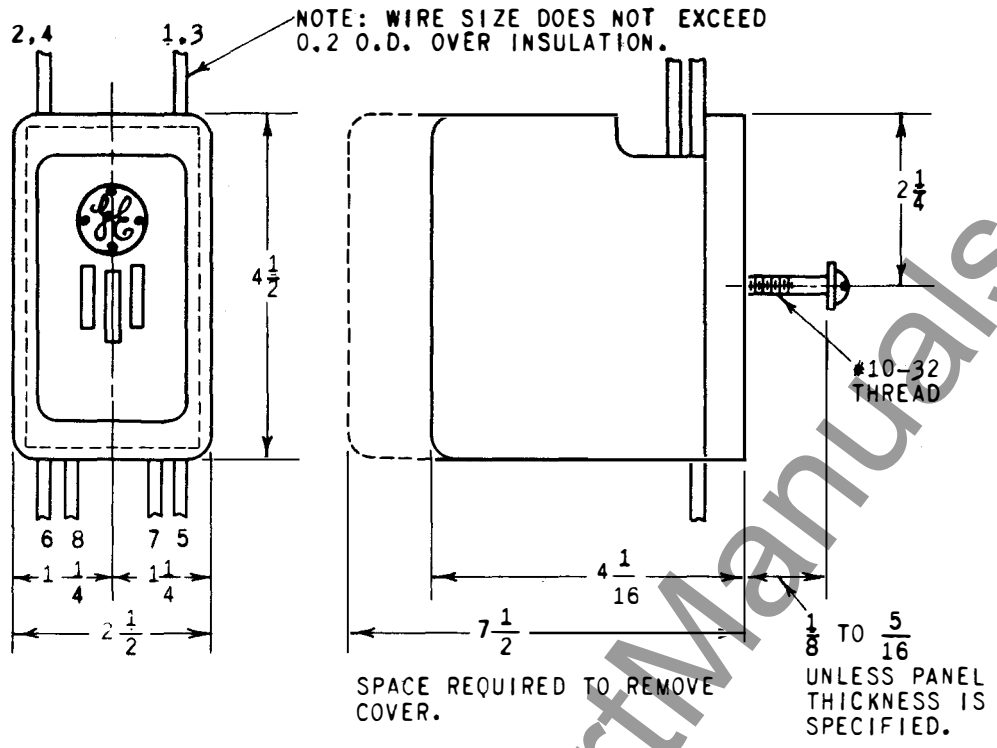
(K-6154317) Fig. 3





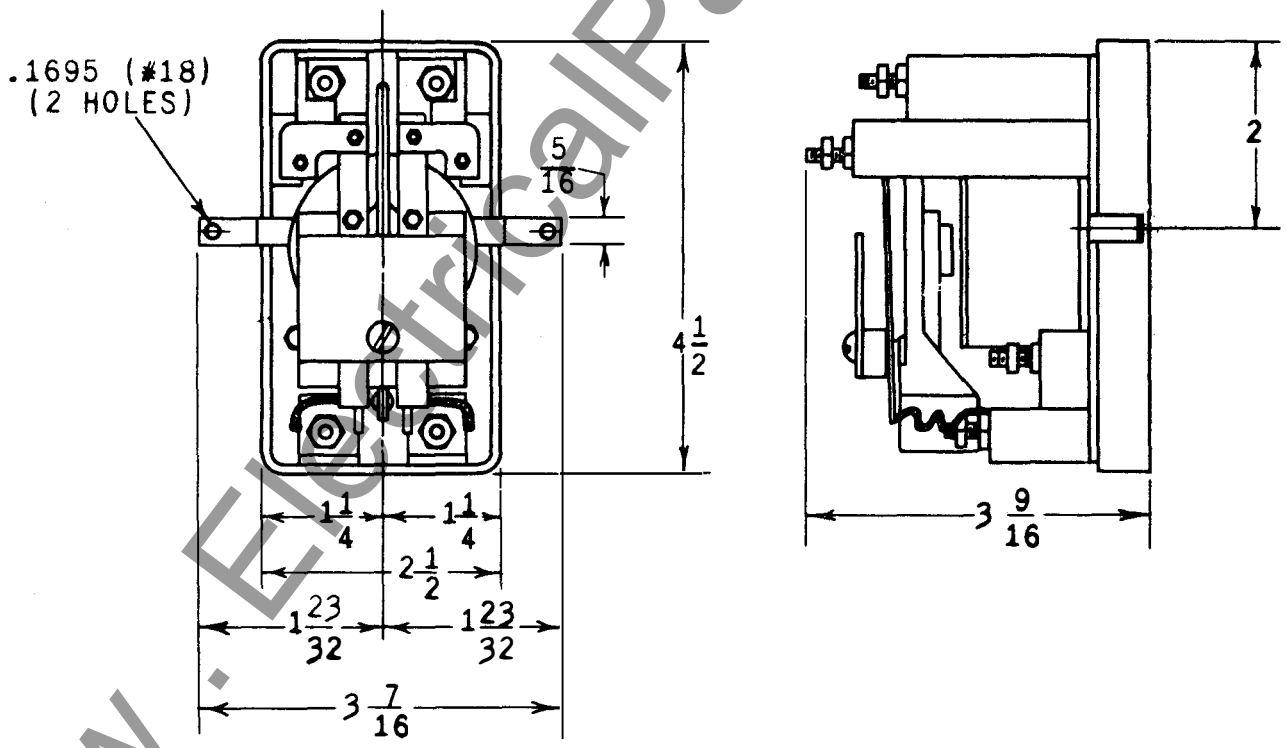
(K-6154155) Fig. 4

Fig. 4 Outline Dimensions for Type HGA11H Relay.



(K-6375627) Fig. 5

Fig. 5 Outline Dimensions for Type HGH11J Relay.



(K-6154317) Fig. 6

Fig. 6 Outline Dimensions for Types HGH11K Relays.