Chapter 21

COMMUTATOR SWITCH, TYPE DN 1022 Z

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Introduction

1. The commutator switch, Type DN 1022 Z, is a fully-weatherproofed, multi-position, follow-up switch for controlling an electro-hydraulic or fully-electric servo system in which a number of pre-determined positions are required. Details of the various Marks are given in Leading Particulars of Appendix 1 to this Chapter.

DESCRIPTION

2. A sectional view of a typical switch is given in fig. 1. The body of the switch houses a circular contact carrier which accommodates fixed contacts. The angular position and number of contacts are pre-determined according to the requirements of the system served by the unit. These contacts are connected to a maximum of ten terminals.

3. The spring wipers, rotor and spindle form a sub-assembly. The spring wipers engage the selected contacts on rotation of the spindle.

4. Fig. 2 shows the datum angle, a light centre-punch mark on the front of the switch indicates its position.

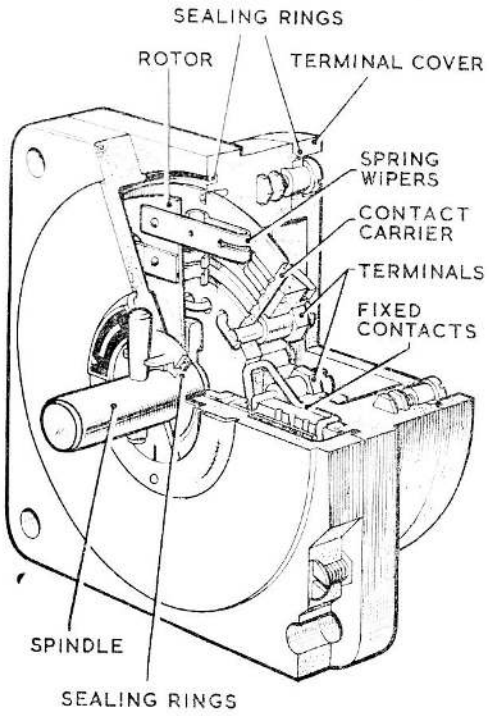


Fig. 1. Sectional view of typical switch

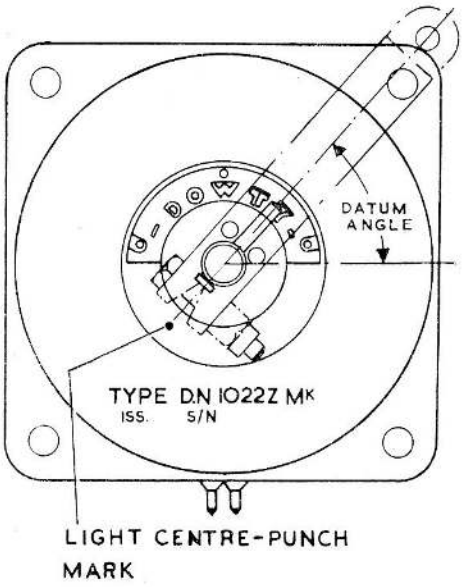


Fig. 2. Diagram showing datum angle

5. A typical circuit diagram is shown in fig. 3 and switch details of the various Marks are given in Appendix 1 to this Chapter. The terminal arrangement is illustrated in fig. 4.

6. The commutator switch is designed for flange mounting and is secured by four 2 BA bolts.

INSTALLATION

7. To fit a new switch having a rubber cable grommet, remove the back cover, cut the extreme tips off the sleeves required, and feed the conductors through, causing the sleeves to invert. Finally pull the conductors back to re-invert the sleeves.

SERVICING

8. Since this switch is sealed, no servicing is possible; a faulty switch must be renewed. A suspect switch can be checked by setting the spindle to the required angles and noting that the terminals are connected and disconnected in the correct sequence as given in Appendix 1 to this Chapter.

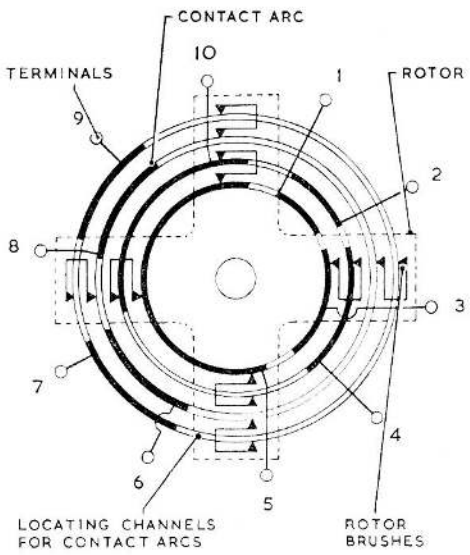


Fig. 3. Typical circuit diagram

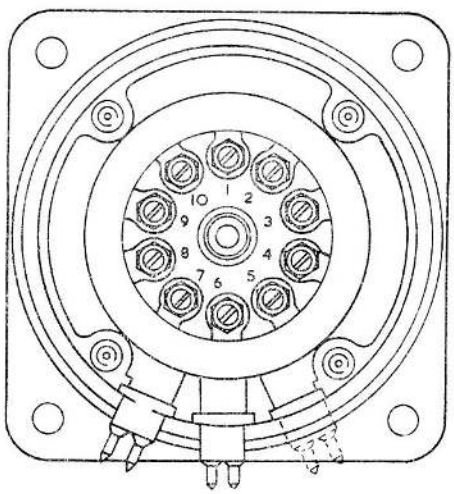


Fig. 4. Terminal arrangement

Appendix 1

LEADING PARTICULARS

GENERAL

Operating voltage (max.)	30 *V. d.c.* 120 *V. a.c.*
Current rating	... 1 *amp. non-inductive*
Overall dimensions (in.)	3.5 *x* 3.5 *x* 2.625
Weight	... 10 *to* 13 *oz.*

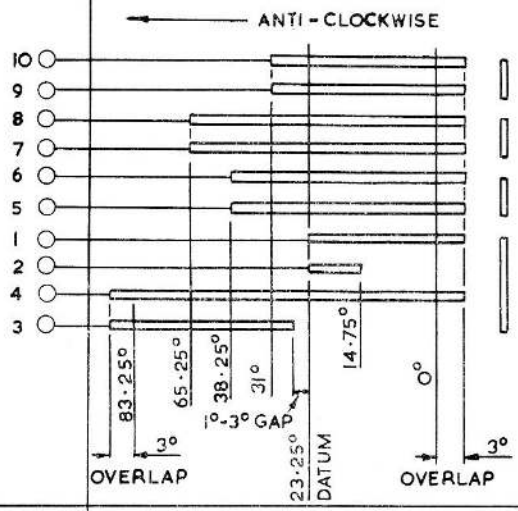
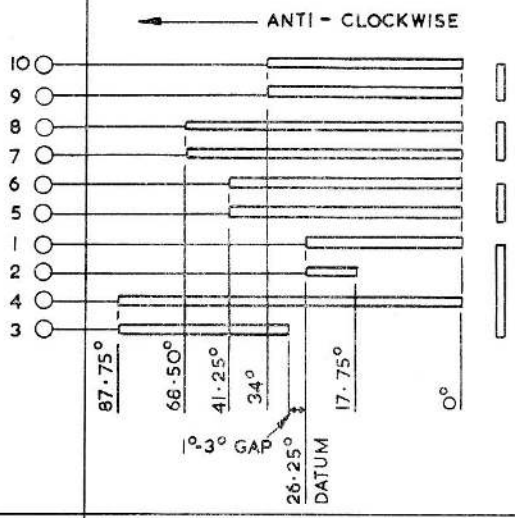
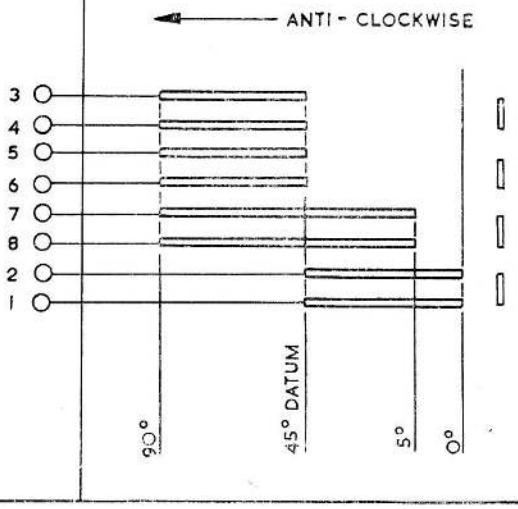
MARK NUMBERS	REFERENCE NUMBERS	DATUM ANGLE	TERMINAL NUMBERS	SCHEMATIC
1		47·5° ±2°	10 9 8 7 6 5 1 2 4 3	
2	SCW/6356	47·5° ±3°	10 9 8 7 6 5 1 2 4 3	
3		45° ±3°	3 4 5 6 7 8 2 1	

Fig. 1. Switch details

RESTRICTED