

WESTINGHOUSE SPECIAL FEATURES

- **SMALL SIZE, COMPACT DESIGN**—Minatrol switches occupy about one-fourth the panel space of conventional switches, making them particularly suitable for miniature switchboards.
- **FLEXIBILITY OF APPLICATION**—Control, synchronizing, and instrument applications of Minatrol switches provide practically the same flexibility as with the Type W switch.
- **PLEASING APPEARANCE**—Mounting screws and nameplates are inserted under the cover, with no screw heads showing on the panel.
- **QUICK MAKE AND BREAK-TYPE CONTACTS** cannot be jarred or vibrated from normal positions.

THE WESTINGHOUSE MINATROL SWITCH is a compact control switch of smaller dimensions than the conventional Type W control switch, designed particularly for use on miniature switchboards. It is available in forms to suit the varied requirements of control switch applications, and will handle the full control voltage without interposing relays. Its flexibility of application is practically the equivalent of the Type W switch.

CONSTRUCTION—The switch handles 125 or 250-volt control circuits directly, using toggle switches with quick-make and quick-break contacts mounted in unit-construction frame. To facilitate mounting from the front of the panel, the coverplate can be pulled out and rotated around the operating shaft to expose the holes for the mounting screws. In the same manner the nameplate is inserted under the cover. It occupies only about one-fourth of the switchboard space required by the conventional switch and has a pleasing appearance, unmarred by the mounting screws.

The Minatrol is a rotary-type switch with the same design features which have made other rotary-type control switches outstanding in performance.

The operating movement is extremely simple, and is available in three general arrangements: (1) spring return of both contacts and handle to the middle position when released from either right or left position; (2) contacts stay put in either right or left positions with spring return of handle to the middle position; and (3) contacts and handle stay put in either right or left position without a middle position.

Automatic indicator cutouts or "slip contacts," as used in the Type W control switch, are available in the Minatrols stay-put switches. These contacts are set up when the control switch is turned to close the circuit breaker, and since the toggle switch in this case has no retrieving spring the contacts stay closed after the control switch returns to the middle position. This contact connects an indicating lamp with an open position of the circuit breaker auxiliary switch, so that if the breaker opens automatically after it is closed from the control switch, the signal lamp is illuminated. This special lamp, often called a disagreement lamp, is recommended since the Minatrol does not have a mechanical position indicator. A similar contact may also be used to set up an alarm circuit.

INSTRUMENT SWITCHES—Minatrols with removable keys are available for synchronizing from machine to bus or between ma-

chines, and for use on single-phase potential circuits to read voltage or frequency on two-phase or single-phase sources. For matching Minatrols, Type W instrument switches can be provided with Minatrol face-plates and keys at slightly higher cost.

PERFORMANCE—The current-carrying capacity and interrupting ability of the Minatrol is ample to handle the usual control circuit without the use of auxiliary interposing relays or intermediate control voltages. The switches are rated at six amperes continuous and can interrupt a non-inductive load of three amperes at 250 volts and six amperes at 125 volts d-c. The switch will interrupt highly inductive currents up to five amperes at 125 volts d-c or up to one ampere at 250 volts d-c. On a-c, these values can be at least doubled at 250 volts maximum.

CLASSIFICATION

The Minatrol control switches are of two types:

1. Type C, for stay-put and spring return with fixed handles.
2. Type S, for stay-put with removable key handles.

Two standard lengths are available, one to accommodate a maximum of four switch units, and the other a maximum of eight switch units. A special twelve-switch unit length is available on order.

The four-unit switch is classified as Type C-41, C-42, or C-43, depending upon the number of normal positions on the switch design. In this type number, the 4 represents the four switch units and the 1, 2, or 3 the number of normal positions in which the handle will come to rest. Spring return switches are the Type C-41, since the handle always returns to neutral after a turn in either direction. More than 3 normal positions cannot be secured. In like manner the eight-unit switch is classified as C-81, C-82 or C-83.

Style Numbers include the mounting screws for 1/8-inch thick steel panel and the face plate, but do not include the marker for the opening in the face plate, which is supplied for a list price addition of \$0.35.

Standard Minatrols are provided with an attractive black molded handle. On the large switches and for removable keys, these handles are of the same general design but are appropriately larger.

Minatrols can be tested at 1500 volts in accordance with conventional switchboard practice.















Supersedes Catalog Section 37-175 dated July 1, 1947





OCTOBER 30, 1951

Prices are effective October 30, 1951 and are subject to change without notice.

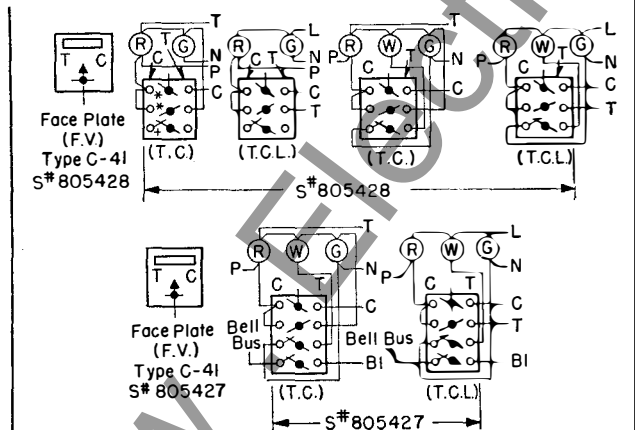
Refer to Selling Policy 37-000 for Standard Terms and Conditions of Sale.

LIST PRICES—MINATROL CONTROL SWITCHES

APPLICATION	TYPE	DESCRIPTION	STYLE NUMBER	LIST PRICE	APPLICATION	TYPE	DESCRIPTION	STYLE NUMBER	LIST PRICE
Close Trip 	C-41	Single-pole, double-throw switch with automatic indicator cutout.....	805 428	\$19.00	On Off 	S-43	Synchronizing switch..... Synchronizing key.....	822 337	\$20.00
Circuit Breaker Control					822 341			2.40	
Close Trip 	C-41	Single-pole, double-throw switch with 2 automatic indicator cutouts.....	805 427	20.00	Inc Run 	S-43	Synchronizing switch..... Synchronizing key—running..... Synchronizing key—incoming.....	822 338	19.00
Circuit Breaker Control					822 342			2.40	
Close Open 	C-41	Double-pole, double-throw switch.....	805 426	20.00	Synchronizing Between Machines 	C-81	Three-pole, double-throw switch.....	805 446	23.00
Circuit Breaker Control					822 347			23.00	
Stop Start 	C-42	Three-pole, single-throw switch.....	805 448	19.00	Low Raise 	C-82	Six-pole, single-throw switch.....	822 347	23.00
Motor Control					822 347			23.00	
Close Open 	C-42	Three-pole, single-throw switch.....	805 449*	19.00	Rheostat Control 	C-83	Three-pole, double-throw switch.....	Special	23.00
Motor Control					Special			23.00	
Off On 	C-42	Three-pole, single-throw switch.....	805 458	19.00	General Use 	C-83	Three-pole, double-throw switch.....	Special	23.00
Pushbutton					Special			23.00	
	C-43	Two-pole, single-throw switch.....	822 346	20.00	General Use 	C-83	Three-pole, double-throw switch.....	Special	23.00

* Red Handle
 † Minatrols shown viewed from above, with handle end at top.
 Contacts close when handle is turned clockwise front view.
 Contacts close when handle is turned counterclockwise front view.
 Contacts close when handle is turned clockwise front view, and remain closed until handle is turned counterclockwise from center position.
 Contacts close when handle is turned counterclockwise front view, and remain closed until handle is turned clockwise from center position.

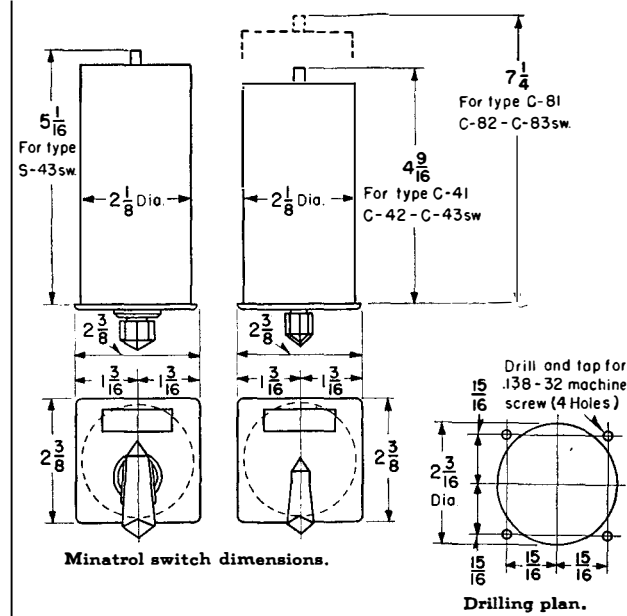
SCHEMATIC OF TYPICAL TYPE C-41 MINATROLS USED FOR BREAKER CONTROL



Type C-41 Minatrol, spring-return type, Style Nos. 805 427 and 805 428, for breaker control.

Minatrols are shown viewed from above, with the key end at the top. The toggle switches marked (*) are of the spring return type. Toggle switches marked (†) are of the stay-put type. The stay-put contact, also known as a slip or floating contact, closes when the key is turned to close position and remains closed until the key is turned to the trip position. In this position of the key, the contact opens and remains open until the key is again turned to the close position.

OUTLINE DIMENSIONS IN INCHES



Minatrol switch dimensions.

Drilling plan.

