

# UB-ML Rotary Wafer Switch



## General Specifications:

These 36 position switches increase the range of moulded wafer models by providing a switching capacity of 1 pole up to 35 ways. The stators are moulded from glass fibre loaded Diallyl Phthalate (DAP).

- **Maximum Working Voltage:** 300 Vac / dc
- **Contact Rating - Current Carrying:** 2 amp continuous
- **Contact Rating - Current Breaking with a Resistive / Non-reactive load:**
  - 50mA at 300 Vdc/ac (rms)
  - 500mA at 30 Vdc/ac (rms)
- **Proof Voltage:** 1000 Vrms at sea level for 1 min
- **Insulation Resistance:** 10<sup>6</sup> megohms at 500 Vdc (live terminals to frame or between circuits)
- **Contact Resistance:** 10 milliohms maximum

Maximum Switching Per Wafer	
1 Pole	2 to 35 ways
2 Pole	2 to 17 ways
3 Pole	2 to 11 ways
4 Pole	2 to 8 ways
6 Pole	2 to 5 ways
8 Pole	2 or 3 ways
9 Pole	2 or 3 ways
12 Pole	2 ways

**Index Mechanism:** The standard mechanism used with model ML wafers is the type 'UB'. This provides balanced pressure indexing and, with a low friction moulded cam and plunger, a smoother positive action. The consistent torque values range from 90 to 490 mNm (13-70 oz Ins)

**Contacts:** Brass, silver plated; silver alloy contacts are available at an extra cost

**Rotor Contacts:** Standard - make before break  
To order - break before make (20° indexing only)

**Insulation:** Stator - Moulded glass fibre loaded Diallyl Phthalate (DAP)  
Rotor - Polycarbonate

**Finish:** Standard - Index spring stainless steel, other 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 wavey lock washer. Panel and spindle seals can be fitted allowing sealing to 1 cm<sup>3</sup>/hr

**Standard Contacts:** Please refer to our standard contact arrangements and use these whenever possible

**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.

**Rotor Blades Note:** Standard switches are make-before-break type in which connection is maintained with one contact until after the next contact is made.  
Break-before-make switches, which break connection with one contact before the next contact is made, are available to order.  
"Front" is when the switch is viewed from the knob end.

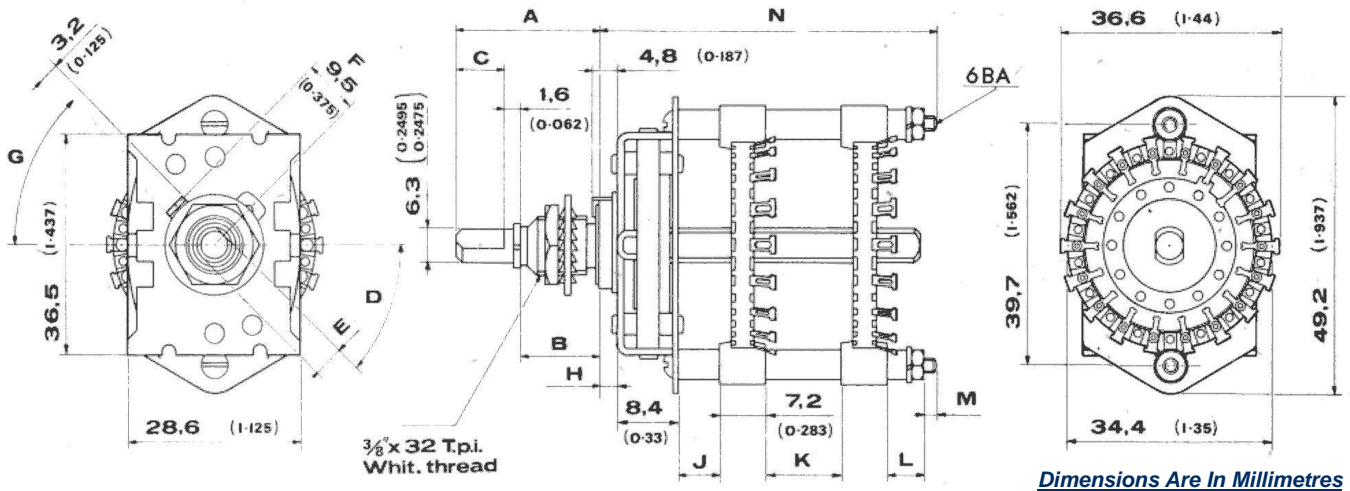
**Caution:** Our range of rotary wafer switches use polycarbonate rotors, the rotor blade/moving contact is secured to the rotor using a staking process to deform moulded locating pips. Please be aware that the use of some solvents and excessive heat as may be present from a heat gun could cause the following issues and should be avoided. In the case of solvent abuse the retaining pips may become brittle and break off resulting in the blades becoming detached and similarly the application of heat >140°C can cause the deformed moulding to reassert itself again causing failure of the blade retention.

Please Note: In line with continued development we reserve the right to amend specification without prior notice (Rev1 08/14)

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## Key To Details

- A Shaft Length:** Optional  $\pm 0.40$  (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  $\pm 0.40$  (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  $5.55 \pm 0.15$  (0.218"  $\pm 0.005$ ") for grub screws  
 $4.95 \pm 0.05$  (0.195"  $\pm 0.002$ ") for push-on knobs
- F Distance of Locating Lug From Centre of Shaft:** Measured centre line to centre line; 9.5mm (0.375")
- G Angle of Locating Lug:** Available angles 45° or 135°
- H Bushing Shoulder:** Standard 3.2mm (0.125")
- I Front Spacer:** If not clips on front side of first section; 1.6mm (0.062") min  
If clips on front side of first section; 4.8mm (0.187") min  
Otherwise may be any length within switch specifications
- J Spacers:** Minimum dimensions;  
With clips facing away, or flat clips   NIL  
With clips facing same direction       2.40 (0.093")  
With clips facing each other           6.35 (0.250")
- M Spacer Length:** If no spacer 3.97mm (0.156"). Any length spacer may be inserted at this point
- N Thread Extension:** 3mm x M2.5 any length required
- P Overall Length:** Specify maximum overall length if important

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