

MSD Rotary Wafer Switch



General Specifications:

The MSD is essentially a heavy duty rotary switch which is rated at 6 amps at 250 Vac, designed to handle higher currents than is possible with normal types of leaf clip wafer switches. It is eminently suitable for use in a wide variety of electronic and domestic equipment. Developed by NSF Technical Service to incorporate modern materials and techniques which give the switch a greatly extended life at it's full current rating.

- **Maximum Working Voltage:** 250 Vac
- **Contact Rating with Resistive / Non-inductive load:** 6 amps at 250 Vac (rms)
10 amps at 30 Vdc
- **Proof Voltage:** 2000 Vdc for 1 minute
- **Insulation Resistance:** Greater than 10^5 megohms (between adjacent contact or contact and frame)
- **Contact Resistance (initial):** Less than 5 milliohms at 2.5 Vdc 1 amp
- **Contact Life:** A minimum of 5000 cycles at rated current and voltage

Maximum Switching Per Wafer	
1 Pole	2 to 12 ways
2 Pole	2 to 6 ways
3 Pole	2 to 4 ways
4 Pole	2 or 3 ways

Index Mechanism:

The 'U' type mechanism is used where one or two wafers are required, the type 'HD' for switches with two or three. For more than three wafers please refer to our Technical Service.

The low friction moulded cam and followers in the 'U' type assembly ensure a smooth and positive indexing action. Balanced pressure springs provide consistent and readily reproducible torque values which can be approximated as:

- Light - Not greater than 0.18 Nm (25 oz Ins)
- Medium - Greater than 0.14 Nm (20 oz Ins) but less than 0.32 Nm (45 oz Ins)
- Heavy - Greater than 0.28 Nm (40 oz Ins)

Contacts:

Copper, silver plated

Rotor Contacts:

Break-before-make only

Terminals:

Solder Lug

Insulation:

Stator - Glass fibre loaded Diallyl Phthalate (DAP)
Rotor - Glass filled nylon

Finish:

Standard ferrous parts zinc plated, non-ferrous parts clean

Mounting Details:

<u>Imperial (standard)</u>	<u>Metric (alternative)</u>
Bush 3/8" x 32 TPI (Whit)	M10 x 0.75
Shaft 0.25" dia	6 mm dia
Nut 0.525" A/F	14 mm A/F

The alternative is optional in each case.

Unless otherwise specified, each switch is supplied with a wavy lock washer. Panel and spindle seals can be fitted allowing sealing to 1 cm³/hr

Standard Contacts:

Each wafer comprises two stators interconnected by a rotor. One to six multiple position contacts are fitted to one stator whilst the other has up to 12 individual contacts. The rotor is fitted with up to 4 contacts to give the number of poles and ways required.

Construction:

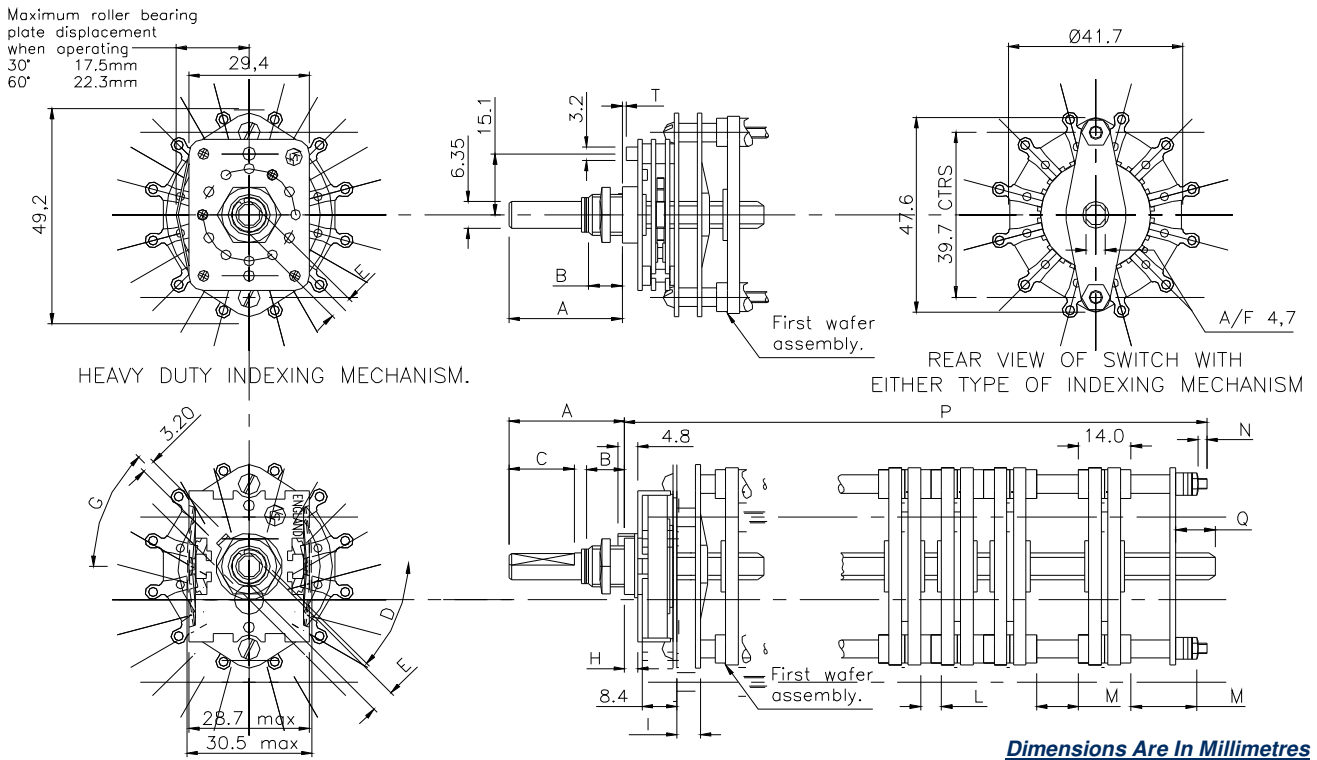
The switch wafers are spaced by tubular metal spacers and held in place, with a positive relationship to the index mechanism assembly, by side strut screws.

Please Note: In line with continued development we reserve the right to amend specification without prior notice (Rev 01/12)

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Key To Details

- A Shaft Length:** Optional ± 0.40 (0.016") / (25mm if not specified)
- B Bushing Thread Length:** Preferred standard 9.5 (0.375"), 6.35 (0.250") available as an alternative Special lengths if necessary
- C Flat Length:** Length to specification; tolerance ± 0.40 (0.016")
Special shaft terminations may be provided to special requirements
- D Angle of Flat:** To specification $\pm 2^\circ$; specify position of flat, with switch shaft in **fully anti-clockwise** position when viewed from front or knob end
- E Flat Thickness:** Standard 5.55 ± 0.15 (0.218" \pm 0.005") for grub screws
 4.95 ± 0.05 (0.195" \pm 0.002") for push-on knobs
- F Distance of Locating Lug From Shaft:** Measured centre line to centre line; Type 'U' 9.5 (0.375") / Type 'HD' 15.1 (0.594")
- G Angle of Locating Lug:** Type 'U' 45°, 135°, 225° or 315° / Type 'HD' 90° or 270°
- H Bushing Shoulder:** Standard 3.2 (0.125")
- I Combined Bearing Strap and Spacer:** Minimum 5.55 (0.22")
- L Spacing:** 5.0 (0.2") minimum spacing between contacts
- M Spacer Length:** Any length spacer required may be inserted at this point
Last spacer dimension will include 5.55 (0.22") for combined bearing strap and spacer
- N Thread Extension:** 3.2mm (1/8" min) x M2.5 any length required
- P Overall Length:** Specify maximum overall length if important
- Q Shaft Extension at Rear:** Nominal 1/8" to 1/4"; any length as required if specified
- T Length of Locating Pin:** 0.05 to 0.30 (0.002" to 0.012") below mounting face of bush sealed type / 4.8 (0.187") unsealed type

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