

## CONTROL RELAYS

### For Operation on Direct Current

#### Application

Control relays are interposed between the contacts of a control switch and the apparatus to be controlled, when the current required to operate the apparatus exceeds the current-carrying or interrupting capacity of the control switch contacts and when it is desired to provide electrical trip-free and anti-pump control.

Control relays are required for the closing-coil circuits of all electrically-operated oil circuit breakers and most electrically-operated air circuit breakers. The control relays are given a maximum current and voltage rating based on intermittent operation.

#### Operation

The operating coil for the control relay is energized from the control circuit by the closing of the control switch, causing the control relay contacts to close. This in turn connects the circuit-breaker closing coil across the control circuit.

The type S-1 control relay provides an electrical trip-free feature to the circuit breaker control system by energizing the release coil as soon as the circuit breaker closes. This disengages the latch holding the two piece contact arm together and permits the contacts to open even though the operating coil is still energized. The operating coil

does not drop the armature until it is de-energized thus providing protection against pumping.

The type S-5 control relay operates similarly to the S-1 relay, except that a single-piece contact arm is used without a latch. The operating coil is de-energized when the breaker closes, allowing lock-out coil to open the contacts and hold them in the open position.

Various combinations of control relays can be supplied on panels, with wiring terminals, knife switches, fuses and covers. Likewise similar control relay combinations can be supplied for a-c. operation, or for other special applications.

#### LIST PRICES

Style number and list price include equipment complete as described.

Description	Maximum Volts D.C.	Intermittent Rating Amperes	Style No.	①List Price
Type S-1 single-pole, single-break control relay only, on panel.....	125	150	375 083	\$55 00
* Type S-1 single-pole, double-break control relay only, on panel.....	125	300	446 715	70 00
* Type S-1 single-pole, double-break control relay only, on panel.....	250	150	446 716	70 00
Type S-1 single-pole, single-break control relay on panel with 2 P.S.T. knife switch and cover over panel.....	125	150	375 085	80 00
* Type S-1 single-pole, double-break control relay on panel with 2 P.S.T. knife switch and cover over panel.....	125	300	446 717	90 00
* Type S-1 single-pole, double-break control relay on panel with 2 P.S.T. knife switch and cover over panel.....	250	150	446 718	90 00
Type S-5, single-pole, double-break control relay only on panel.....	125	300	676 981	70 00
Type S-5, single-pole, double-break control relay only on panel.....	250	150	676 982	70 00

\* Insulated cross bar to permit use of relay as double pole device, can be supplied on special order.

#### OUTLINE DIMENSIONS IN INCHES

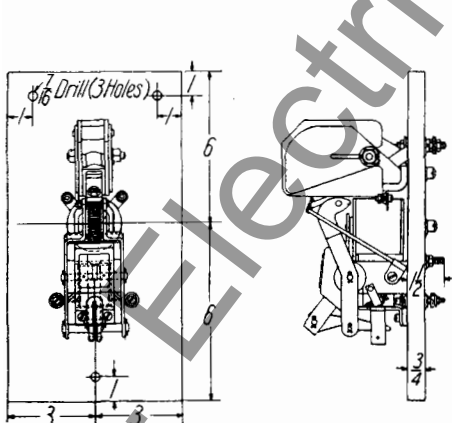


FIG. 1--SINGLE BREAK TYPE S-1 RELAY

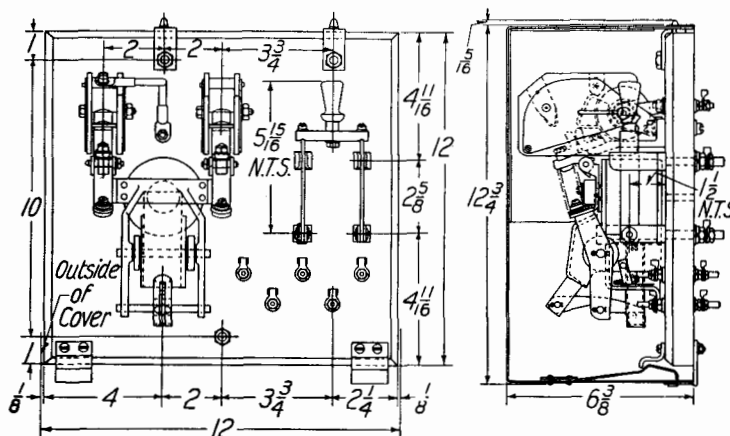


FIG. 2--DOUBLE-BREAK TYPE S-1 RELAY

Dimensions are for reference only. For official dimensions apply to the nearest district office  
Printed in U.S.A.  
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① Changed since previous issue.  
E4-7, AJ3-33; C3-26; XC, YC

Order by Style Number

**Westinghouse Electric Corporation**  
Switchgear Division, East Pittsburgh, Pa.