

ROTARY SWITCHES

ACTURN

DC rotary solenoid

FEATURES

- No axial movement
- Initial high torque (1.4 lb/in)
- Clockwise or anticlockwise movement
- 35 degree rotation
- Double acting option
- Spring return available
- Heatsink option to increase power

TECHNICAL SPECIFICATION

The available torque is proportional to the input power. Table 2 gives an indication of the relationship, the duty cycle, for several values of power input at an ambient temperature of 20°C.

Input power must be restricted within the constraints imposed by Tables 1 & 2.

Performance at ambient temperatures higher than 20°C is restricted because the coil must not exceed a temperature of 180°C. Temperature rise is related to the power input and duty cycle.

A heatsink used as a mounting for the ACTURN will increase its power rating.

The standard strokes of the actuator are 35° and 25° clockwise or anti-clockwise. For maximum life, the stroke be restricted by external stops.

The time to travel through 35° is typically 25 milliseconds, when the coil power is 15 watts. This time reduces to less than 15 milliseconds, when the power is increased to 90 watts.

Double acting unit. The common shaft is driven in both directions. This feature is employed where high shaft speed in both directions is required.

The optional return spring normally exerts a torque of approximately 0.023 Nm.

Electrical connections are made to solder terminals in PTFE insulators fitted to the body of the ACTURN.

Some typical applications for WASP solenoids are:-

- Bank note and letter sorting and counting systems.
- Cash dispensing machines.
- Remote control of weapon firing.
- Sequence switching in missile systems.
- Shutter control on optical systems and waveguide systems.
- Sequence operation in diverse switching functions.



Figure 1. Studs or Tapped Holes Mounting

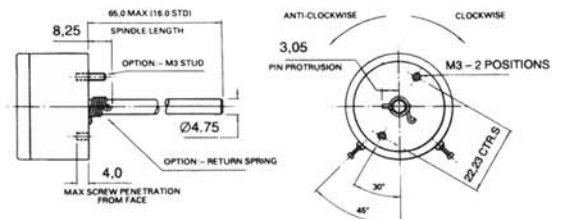


Figure 2. Flange Mounting

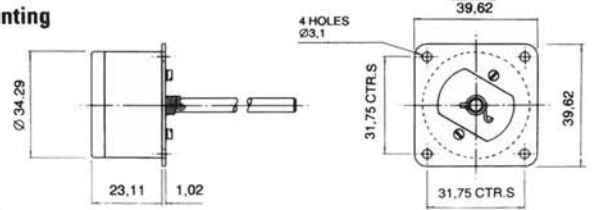
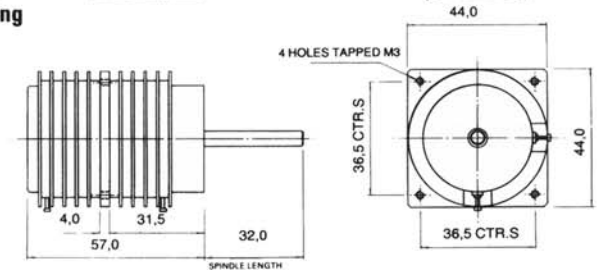


Figure 3. Double Acting (Driven each way) or Single Acting (Twice the torque of single unit)



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ACTURN



STANDARD ACTUATORS

TABLE 1

Continuous Coil Voltage T. Amb. 20°C	Nominal Coil Resistance ohms	Spindle Length	Part Number
7V. d.c.	4	16 mm	22053/029
12V. d.c.	10	16 mm	22053/032
24V. d.c.	40	16 mm	22053/036
30V. d.c.	60	16 mm	22053/037

Selection of the correct standard ACTURN can be made by using the voltage and resistance data in conjunction with the torque chart.

If no standard ACTURN is suitable for the intended application WASP engineers will be pleased to advise and assist.

TABLE 2 - TORQUE CHART

Coil Watts T. Amb. 20°C	Maximum On Time	Minimum Off Time Mounted in Free Air	Typical Torque (N.m.) 35° Rotation	
			Start	End
15	Continuous		0.102	0.051
18	60 secs.	15 secs.	0.113	0.056
	17 mins.	Recovery Time to T. amb.		
36	20 secs.	30 secs.	0.192	0.073
	4 mins.	Recovery Time to T. amb.		
70	6 secs.	25 secs.	0.249	0.096
	1 min.	Recovery Time to T. amb.		
90	5 secs.	30 secs.	0.260	0.102
	35 secs.	Recovery Time to T. amb.		



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