

Chapter 37

SWITCH, MAGNETIC TYPE 14B (B.T.H. LDA200-B4/I)

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LEADING PARTICULARS

Stores Ref.	5CW/4813
Rated voltage	24V, d.c. (nominal)
Control voltage	16-24V, d.c.
Rated voltage (auxiliary contacts)	24V, d.c. (nominal)
Rated current	200 amp.
Pull-in current with 24V, d.c. applied	3.5 amp.
Hold-in current with 24V, d.c. applied	0.025 amp.
Rupturing capacity at 30V, d.c....	2000 amp. approx.
Ambient temperature range	- 65 deg. C. to + 57 deg. C.
Weight	2.5 lb.
Height	4 $\frac{3}{4}$ in.
Width	3 $\frac{3}{4}$ in.
Depth	3 in.

Introduction

1. The Type 14B switch (*fig. 1*) is a single-pole, single-throw type. It is designed for the remote control of circuits carrying up to 200 amp. at 24V, d.c. (nominal). It can be operated from a distant point by means of a switch of the non-shorting type.

DESCRIPTION

2. The switch incorporates an electromagnet with the armature operating in a vertical plane. On energizing the coil the armature is drawn up, making the two main contacts, and four sets of auxiliary contacts. Three of these auxiliary contacts are for external control, or indicating purposes, and the fourth switches the economy winding into the coil circuit. Overtravel is allowed for on both main and auxiliary contacts, to compensate for contact wear.

3. The main terminals are designed for use with cable lugs, whilst the auxiliary and operating terminals are suitable for bared leads. Insulation barriers and covers protect the terminals from accidental short circuit, and they are so arranged that the contactor can be installed and connected without the removal of the main cover.

INSTALLATION

4. The circuit diagram of the switch is shown in *fig. 2*. The switch will operate in any position. It is weatherproof and flameproof, but it is recommended that it be kept away from any position where it would come into contact with excessive moisture of any kind. In positions subject to heavy vibration it should be mounted on rubber, or some other resilient mounting.

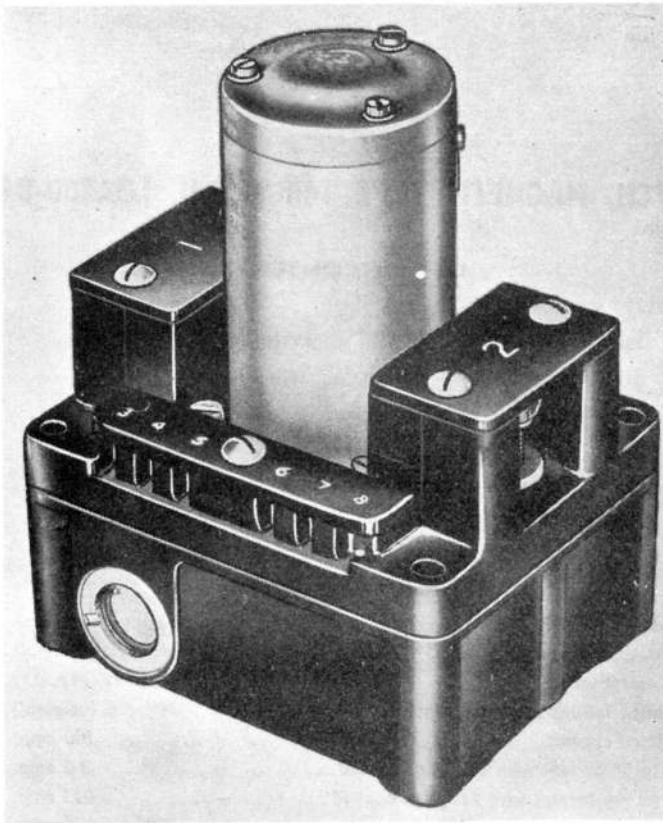


Fig. 1. General view of switch

5. The terminal connections are as follows:—

<i>Terminal Nos.</i>	<i>Description</i>
1 and 2	Main circuit
3, 4 and 5	External control or indicating circuits
6, 7 and 8	
9, 10 and 11	
12, and 13 or 14	Closing and tripping circuit

SERVICING

6. Remove the main cover, and wipe off any metallic deposits from the insulated parts adjacent to the main contacts. See that the mouldings are not cracked in any way, and that there are no loose parts or loose terminal connections. The ventilation gauzes in the cover must be clean and unobstructed.

7. Operate the switch by hand and see that the main and auxiliary contacts open and

close satisfactorily. On the main contacts there should be at least 0.015 in. overtravel. All contacts should be clean, and not badly pitted.

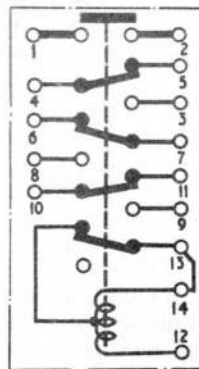


Fig. 2. Circuit diagram

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