INSTRUCTIONS

GEI-21903 F
Supersedes GEI-21903 E
Insert Booklet GEI-1753

UNDERCURRENT AND OVERCURRENT RELAYS

Types IAC59A, IAC59B, and IAC59C

GENERAL ELECTRIC

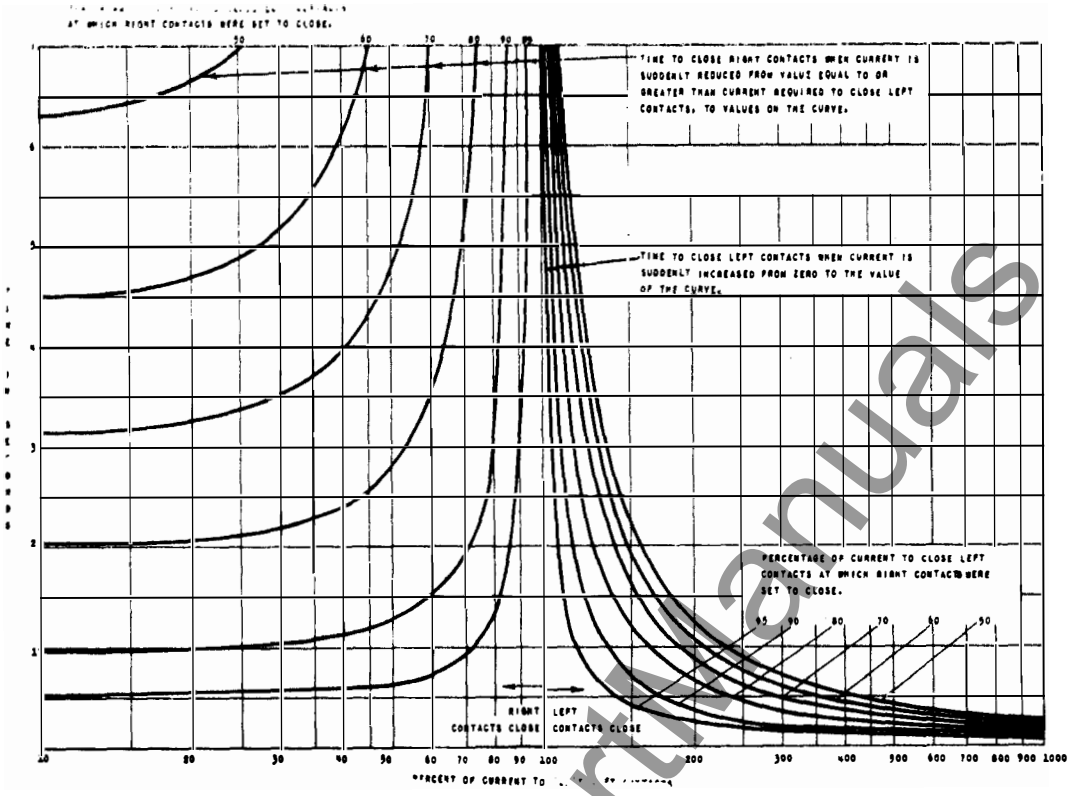


Figure 1. (K-6400264) Time-Current Characteristics for Type IAC59A and IAC59C Relays.

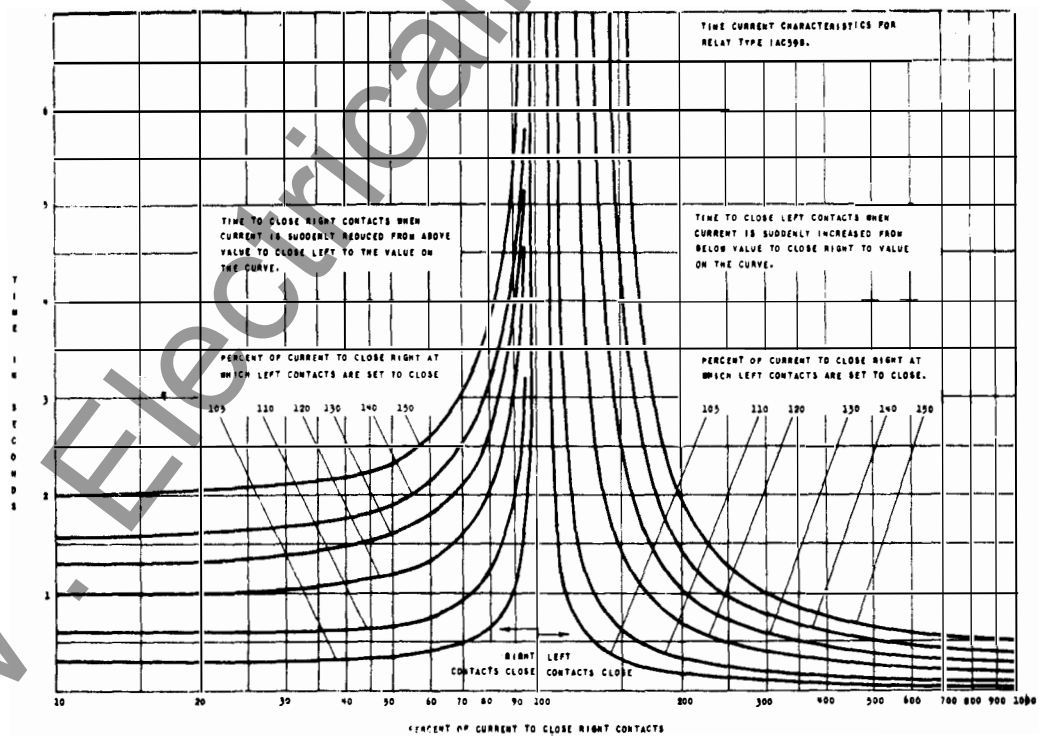


Figure 2. (K-6400289) Time-Current Characteristics for Type IAC59B Relay

UNDERCURRENT AND OVERCURRENT RELAYS TYPE IAC

INTRODUCTION

These instructions are a supplement to instruction book GEH-1753 which is included in this book. The combination of the two form complete instructions for the Types IAC59A, IAC59B and IAC59C relays.

The Type IAC59A relay is similar in construction and operation to the Type IAC51A relay, described in the included instructions, except that it has double throw contacts with a seal-in unit for each contact. The left-hand contacts are adjusted to close at tap value of current while the right-hand contacts may be adjusted to close from 50 to 95 percent of tap value.

The Type IAC59B relay is similar to the Type IAC59A relay except that it is a short time relay adjusted to close its right-hand contacts when the current is reduced to tap value. The left-hand contact may be adjusted to close from 105 to 150 percent of tap value.

The Type IAC59C relay is similar to the Type IAC59A relay except that the seal-in units are omitted.

BURDENS

Burdens for the various relay ratings at minimum pick-up current and 60 cycles are given in the following table:

Relay Type	Tap Range	Min-Pick-up	Cont. Current	Volt-Amps	Imp. Ohms	P.F.
IAC59A	0.5-2	0.5	5	1.17	4.71	.27
IAC59C	1.5-6	1.5	15	1.17	0.52	.25
	4-16	4.0	15	1.36	0.08	.38
IAC59B	0.5-2	0.5	2.5	4.72	18.90	.29
	1.5-6	1.5	7.5	4.68	2.08	.26
	4-16	4.0	15	4.92	0.31	.27

INSTALLATION

MOUNTING

The outline and panel drilling dimensions for these relays are shown in Fig. 6 of this supplement.

CONNECTIONS

Internal connection diagrams are shown in fig. 3 and Fig. 4 inclusive.

ADJUSTMENTS AND TESTS

With connections as shown in Fig. 5 pickup adjustments and time checks may be made.

The relay is energized for pickup or dropout check by closing S1. Unless otherwise requested the IAC59A is set at the factory to close its right contacts at 80% of tap value and the IAC59B is set to close its left contacts at 110% of tap value. If it is desired to change this percentage or contact spread, the following procedure is necessary.

Turning the spring-adjusting ring, as described under "current setting" of the included instructions, affects primarily the current required to close the left contacts. Rotating the right-hand moving contact, after loosening the clamping screws holding it in place, changes the current required to close the right contacts. Each of these adjustments affects the other, hence simultaneous adjustment for closing left and closing right must be made to obtain the desired contact spread.

The relays are adjusted at the factory to give the time characteristics shown in Fig. 1 and Fig. 2. The time may be changed slightly by changing the position of the permanent magnet on its supporting shelf. In general, moving the magnet toward the back of the relay decreases its time of operation.

To check overcurrent time, suddenly apply the desired preset current to the relay by closing S1. The time read on the timer is that required to close the left contacts.

To check the undercurrent time close S1 and S2 and, using R1, adjust the current to a value greater than that required to close the left-hand contacts. With S2 open, use R2 to set the current to the desired value below the current required to close the right-hand contacts. Then with S1 and S2 both closed, open S2. The time read on the timer is that required for the right contacts to close when the current is suddenly reduced from a value sufficient to close the left-hand contacts, to a predetermined value.

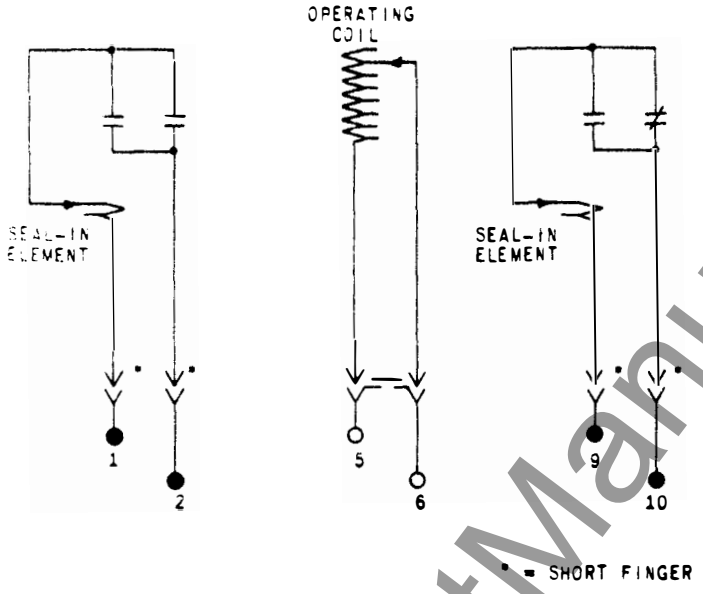


Figure 3. (K-6400242) Type IAC59A and IAC59B Relays Internal Connections (Front View).

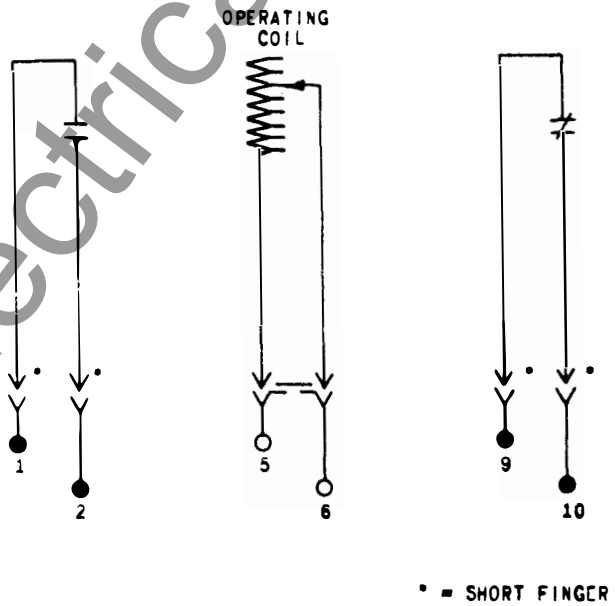


Figure 4. (K-6400432) Type IAC59C Relay Internal Connections (Front View).

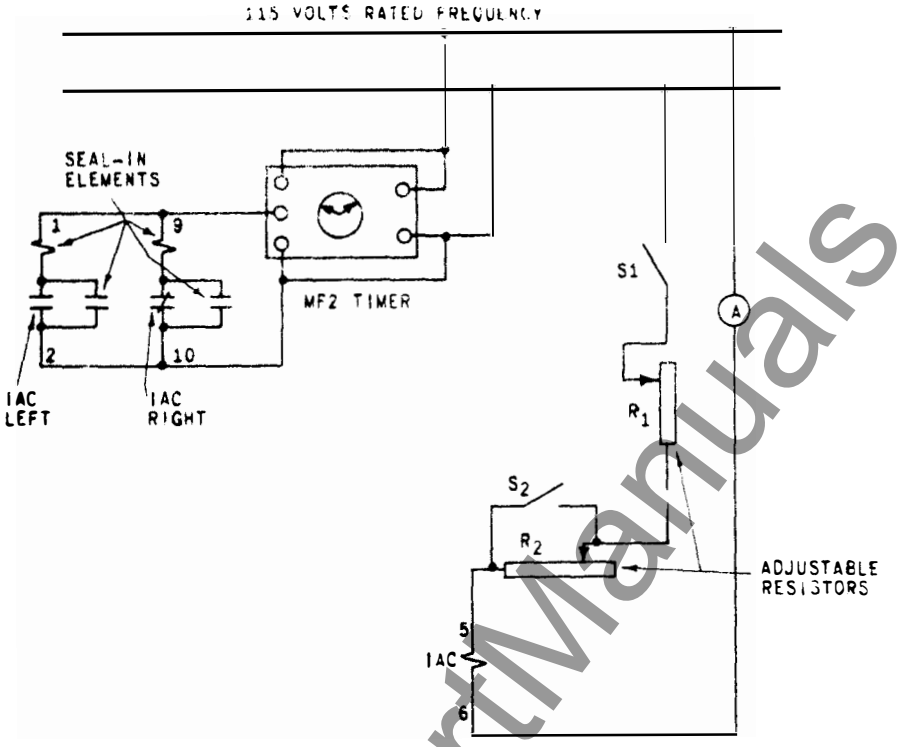
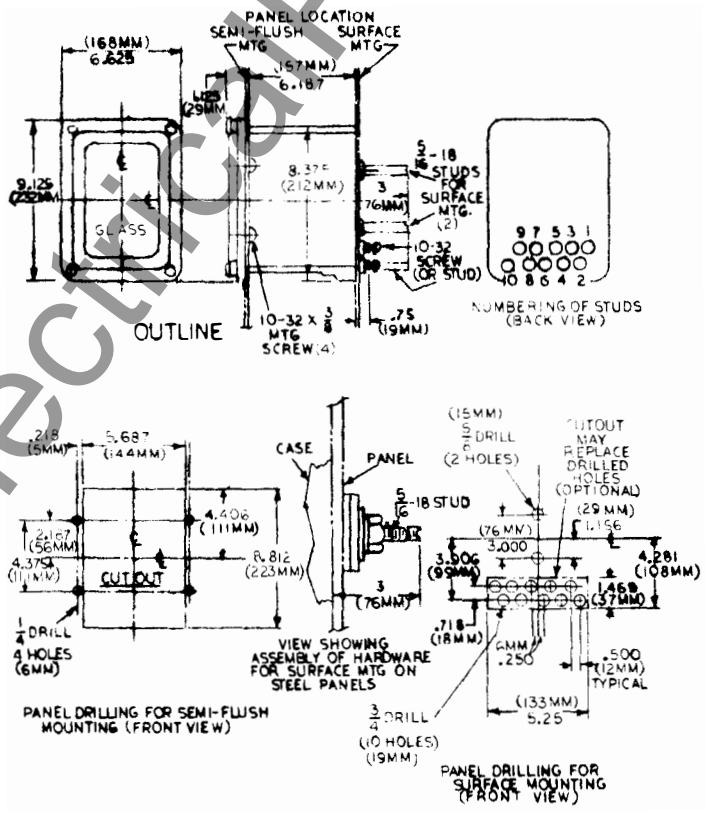


Figure 5. (K-6400302) Type IAC59A and IAC59B Relays, Test Connections



* Figure 6. (6209271-6) Outline and Panel Drilling for the Type IAC59A Relay

*Indicates revision

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