

INSTALLATION • OPERATION • MAINTENANCE INSTRUCTIONS

TYPE JL INDICATOR

CAUTION: Before putting relays into service, remove all blocking which may have been inserted for the purpose of securing the parts during shipment, make sure that all moving parts operate freely, inspect the contacts to see that they are clean and close properly, and operate the relay to check the settings, and electrical connections.

APPLICATION

The type JL Indicator lockout relay is applicable as an auxiliary relay wherever it is desired to have further operation or sequence of operation prohibited after the action of certain primary relays. It will also indicate which one of four circuits initiated the operation.

CONSTRUCTION AND OPERATION

The JL lockout relay consists of a clapper type unit (SG), and four operating indicator units. The clapper type unit consists of five main parts: core, yoke, armature, coil and latch. Relays for AC applications contain a bronze washer between yoke and core. A brass screw holds the yoke and core together. This washer helps to prevent the armature from being held by residual magnetism in the core. If the relay has been dismantled, be sure that the washer is not omitted on reassembly.

The operating indicator unit consists of a small solenoid coil mounted in a steel frame, a spring restrained armature and a white flag. When the coil is energized, the armature releases the white target which then falls into a visible position indicating that a particular circuit has been energized. The indicators are reset from outside of the case by a push rod in the cover.

CHARACTERISTICS

With the SG unit energized through its own normally closed contact and two of the operation indicator coils connected in parallel, the relay should operate as follows:

Relays with intermittently rated coils should latch and both indicator targets will drop with 50% of rated voltage or less suddenly applied.

Relays with continuous rated coils will latch and drop both indicator targets with 80% of rated voltage suddenly applied.

With 110% of rated voltage suddenly applied, the intermittently rated relay will drop all four targets with the coils connected in parallel. The continuous rated relay will drop at least three targets.

The armature of the continuous rated relays will open at 30% or less on direct current and at 60% or less on alternating current. Each contact will carry 12 amperes continuously and 30 amperes for one minute.

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

<u>INTERRUPTING RATINGS IN AMPERES</u>		
<u>Volts</u>	<u>D-C</u>	<u>A-C</u>
	<u>1 Contact</u>	<u>1 Contact</u>
24	15	50
48	8	45
115	2.4	30
230	0.75	20
550	0.25	10

The operating time of the clapper type device at rated voltage is 1 to 2 cycles (60 cycle basis).

The standard operating indicator coils are as follows: .03, 0.1, 0.2, 1 or 2 ampere d-c coils with the following ratings.

<u>Rated</u> <u>Current</u> (Amperes)	<u>Resistance</u> (Ohms)	<u>Continuous</u> <u>Rating</u> (Amperes)	<u>One Second</u> <u>Rating</u> (Amperes)
.03	155	.09	2
0.1	10.5	0.3	9
0.2	2.8	0.6	18
1	.16	3	70
2	.06	6	110

INSTALLATION

The relays should be mounted on switchboard panels or their equivalent in a location free from dirt, moisture, excessive vibration, and heat. Mount the relay vertically by means of the four mounting holes on the flange for semi-flush mounting or by means of the rear mounting stud or studs for projection mounting. Either a mounting stud or the mounting screws may be utilized for grounding the relay. The electrical connections may be made directly to the terminals by means of screws for steel panel mounting or to the terminal studs furnished with the relay for thick panel mounting. The terminal studs may be easily removed or inserted by locking two nuts on the stud and then turning the proper nut with a wrench.

For detailed FT case information refer to I.L. 41-076.

ADJUSTMENTS

Adjust "make" contact of clapper type unit for approximately $3/64$ " contact follow and $5/32$ " contact gap. See that the armature is assembled so as to provide at least $3/32$ " follow for break contact with $1/16$ " to $3/32$ " contact gap. Latch should engage armature block positively so as to remain latched under moderate shock. The latch screw should be located in its spring so that there is about $.005$ " clearance between tip of screw and the front of the armature block. When the armature is pressed against the core, adjust the indicator to operate at the rated current, gradually applied, by loosening the two screws on the under side of the assembly and moving the bracket forward or backward.

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 nameplate reading.

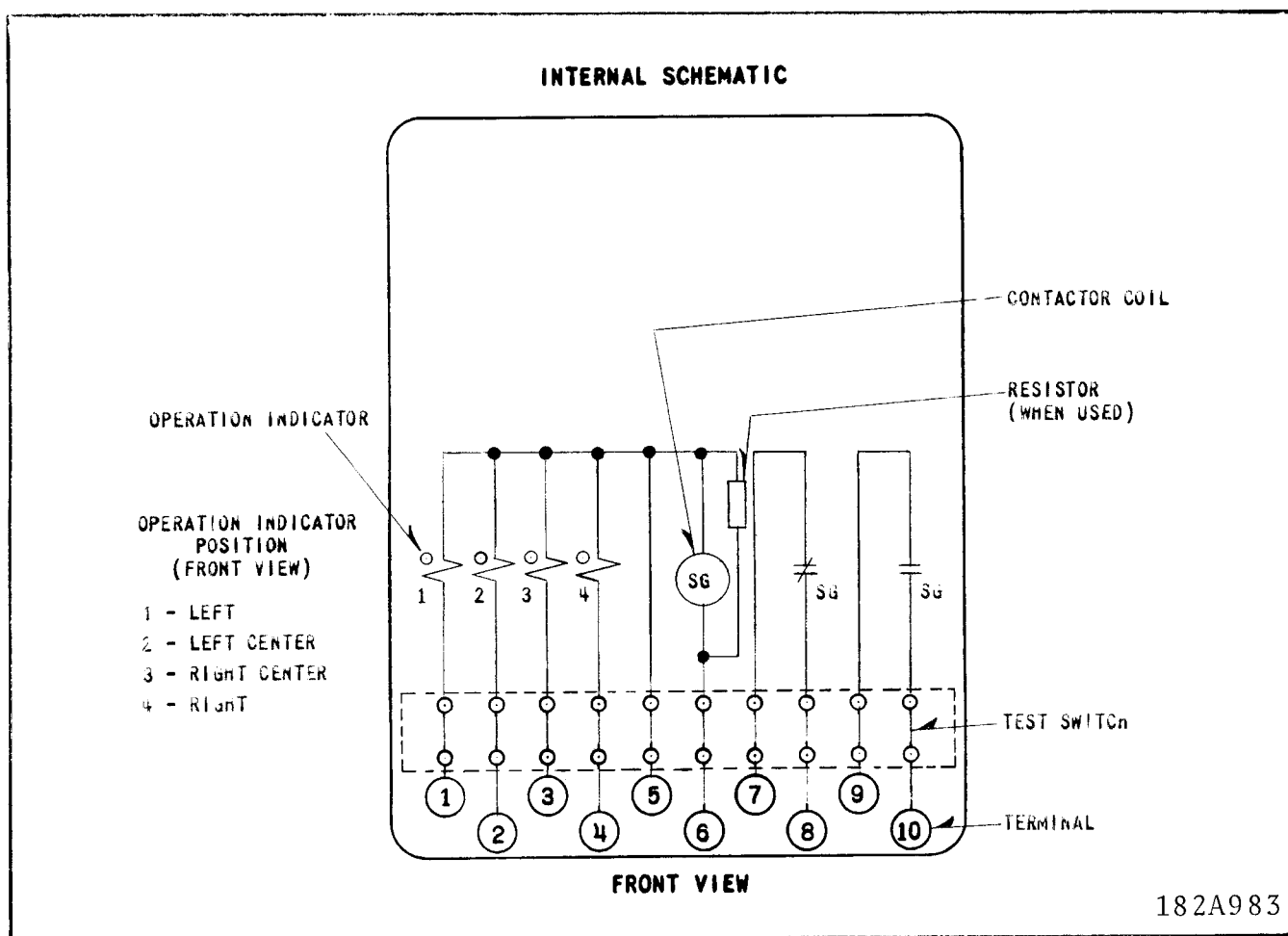


Fig. 1 Internal Schematic

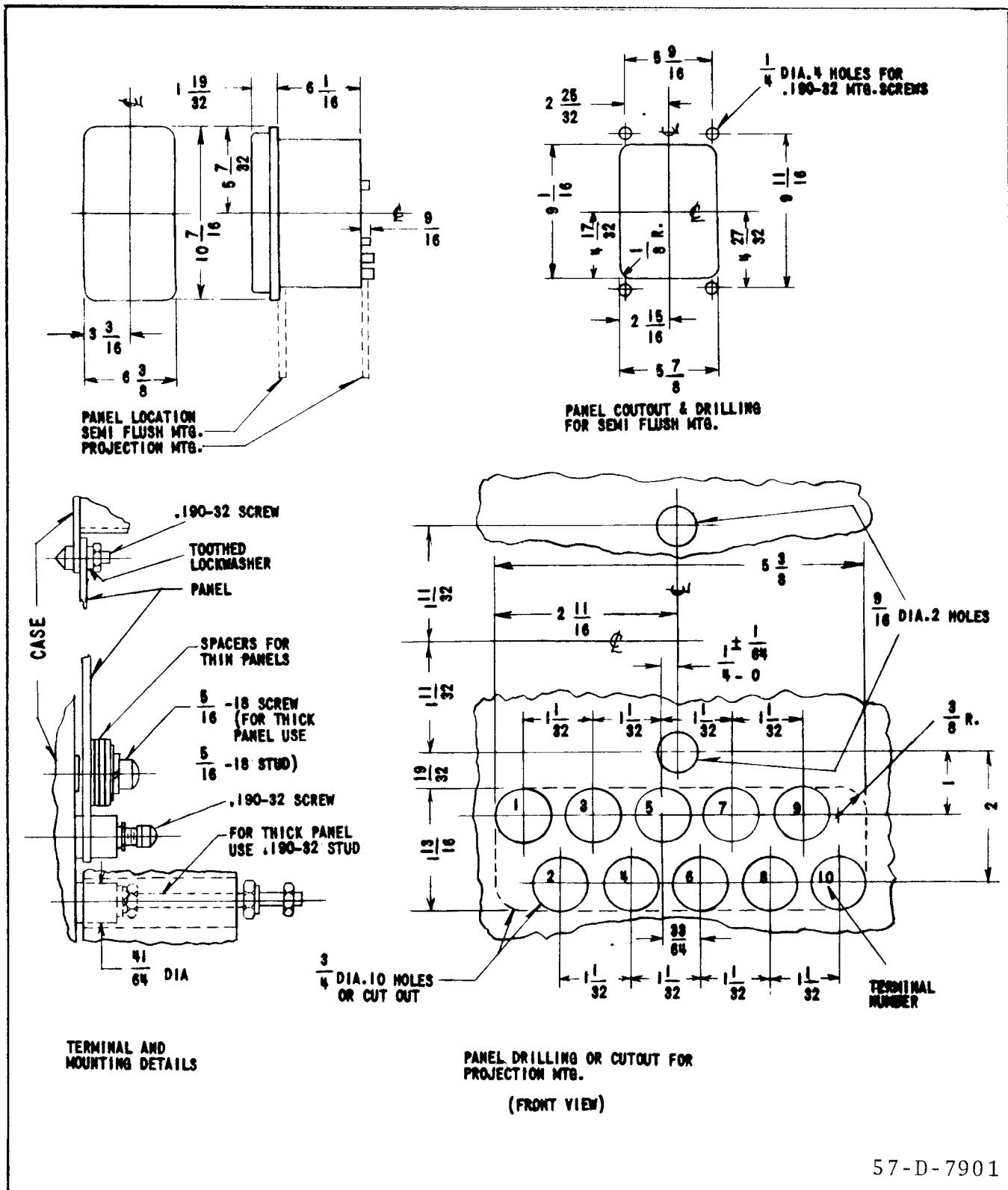


Fig. 2 Outline and Drilling (Type FT-21 Case)

WESTINGHOUSE ELECTRIC CORPORATION
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