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JULY, 1948 WESTINGHOUSE INDUSTRIAL CONTROL APPARATUS

WESTINGHOUSE TYPE Dn CONTACTORS

Sizes 0 and 1

INSTRUCTIONS

Size 0—Frame Nos. 020 (2 poles) and 040 (4 poles).
Size 1—Frame Nos. 120 (2 poles) and 140 (4 poles).

Description—Sizes 0 and 1 Type Dn contactors feature silver-tipped double break self-aligning contacts actuated vertically within a de-ion arc quencher by a solenoid magnet. They are of uni-construction, comprising a steel back-plate having affixed to it the magnet and an inorganic non-carbonizing insulating base which serves the double purpose of a de-ion arc quencher and a support for the stationary contacts.

Contactors are of both 2 and 4 poles.

Ratings—The 8 hour open ratings are 15 amperes for the Size 0 Dn contactor and 25 amperes for the Size 1 Dn contactor. When the four poles of a Type Dn 140 contactor are connected in two parallel pairs, the 8 hour open rating is 40 amperes.

Magnet—The magnet is of the solenoid type, a form least likely to produce accidental closing due to tilting or shock. The stationary magnet may be removed for replacement of the coil by first removing the armature stop bracket, held to the front of the magnet by two screws, and then removing the two screws securing it to the back plate

Operating Coil—The coil is designed for continuous duty at 100% of its rating. It will operate the contactor satisfactorily at from 85% to 110% of its rated voltage.

Dual voltage coils are available containing two windings which may be connected in parallel or in series for us on 110 or 220 volt circuits.

To remove the coil, first disconnect the coil leads and remove the magnet stator from its place on the back plate. Then loosen the coil retaining screw and slide out the two channel-shaped armature guides, allowing the coil to drop free from the magnet frame.

Contacts—The self-aligning double-break moving contacts are carried on a cross-bar of insulating material secured to the armature of the magnet. There are no shunts or sliding contacts to wear or produce other trouble. The contact tips are of silver, requiring almost no attention. Only in cases of extreme beading is it necessary to treat them. Dressing should be done with a fine file, not with emery cloth, as abrasive granules imbedded in the contact surfaces may raise the contact resistance and produce a tendency of the contacts to weld.

TABLE OF OPERATING COILS

Volts	Cycles	Type of Magnet	
		Narrow	Wide
		Coil Style No.	
110	60	1 115 654	944 746
208	60	1 115 655	944 739
220	60	1 115 655	897 933
380	60	. . . . .	944 729
440	60	1 115 656	943 152
550	60	1 115 657	944 700
110	50	1 115 658	966 734
220	50	1 115 659	966 735
440	50	1 115 660	966 716
550	50	1 115 661	966 736
110	25	1 115 655	897 933
220	25	1 115 656	943 152
440	25	1 115 662	944 704
550	25	1 115 663	966 737

Replacement of the moving contacts of the Size 1 Dn contactor is effected, when necessary, by remov ng the armature stop bracket, secured to the front of the stationary magnet by two screws, and withdrawing the armature and cross-bar assembly downward thru the arc box. The contacts can then be removed from their supports without the use of tools. In the Size 0 Dn contactor the arc box is of smaller size, not permitting the removal of the magnet armature downward through it. Here the cross-bar is removed by simply taking out the two screws securing it to the armature.

The stationary contacts are supported by the arc box and are held in place by screws readily accessible from the front. The contact tips are of silver, and will require as little attention as those of the moving contacts.

Correct spring pressures should be maintained as follows:

Contactor Size No.	Initial Pressure	Final Pressure
0	2.7 oz.	5.4 oz.
1	5 oz.	10 oz.

The contact gap should be seven-thirty-seconds of an inch.

Maintenance

The contactor will require little attention. However, it should be inspected periodically to see that no impairment of electrical or mechanical functioning occurs. Accumulations of dust may be removed with a dry cloth or a compressed air jet. Avoid oily cloths. as an oil film quickly attracts dust. The magnet armature should be removed at intervals and accumulations of smudge on it and its guides removed with benzine or a similar solvent.

Connections

All contactor terminals are readily accessible from the front for easy wiring. Care should be taken in wiring not to obstruct the rectangular openings provided in the arc box for inspection of the contacts nor to locate the wires in such a way as to interfere with free removal of the armature and crossbar.

In special applications connecing of the contactor is made easier by the employment of terminal blocks available in several types. Strap terminals providing one screw for mounting and one screw for wiring connections may be mounted in two places on the arc box. A terminal block providing a common connection for two wires or a terminal block providing two separately-insulated two-wire terminals may be mounted on the magnet frame.

Accessories

In addition to the terminal blocks described in the previous paragraph, accessories exist which may be mounted on the contactor in places already provided for them.

The contactor block plate has space for mounting two type MW overload relays, where these may be desired for Linestarter or certain special applications. A "start" push button or a three-position switch having one open and two closed positions may be mounted on the magnet frame.

A "make" or "break" type L-42 electrical interlock may be mounted at the bottom of the arc box in a location expressly provided for it, where it will be actuated by the movement of the contactor cross-bar.

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