

APECS™ 0175

Series Actuators

Description

APECS™ 0175 linear actuators deliver precise positioning and form the foundation of a full electronic governing system. Many of the moving parts normally associated with electric actuators are eliminated, prolonging the MTBF (mean time between failure).

The actuator design employs the principle of variable reluctance for consistent force over the entire stroke. This simple design of a proportional electric linear actuator utilizes a sliding armature whose magnetic force is proportional to the input coil current.

These actuators are easy to install by mounting near the fuel system with a direct connection to the fuel control rod or level. In most installations, the normal rotary-to-rotary connection is eliminated, resulting in a more trouble-free and accurate control system.

APECS 0175 actuators are suitable for installation on diesel, gasoline, or natural gas engines with fuel system force requirements of less than 4.0 pounds (17.8 N) of force.

Applications

Provides proportional fuel control for construction, industrial, and agricultural equipment. 1.75-inch (44.4 mm) diameter spring-return actuator, pull or push models, three spring types available.

Electrical Specifications

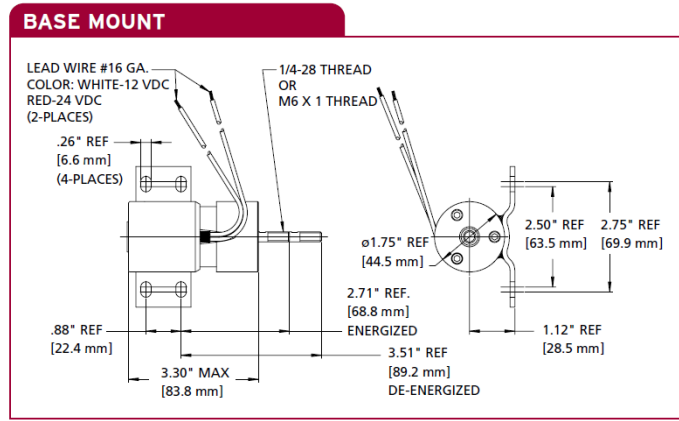
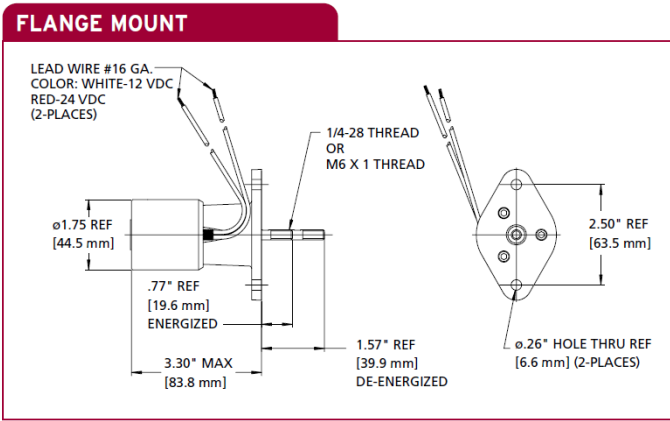
Stroke	0.75 inch (19 mm) minimum
Force	3.5 lb (15.6 N) @ 23 °C (with SI spring, normal current)
Work Rating	0.3 lb-ft (0.4 N•m)
Nominal Rated Current	4.3 A (12 V [dc]); 2.3 A (24 V [dc])
Response Time	30 ms for 10 % to 90 % of stroke
Resistance (nominal)	2.80 Ω (12 V); 10.63 Ω (24 V)

Mechanical Specifications

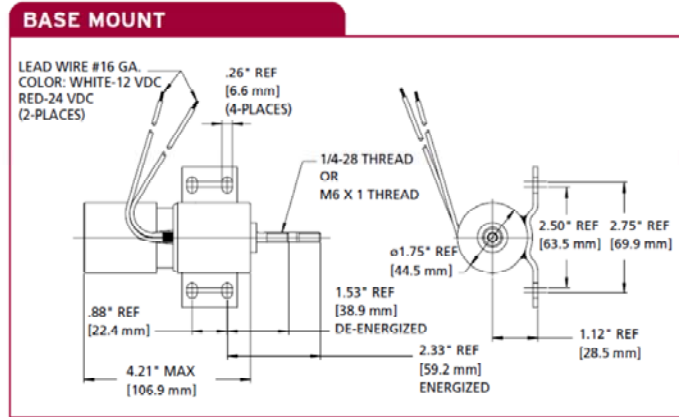
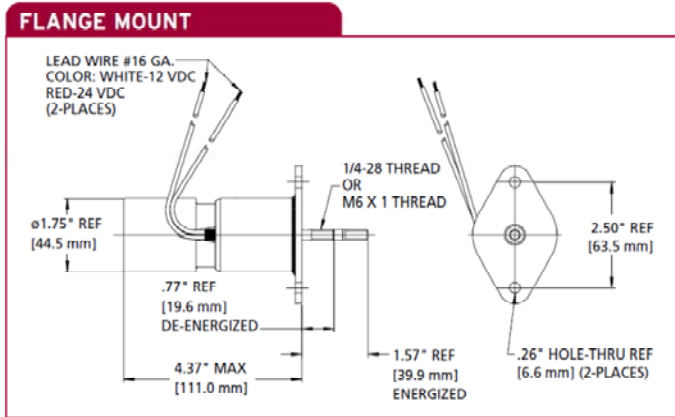
Operating Temperature	−40 °F to +185 °F (−40 °C to +85 °C)
Vibration	15 G's (3 planes, 1 h/plane 50 Hz to 1000 Hz sweep; 3 planes, 1 h/plane at first resonant frequency)
Shock	Designed for US MIL-STD-810F, Method 516.5, Section 4.5.2: Procedure 1: 40 G peak



- Pull or push actuation:
Model 0175 pull
Model 0175P push
- Flange or base mount
- Internal spring return to minimum fuel position
- Corrosion-resistant, plated steel housing and mounting base/flange
- Precise engine speed control when used with APECS electronic controllers
- Variety of mounting styles, plungers, terminations, and springs available



0175 / Pull Actuation



0175P / Push Actuation

Model No.	Voltage	Mounting Style	Plunger type	Termination Type	Return Spring*
0175 Pull	12 12 VDC	A Flange	2 Ext. 1/4-28 thread	L Lead wire	S1
0175P Push	24 24 VDC	E Base	3 Ext. M-6 thread	C Connector	S2
					S3

Order Information—Complete the following model descriptions to build your order number:

Spring Type	PART NO.	De-energized Spring Force	Energized Spring Force	Spring Rate
S1	SA-4703	0.50 lbs (2.2 N)	5.25 lbs (23.4 N)	5.94 lbs/in (0.16 kg/mm)
S2	SA-4704	0.25 lbs (1.1 N)	6.00 lbs (26.7 N)	7.20 lbs/in (0.13 kg/mm)
S3	SA-4472	0.40 lbs (1.8 N)	1.60 lbs (7.1 N)	1.53 lbs/in (0.03 kg/mm)

Spring Chart (at ambient temperature)



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Distributors & Service

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