



APECS 0225

Linear Actuator with Boot & Clevis Plunger

Applications

APECS 0225 linear actuators provide proportional fuel control for construction, industrial, and agricultural equipment. Applications include:

- Speed governing
- Generator sets
- Forklift trucks
- Power carts
- Off-road vehicles
- Pump sets
- Pleasure boats
- Wood chippers

Description

The APECS 0225 linear actuator delivers precise positioning and forms 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 and direct connecting to the fuel control rod or lever. In most installations, the normal rotary-to-rotary connection is eliminated, resulting in a more trouble-free and accurate control system.

This 0225 actuator is a base-mount, pull actuation model with a protective boot and clevis plunger. Lead wires are sheathed in convoluted conduit and terminate with a Deutsch connector (p/n DT04-2P). Actuator is suitable for installation on diesel, gasoline, or natural gas engines with fuel system force requirements of less than 22.2 N (5 lbf).

- 12V pull actuator
- Ball bearing design for reduced friction, resulting in more precise engine control
- Fast response
- Designed to minimize heat buildup, resulting in consistent force and improved position repeatability
- Spring return to minimum fuel
- Small & compact
- Protective boot and clevis plunger
- Mounts in any position

Specifications

Woodward P/N 8225-1014 / 12V Pull Actuator

- Base mounted
- Clevis plunger
- Sheathed lead wires
- Return spring *
- Deutsch connector

Electrical

Input Voltage Range:	12 Vdc
Nominal Steady State Current:	3.0 A
Maximum At Stall @ 250°F (125°C):	3.6 A

Performance

Resistance	1.85 Ohm
Force w/o Internal Spring:	22.2 N (5 lbf)
Work w/o Spring:	0.56 N-m (0.42 ft-lb)
Shaft Travel:	24.76-26.29 mm (0.975-1.035")
Response Time Nominal for 63% of Stroke:	0.05 sec ON Time 0.035 sec OFF Time

Environmental

Operating Temperature:	-65°F to +250°F (-55°C to +125°C)
Vibration:	20-1000 Hz @ 16.5 Gs / 20 hrs
Case:	Corrosion resistant, plated steel housing and mounting base/flange
Sealing:	Oil, water, and dust resistant
Weight:	1.32 kg (2.9 lbs)

* Spring Chart

PART NO.	DE-ENERGIZED SPRING FORCE	ENERGIZED SPRING FORCE	SPRING RATE
1520-1317	2.22 N (0.5 lbf)	27.8 N (6.25 lbf)	5.75 lb/in (0.103 kg/mm)

Installation

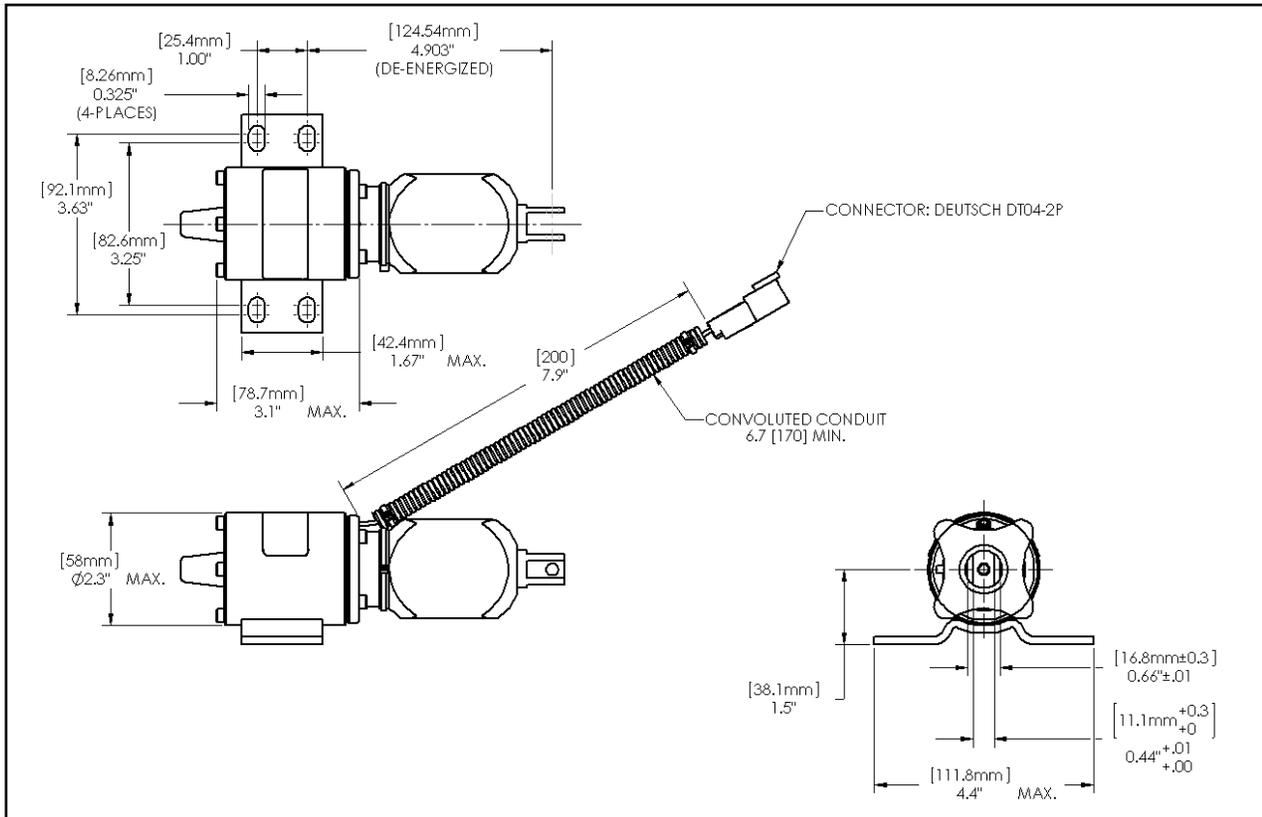


Figure 1. 0225 Actuator Dimensions (shown with Sheathed Leads)

The 0225 linear actuator mounts easily near the fuel system and direct connects to the fuel control rod or lever.

1. Attach linkage to clevis via thru-hole. Be sure linkage is free from binds and interference.
2. Avoid side loading of clevis during installation and operation.
3. Allow protective boot to flex freely without interference from nearby components.
4. Use properly designed hardware and brackets for your specific application. Use manufacturer's recommended crimper (AMP).

NOTE: Deutsch mating receptacle connector part number is DT06-2S.



WARNING

The engine, turbine, or other type of prime mover should be equipped with an overspeed shutdown device to protect against runaway or damage to the prime mover with possible personal injury, loss of life, or property damage.

The overspeed shutdown device must be totally independent of the prime mover control system. An overtemperature or overpressure shutdown device may also be needed for safety, as appropriate.



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