



GE Power Management

RELAYS

INSTANTANEOUS AUXILIARY RELAYS TYPE

HGA11N

HGA11R

GE Power Management

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INSTANTANEOUS AUXILIARY RELAYS

TYPE HGA11N AND HGA11R

INTRODUCTION

The relays Type HGA11R and HGA11N covered by these instructions consist of one or two hinged armature units assembled in a single unit case of drawout construction.

RATINGS

The Type HGA11N and HGA11R relays are available with coil ratings for standard voltages up to 230 volts at 25, 50, or 60 cycles a-c, and up to 250 volts d-c.

The contacts will make and carry 12 amperes continuously or 30 amperes for 1 minute, and will interrupt the currents listed in the following table:

	D. C.				A. C.		
Volts	24	48	125	250	115	230	460
Amps	12	6	1.5	0.5	25	15	5

BURDENS

D-C COILS			A-C COILS			
Coil Rating Volts	R Ohms	Watts	Coil V	Rating Cyc.	Z Ohms	Volt-Amps**
250	12,900	4.84				
125	3,250	4.82				
48	500	4.61	230	60	3,800	13.9
32	205	4.97	115	60	1,000	13.2
24	130	4.43				
12	35	4.11				
6	9	4.00	230	50	4,250	12.4
			115	50	1,020	13.0
			230	25	7,070	7.5
			115	25	1,768	7.45

** Armature in the closed position. With the armature in the open position, the burdens are increased by approximately 100 percent of the values listed above.

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 a relay, examine it for any damage sustained in transit. If injury or damage resulting from rough handling is evident, file a damage claim at once with the transportation company and promptly notify the nearest General Electric Apparatus Sales Office.

Reasonable care should be exercised in un-

packing 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.

DESCRIPTION

The Type HGA11R relay consists of a single hinged armature unit mounted in a single ended, single unit drawout case. The Type HGA11N has two hinged armature units mounted in a double end single unit case. The hinged armature unit has double pole, double throw contacts that are opened or closed by moving contact arms controlled by a

hinge-type armature. The flat armature is attracted to a polepiece by the magnetic field of an operating coil and is restrained by an adjustable control spring. The armature, magnet assembly and contact assemblies are all mounted on a molded compound base and the unit or units are fastened to the relay cradle.

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.

To the extent required the products described herein meet applicable ANSI, IEEE and NEMA standards; but no such assurance is given with respect to local codes and ordinances because they vary greatly.

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 outline and panel drilling dimensions are shown in Fig. 3 for the Type HGA11N relay and Fig. 4 for the Type HGA11R relay.

CONNECTIONS

The internal connection diagrams for the HGA11N and HGA11R relays are shown in Figs. 1 and 2 respectively.

One of the mounting studs or screws should be permanently grounded by a conductor not less than No. 12 B & S gage copper wire or its equivalent.

Optional shorting bars for normally closed contacts are provided on both types of relays. If a continuous circuit through a normally closed contact is desired even when the connection plug is removed from the relay, shorting bars should be used. A change in internal connections must be made as indicated by the dotted lines in Figs. 1 and 2. For example, if shorting bars are desired for the right N. C. contact of the right unit (Fig. 1), it is necessary to change the connection from stud 10 on the cradle block to stud 9. Studs 8 and 9 instead of 8 and 10 are then used as external connection points, to the circuit to be controlled.

MAINTENANCE

Auxiliary relay equipment should be checked for operation at regular intervals, preferably at the same time that the associated protective devices are inspected. The units should be checked for pick-up and drop-out values. Normally these settings should not require readjustment but if changes are necessary the points discussed under ADJUSTMENTS should be observed.

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.

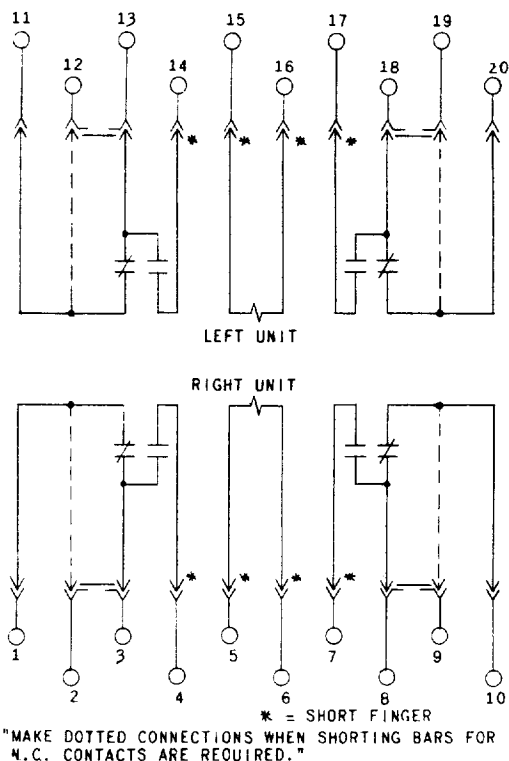


Fig. 1 Internal Connections For Type HGA11N Relay

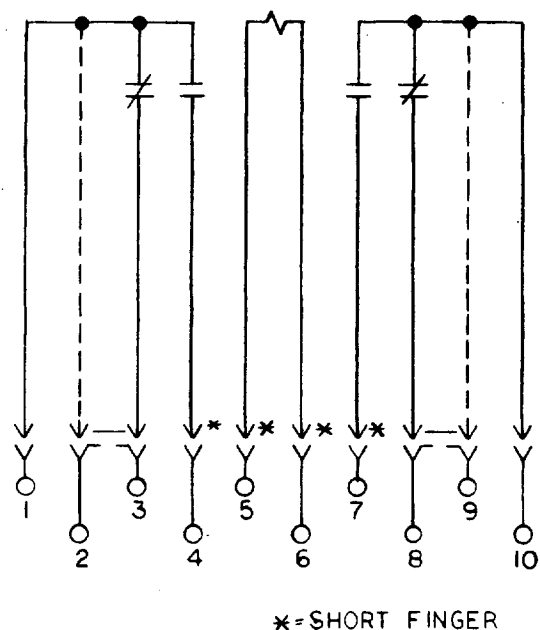


Fig. 2 Internal Connections For Type HGA11R Relay

and thoroughly. The flexibility of the tool insures the cleaning of the actual points of contact. Sometimes an ordinary file cannot reach the actual points of contact because of some obstruction from some other part of the relay.

Fine silver contacts should not be cleaned with knives, files, or abrasive paper or cloth. Knives or files may leave scratches which increase arcing and deterioration of the contacts. Abrasive paper or cloth may leave minute particles of insulating abrasive material in the contacts and thus prevent closing.

The burnishing tool described above can be obtained from the factory.

ADJUSTMENTS

The relays for direct current service are adjusted at the factory to pick up at 60 percent of their

rating when cold and 80 percent or slightly less after continuous service. The relays for alternating current service are adjusted to pick-up at 80 percent of their rating or slightly less. This pickup value will not change during continuous service since normal heating of the operating coil has little effect on the total a-c impedance. Normally it should not be necessary to readjust the control spring which is hooked on to the notched extension of the armature. If the proper adjustment does not exist, the spring tension can be altered by shifting it to a different notch. It should not be set so low that the "b" contact wipe is lost.

The contacts have from 1/32" to 1/16" wipe and should not require readjustment. If readjustment by bending of the moving contact arms is required, relay pickup value should be rechecked. Excessive normally open contact wipe may cause two step armature operation.

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 nearest Sales Office of the General Electric Company, specifying the quantity required and describing the parts by catalogue numbers as shown in Renewal Parts Bulletin No. GEF-2623.

Instantaneous Auxiliary Relays Type HGA

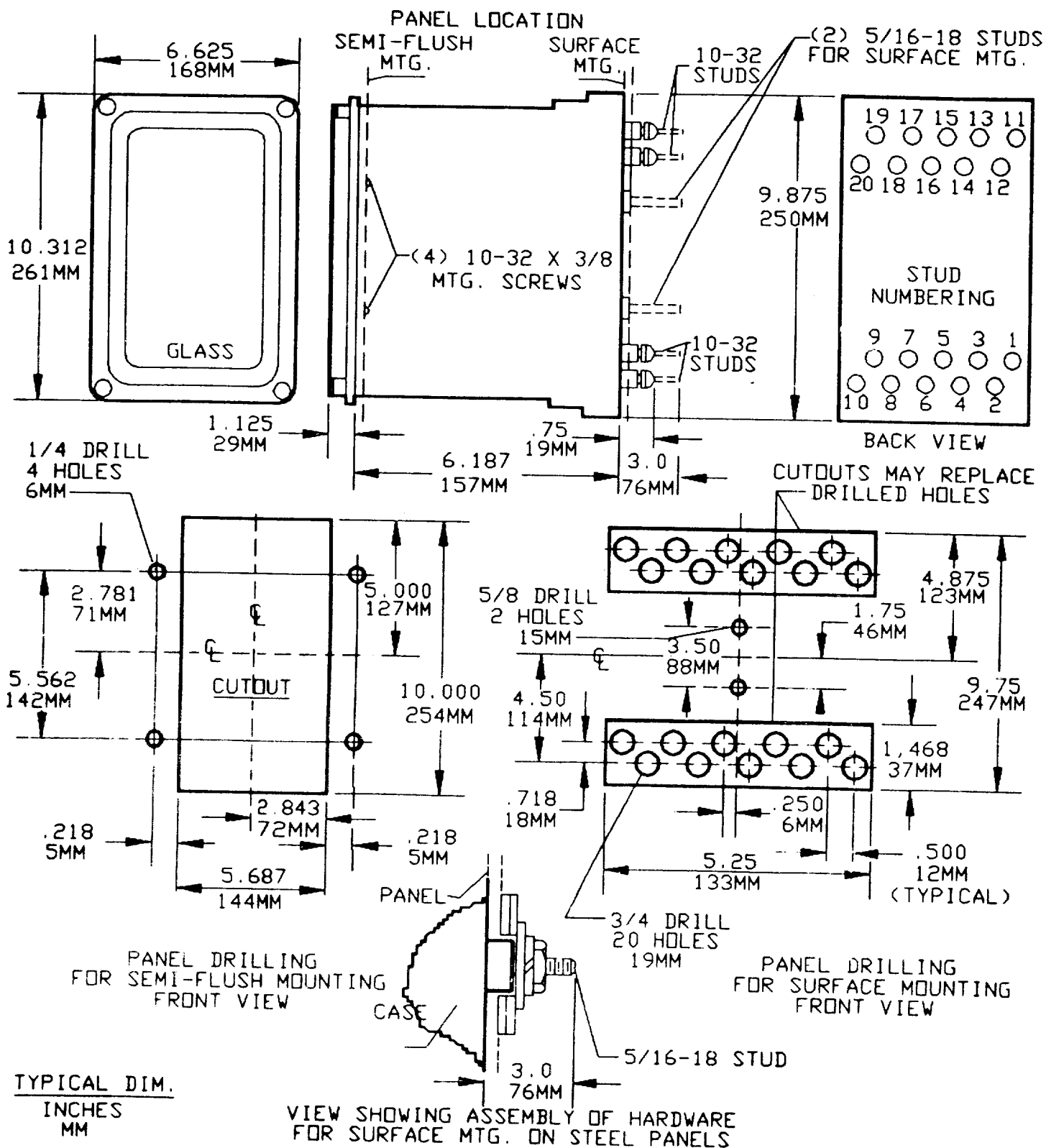


Figure 3 (K-6209272 [8]) Outline and Panel Drilling Dimensions for Type HGA11N Relay

Fig. 4 (K-6209271)

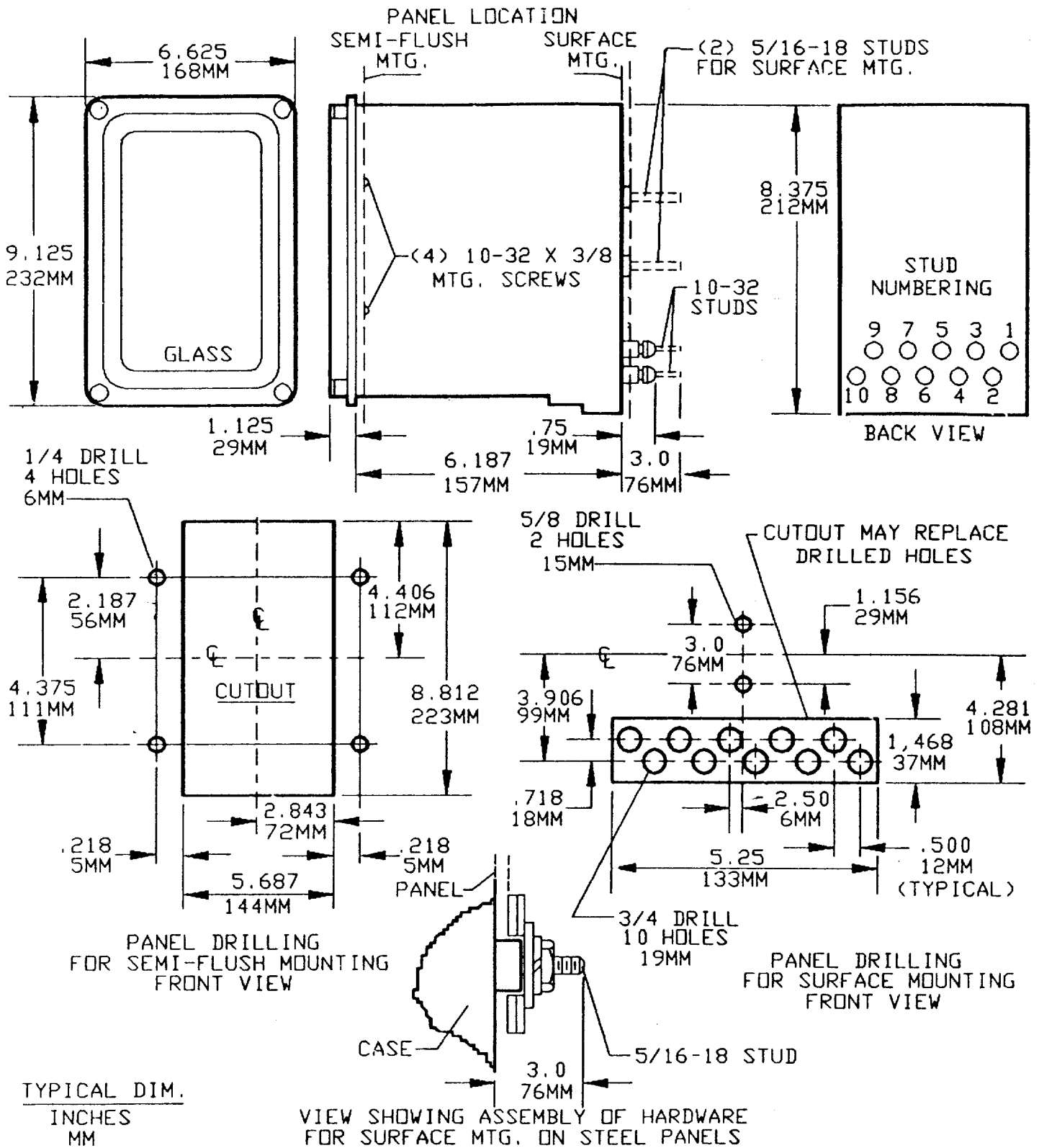


Figure 4 (K-6209271 (8)) Outline And Panel Drilling Dimensions For Type HGAIIIR Relay



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