



## *INSTRUCTIONS*

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# **OVERVOLTAGE RELAYS**

**Types IAV57A, IAV58B, and IAV60B**

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# Overvoltage Relays Type IAV

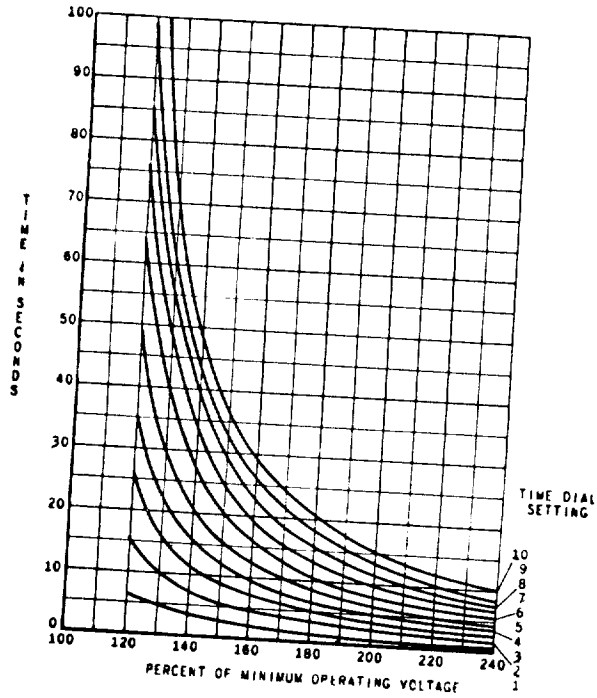
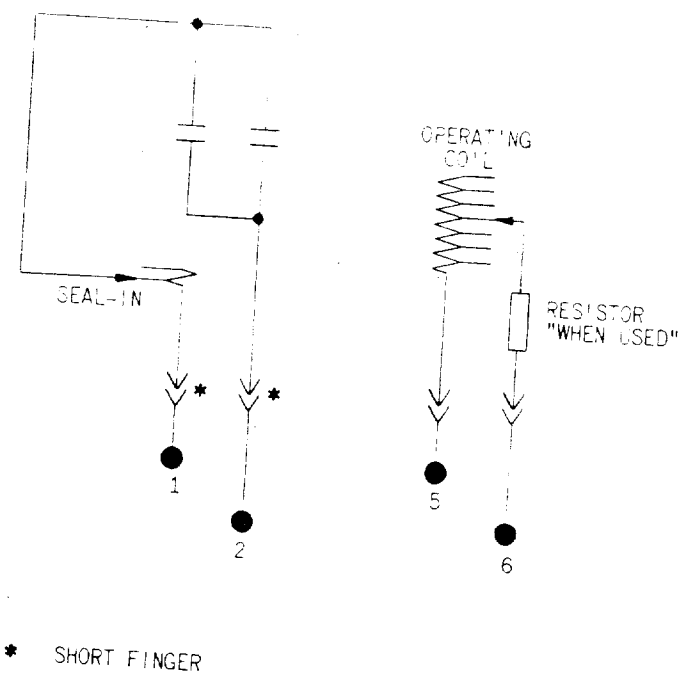


Fig. 1 Time-Voltage Characteristics for the Type IAV57A Relay



\* Fig. 2 Type IAV57A Relay, Internal Connections (Front View)

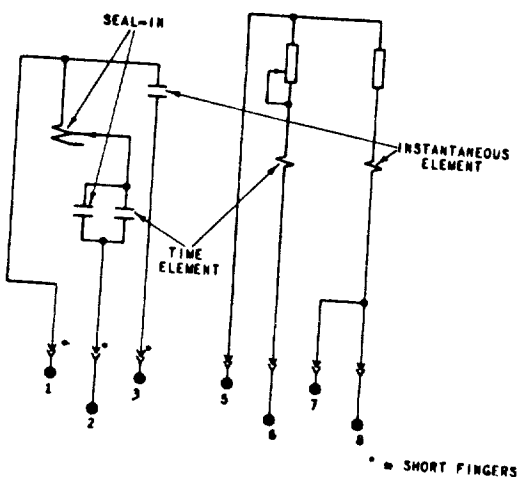


Fig. 3 Type IAV58B Relay, Internal Connections (Front View)

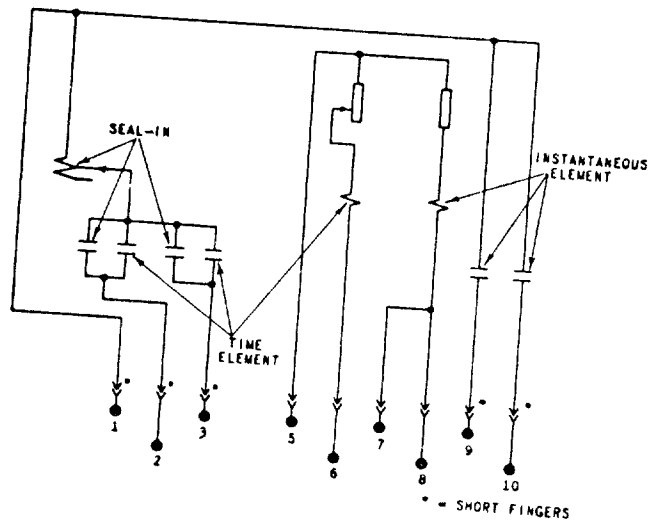


Fig. 4 Type IAV60B Relay, Internal Connections (Front View)

\* Indicates Revision

Fig. 1 (K-6400165 [1])

\* Fig. 2 (K-6209664 [6])

Fig. 3 (K-6306988 [2])

Fig. 4 (K-6400190 [2])

# OVERVOLTAGE RELAYS

## TYPE IAV

### INTRODUCTION

These instructions are a supplement to Instruction Book GEH-1751 which is included in this book. The combination of the two form instructions for the Type IAV57A, IAV58B and IAV60B relays.

These relays are similar in construction and operation to the Type IAV51A relay. Time curves are shown in Fig. 1.

The Type IAV57A relay differs in that it has longer time characteristics as shown in Fig. 1. An internal resistor is added to the 230 volt relay.

The Type IAV58B and IAV60B relays have an instantaneous unit to provide immediate tripping on very high overvoltage. They are also provided with an external capacitor to compensate for frequency changes. The Type IAV60B relay is also provided with two circuit closing contacts.

#### BURDENS

Burdens for the Type IAV57A relay are given in the following tables.

#### BURDENS AT 115 VOLTS AND 60 CYCLES

TAP	Volt Amps.	Power Factor	Watts
140	0.7	.33	.23
120	1.0	.31	.31
105	1.3	.31	.40
93	1.7	.29	.50
82	2.2	.32	.70
70	3.1	.29	.90
60	3.6	.30	1.10
55	5.0	.30	1.5

#### BURDENS AT 115 VOLTS AND 50 CYCLES

TAP	Volt Amps.	Power Factor	Watts
140	0.6	.34	.21
120	0.8	.32	.26
105	1.1	.31	.33
93	1.4	.32	.45
82	1.8	.33	.61
70	2.6	.33	.85
60	3.0	.34	1.00
55	4.3	.34	1.45

#### BURDENS AT 230 VOLTS AND 60 CYCLES

TAP	Volt Amps.	Power Factor	Watts
280	14.0	.99	13.9
240	13.9	.99	13.8
210	13.7	.99	13.6
186	13.5	.99	13.4
164	13.2	.98	13.0
140	12.6	.98	12.3
128	12.2	.95	11.6
110	10.7	.90	9.6

#### BURDENS AT 230 VOLTS AND 50 CYCLES

TAP	Volt Amps.	Power Factor	Watts
280	13.8	.99	13.7
240	13.7	.99	13.6
210	13.6	.99	13.5
186	13.4	.99	13.3
164	13.2	.99	13.1
140	12.8	.97	12.5
128	12.4	.96	11.9
110	11.3	.90	10.2

### INSTALLATION

#### MOUNTING

Outline and panel drilling dimensions for the Type IAV57A relay are shown in Fig. 23 of the included instructions. The dimensions for the Type IAV58B and IAV60B relays are shown in Fig. 24.

#### CONNECTIONS

Internal connection diagrams for these relays are shown in Figs. 2 to 4 inclusive.

Typical wiring diagrams for the Type IAV58B and IAV60B relays are shown in Figs. 5 and 6.

#### ADJUSTMENTS

Adjustment of the pick-up voltage of the time

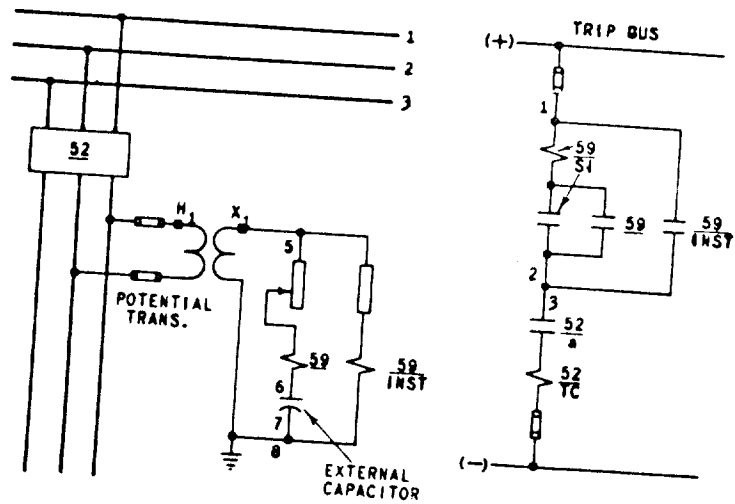
delay element of the Type IAV58B and IAV60B relays is accomplished by means of the adjustable resistor at the back of the unit. Increasing the resistance increases the pick-up. This resistor should never be set at less than half its full value.

Adjustment of the instantaneous unit is accomplished by means of the knurled screw at the top of the element. Moving this screw up increases the pick-up.

The time characteristics of the Type IAV58B and IAV60B relays are considerably shorter than those of the Type IAV51A. The time delay will be about half as much for the same dial setting and the same percentage of pick-up voltage.

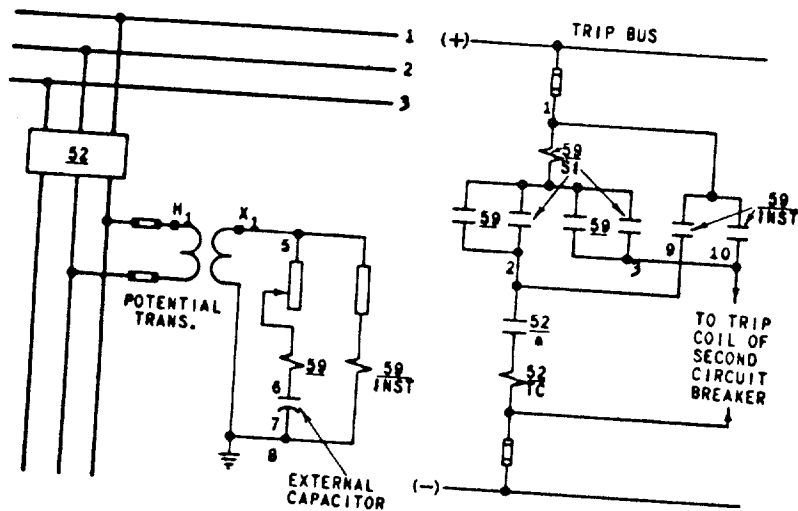
*These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.*

Overvoltage Relays Type IAV



- DEVICE FUNCTION NUMBERS  
 52 - POWER CIRCUIT BREAKER  
 59 - A-C OVERVOLTAGE RELAY TYPE IAV58B  
 \* - AUXILIARY CONTACT, CLOSED WHEN BREAKER CLOSSES.  
 TC - TRIP COIL  
 INST - INSTANTANEOUS ELEMENT  
 S1 - SEAL-IN ELEMENT

Figure 5 (K-6306989 [3]) Type IAV58B Relay Typical External Connections



- DEVICE FUNCTION NUMBERS  
 52 - POWER CIRCUIT BREAKER  
 59 - A-C OVERVOLTAGE RELAY TYPE IAV60B  
 \* - AUXILIARY CONTACT, CLOSED WHEN BREAKER CLOSSES  
 S1 - SEAL-IN ELEMENT  
 TC - TRIP COIL  
 INST - INSTANTANEOUS ELEMENT

Figure 6 (K-6400201 [1]) Type IAV60B Relay Typical External Connections