INSTALLATION • OPERATION • MAINTENANCE

INSTRUCTIONS

TYPE SG AUXILIARY RELAY

INSTALLATION

Inspect the relay carefully after unpacking to see that no damage has been done in shipment. Operate the relay by hand several times to see whether the moving element is properly aligned and free from friction. Check the nameplate rating to see that it agrees with conditions under which relay will be used. The SG for use on alternating current has a rectangular copper loop clamped in the top of the core, over which the coil is placed. The d-c relay has no loop, but has a small bronze button in the center of the core front to prevent the armature from being held closed by residual magnetism.

Mount the relay with the base against a vertical plane and with the contacts at the top.

Relays having a voltage rating which requires a resistor in series with the coil are supplied with a vitrified tube resistor which has heavy screw-type terminal lugs. The resistor is assembled on an insulated mounting stud by which it can be mounted either directly on a panel or any convenient bracket.

When sheet metal cabinets are ordered for open-type relays, the relays and cabinets are shipped separately. The relays can be assembled on the tapped mounting holes in the bottom of the case by means of the mounting screws which are provided. The cabinets have knockouts for conduit connections on top, bottom and sides.

APPLICATION

The relay can be supplied for use on the following voltages without an external resistor by the use of suitable coils. The standard coils are:

6, 12, 24, 48, 125 and 250 Volts d-c
115 and 230 Volts - 25 Cycles
115, 230, 440 and 575 Volts- 50 or 60 Cycles

and for higher d-c or 25-cycle voltages with an external resistor.

The relay is intended for use as an auxiliary relay for miscellaneous automatic and remote control switching. It is suitable for many industrial applications also.

* OPERATING TIME

Pick-up: .033 - .05 sec. at d-c rating
.016 - .033 sec. at a-c rating

Drop-out: less than .016 sec. on d-c or a-c

CONSTRUCTION

The standard relay is furnished in two forms: A front-connected, open-type and a rear-connected, enclosed-type. The operating elements are identical in the two types and consist of four parts: core, yoke, armature and coil.

The open-type relay normally is provided with two contacts and is shipped with both stationary contacts arranged to close when the relay is energized. However, either or both contacts can be converted quickly into a break contact merely by removing the screw which holds the stationary contact bracket and turning the bracket over. After tightening the screw, the contact bracket may be bent slightly with the fingers if necessary to change the back contact follow or alignment. When the make contacts are closed, the moving contact fingers should be deflected approximately 3/64" measured at the contacts, or slightly over 1/32" measured at the upper edge of the molded armature block. The assembly of the moving contact fingers on the armature block

is arranged to provide spring follow with either make or break stationary contacts. The closed-type relay is provided with two make and two break stationary contacts with the moving contacts common, and the open-type relay is provided with such a contact arrangement for applications which require it.

When the break contacts are closed, the gap between the stationary make and the moving contact should be 1/8" to 9/64". The stop at the bottom of the molded armature block, should be set to allow 3/64" break contact follow at the contacts, or a 1/32 gap measured between the contact finger and the guide-bushing shoulder.

Relays for use on A-C are assembled with a thin bronze washer between the yoke and core. A brass screw holds the yoke and core together. This washer helps to prevent the armature from being held closed by residual magnetism after the relay is de-energized. In case the relay should be dismantled, it is important that this washer be replaced on re-assembling it.

CHARACTERISTICS

All relays will pick up on 80% of the name-plate voltage rating or less. No adjustments are provided for varying the pick-up. The armature will open at 30% or less on direct current and at 60% or less on alternating current.

The volt-ampere burden at rated voltage (60 cycles) is 10, at a power-factor of approximately 50%. The watt comsumption at rated d-c voltage is 3.5.

Each contact will carry 12 amperes continuous and 30 amperes for one minute.

The contact interrupting ratings are as follows: All values are non-inductive currents.

External connections may be made with the contacts in series if desired.

INTERRUPTING RATING IN AMPERES

Volts	D-C 1 Contact	D-C 2 Contacts in Series	A-C 1 Contact
24	15	50	50
48	8	35	45
115	2.4	20	30
230	0.75	2.5	20
550	0.25	0.5	10

REPAIR AND RENEWAL PARTS

Major repairs can be most satisfactorily done at the factory or Westinghouse Service Shops. However, for customers equipped to do their own work, parts may be furnished on order. In ordering any part or requesting any other information, always give entire name-plate reading.

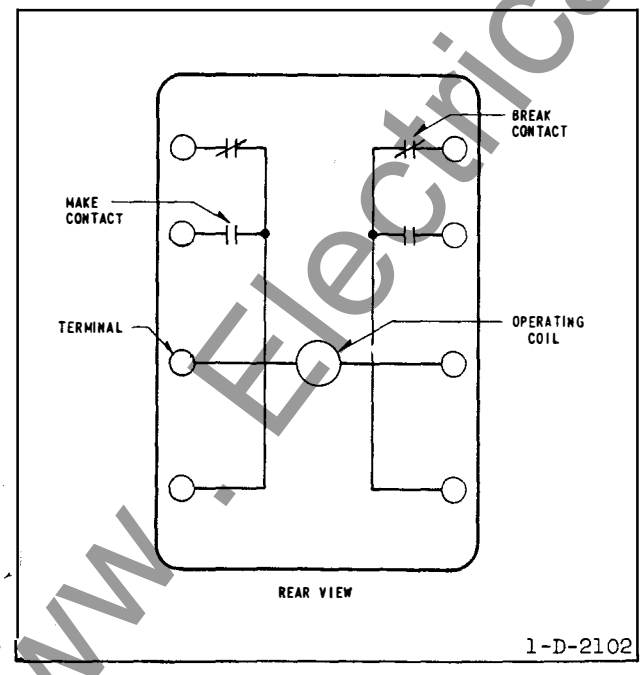


Fig. 1—Internal Connections for Closed Type SG Relay.

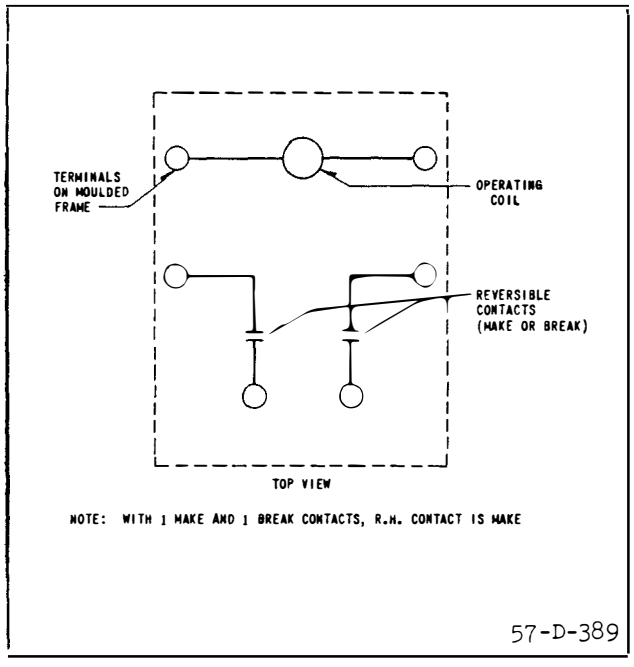


Fig. 2—Internal Connections for Open Type SG Relay with Reversible Contacts.

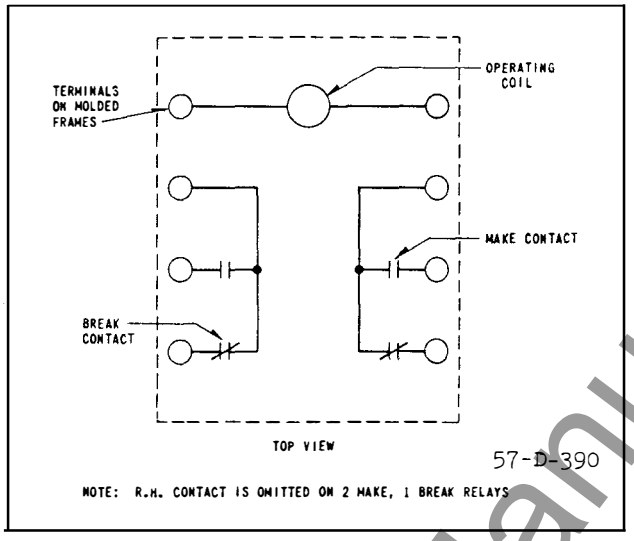


Fig. 3—Internal Connections for 2-Make and 2-Break Contact Open Type SG Relay.

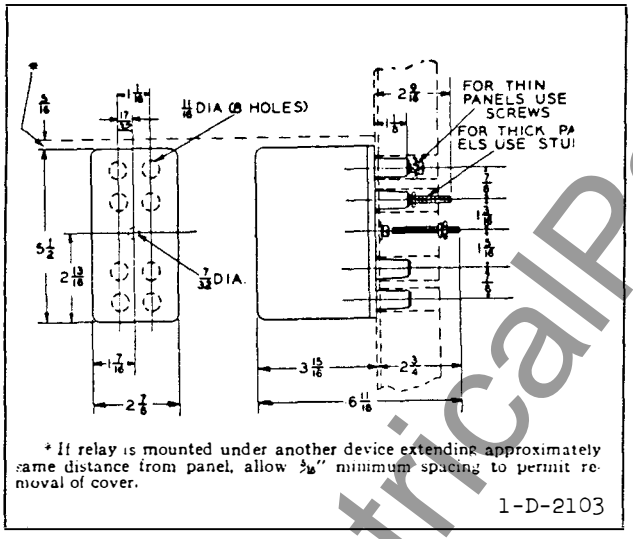


Fig. 4—Outline and Drilling Plan for the Closed Type SG Auxiliary Relay. For Reference Only.

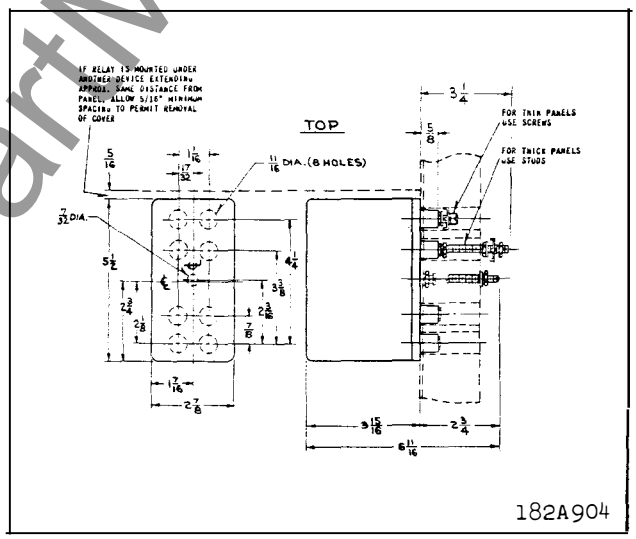


***Fig. 5—Outline and Drilling Plan for the Closed Type SG Auxiliary Relay with 5/8 inch terminal studs. For Reference Only.**

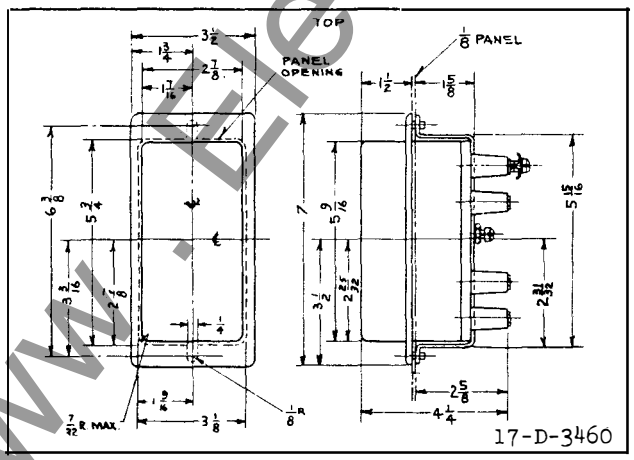


Fig. 6—Outline and Drilling Plan for the Semi-flush Case for the Type SG Relay. For Reference Only.

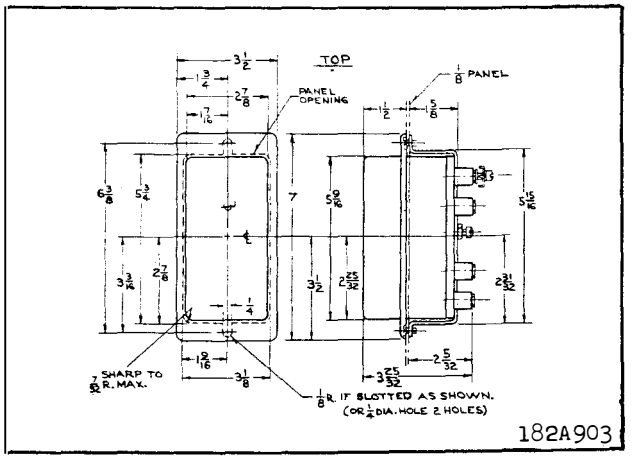
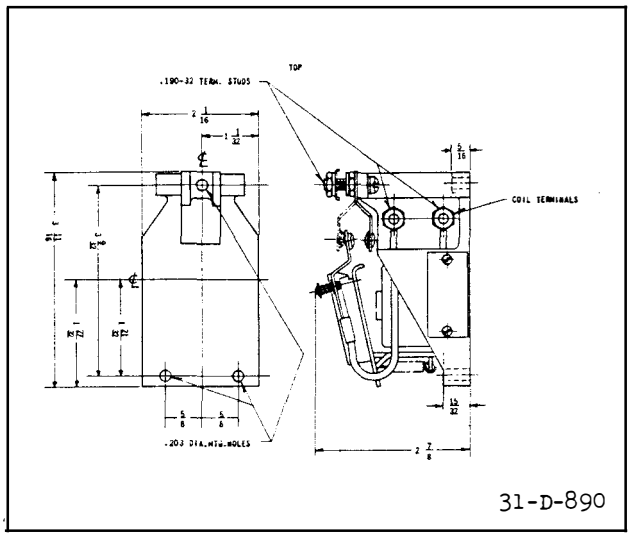
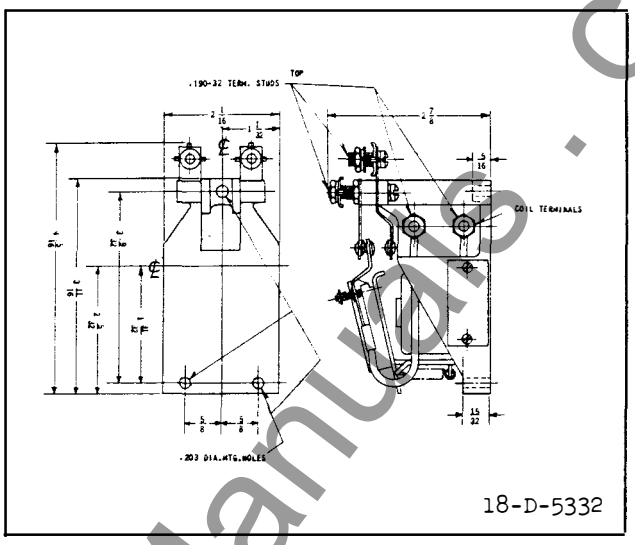


Fig. 7—Outline and Drilling Plan for the Semi-flush Case for the Type SG Relay with 5/8 inch terminal studs. For Reference Only.



* Fig. 8—Outline and Drilling Plan for the Open Type SG Auxiliary Relay with Reversible Contacts. For Reference Only.



* Fig. 9—Outline and Drilling Plan for the 2-Make and 2-Break Contact Open Type SG Relay. For Reference Only.