



# AP MOTRONIX PRIVATE LIMITED

3-18-3, Pragathi Nagar, Ramanthapur, Hyderabad – 500013. A.P.

Off.: 27038560/1929

Fax: +91-40-27038129

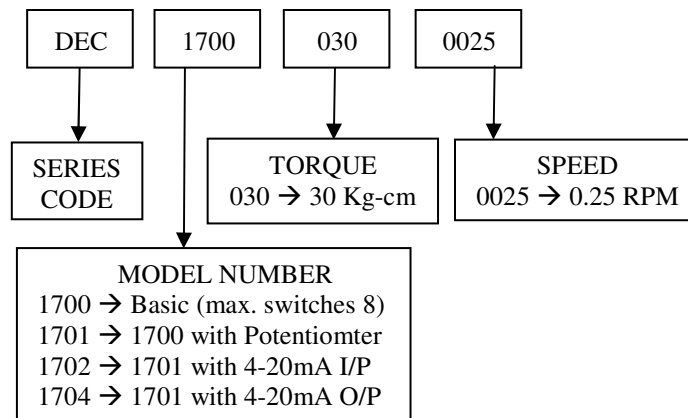
E-mail: [apmotronix@gmail.com](mailto:apmotronix@gmail.com)

Website: [www.apmotronix.com](http://www.apmotronix.com)

## ELECTRIC ACTUATOR (DEC SERIES)

DEC 1700 series are reversing proportional motors used to operate dampers or valves in Electric Modulating Circuits. Electric actuators are designed to meet the requirement of damper control, valve control applications where it is generally required to drive the load through less than one complete revolution either direction and to stop instantaneously at any point of the stroke. Such devices, sometimes also called as Modulating Motors are extensively used for Air-Conditioning, Boiler applications.

### SERIES CODE:



### FEATURES:

1. These are with line voltage or low voltage motors.
2. With single turn actuators, the stroke is fixed at  $90^{\circ}$ ,  $160^{\circ}$ , or  $270^{\circ}$  and is also field adjustable.
3. Models for two-position (ON-OFF) control, fitted with feed back potentiometer and proportional controller with 4-20mA.
4. Rated for ambient  $-40^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ .
5. Available with internal cam adjusted auxiliary switches.

## **CONSTRUCTION:**

Actuator type DEC 1700 consists of a reversible servomotor connected to the output shaft of the device through a series of precision hobbled gears. The gear train is sealed with high grade and high temperature stable grease, thereby ensuring permanent lubrication. Cam operated limit switches stop rotation of the output shaft at predetermined CW and CCW limit of travel. The stroke angle is factory set but can also be altered in field. Thus, by supplying power at the proper terminals, the output shaft can be positioned anywhere within the set stroke angle.

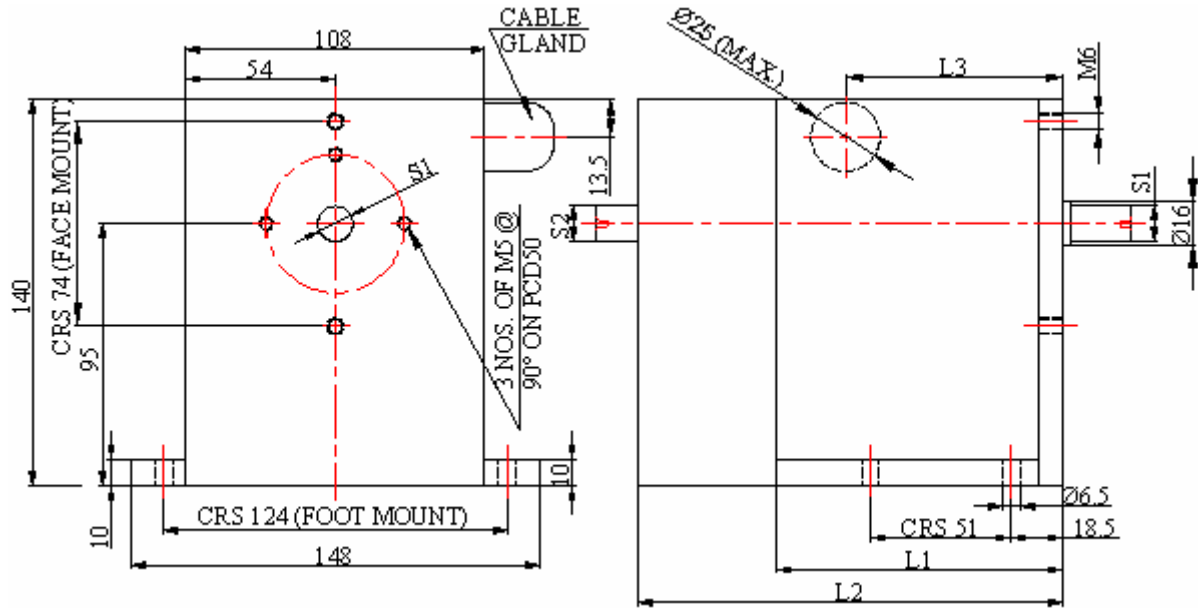
The actuator type DEC 1701 is similar to DEC 1700 in all respect, but has an additional in built feedback potentiometer. Also an auxiliary cam operated micro switch can be fitted internally in both the types, as an optional feature for ON-OFF control of pumps, fans etc. With DEC 1702, the actuator can be run with the Electronic Positioner of 4-20mA input signal. DEC 1704 model is DEC 1701 type with a Position Transmitter of 4-20 mA output signal.

## **SPECIFICATIONS:**

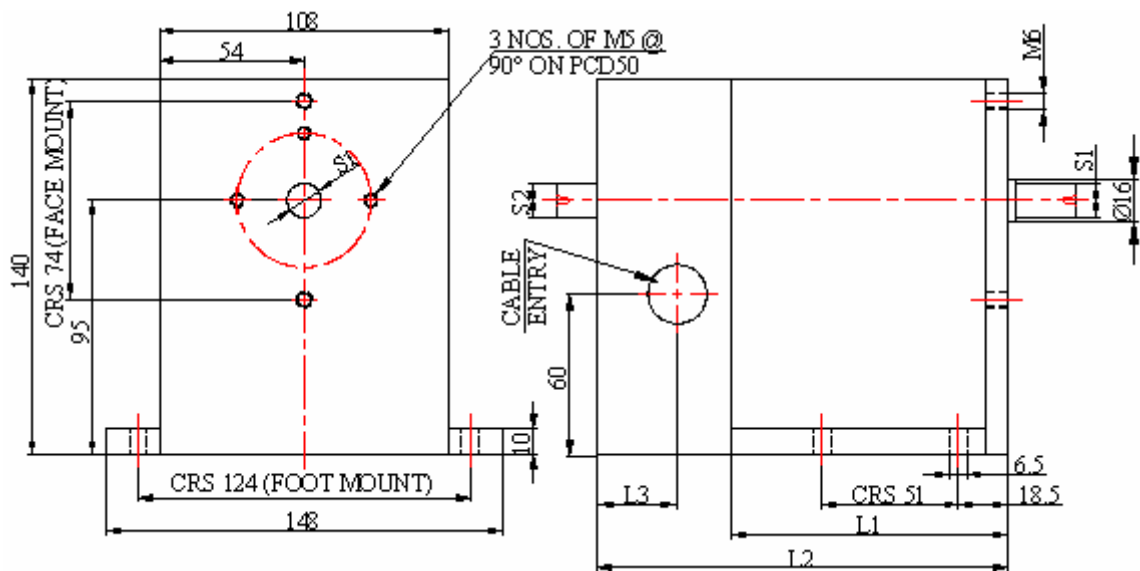
1. **Supply Voltage** : AC, Single Phase, 230V, 50Hz.
2. **Power Consumption** : 20 Watts.
3. **Stroke** : Factory set at  $90^{\circ}$ ,  $160^{\circ}$  or  $270^{\circ}$ . (Field adjustment in steps of  $3^{\circ}$  is possible).
4. **Auxiliary Switch (Optional)**: 2.5A, 250V, 50Hz, NO or NC. (Operated at only one fixed point).
5. **Feedback Potentiometer** :  $135\Omega$  standard matched to stroke angle of either  $90^{\circ}$ ,  $160^{\circ}$  or  $270^{\circ}$ . (The maximum permitted power dissipation for feedback potentiometer is 1W for  $90^{\circ}$ , 1.5W for  $160^{\circ}$ , and 2W for  $270^{\circ}$  stroke angle).
6. **Torque-Speed capabilities** : Total gear ratio is adjusted at factory to obtain the following combination of torque and speed:

Full Load Torque (Kg-cm)	No Load Speed (RPM)	Full Load Speed (RPM)
350	0.25	0.2
170	0.25	0.2
51	0.85	0.65
17	2.5	2.0

**MECHANICAL SPECIFICATIONS: DEC1700 & 1701**



**DEC1702 & 1704:**



MODEL	TORQUE Kg-cm (MAX)	SPEED RPM	SWITCH (MAX)	L1 mm	L2 mm	L3 mm	S1 □ mm	S2 Φ mm
DEC-1700	170	0.2	4	95	155	80	9.5	8 / 10
DEC-1701	170	0.2	3	95	155	80	9.5	---
DEC-1700	350	0.2	4	116	175	90	9.5	8 / 10
DEC-1701	350	0.2	3	116	175	90	9.5	---
DEC-1702	350	0.2	3	116	175	90	9.5	---

1. For Torque  $\leq 30$ ; S1 (Shaft at Power / Load End) is  $\Phi 8$  or  $\Phi 12$ .
2. S2 (Shaft at Rear / Auxiliary end) is optional for DEC-1700 to use degree pointer indication.
3. Lengths of S1 & S2 are 25.0 (max.)
4. Mounting: (a) Face: For torques  $\leq 50$  Kg-cm, 2 nos. of M6 are also provided at Power End.
5. For torques less than the rated maximum torque for the particular model number, the speeds will be proportionately higher than the rated speed.

**ORDERING DATA:** Clearly indicate in your purchase order the following:

- Model No.** : DEC 1700 for 2 position control.  
DEC 1701 for DEC 1700 with feedback potentiometer.  
DEC 1702 for DEC 1701 with 4-20mA input signal.  
DEC 1704 for DEC 1701 with 4-20mA output signal.
- Full Load Torque** : In Kg-cm (Max. 350)
- Stroke Angle** :  $90^0$ ,  $160^0$ , or  $270^0$  (can be customized).
- Time for Stroke Angle** : In secs.
- No. of Switches** : Max. 8 for DEC-1700 (please call for confirmation and other models).