AVCO

Alloy Valves and Control

ELECTRIC ACTUATOR
PS1200 SERIES

Actuator Specifications	PS1200		
Torque	1150 in.lbs/130 Nm		
Supply Voltage	24V AC/DC	120V AC	230V AC
Max Inrush Current	19.0A	11.0A	5.6A
Running Current	9.0A	3.8A	2.1A
Motor	DC Brush Type	Split Phase Capacitor	
Runtime (90°@60Hz/vdc)	8 sec	7 sec	
Runtime (90°@50Hz)	8 sec	9 sec	
Duty Cycle	3 sec	8 sec	
Duty Cycle	50%		
Motor Starts	300 per hour		
Weight	124 lbs/57 kg		
Mechanical Connections	ISO 5211 F10 8 point 22mm		
Electrical Entry	1/2" NPT (2 places)		
Electrical Terminations	12-16 gage		
Environmental Rating	NEMA 4/4X		
Manual Override	N/A		
Control	On/Off	On/Off, Proportional	
Actuator Case Material	Aluminum Alloy, Powder coated		
Motor Protection	230°F/110°C Thermal F* Class *Totally Enclosed Non-Ventilated Motors		
Ambient Temperature Operating Range	-22°F to +149°F/-30°C to +65°C		

This literature does not include a manual override version, although one does exist.
(See separate literature)

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Overview

A SPRING RETURN electric actuator designed for load requirements up to 1150 in.lbs. The actuator comes standard with two auxiliary switches (Form C), an internal low power heater, a NEMA 4X environmental rating, and in 120/230V AC or 24V AC/DC supply voltages. The PS1200 Series mechanical connections utilize an ISO5211 mounting system, size F10 with an 8 point 22mm female drive. The PS1200 Series is offered in two different control modes....On/Off (2 position control), or Proportional (modulating control). Application requirements will dictate whether to utilize a CW (clockwise spring return) or CCW (counter-clockwise spring return) model. Spring return direction is NOT changeable and actuator must be configured for spring direction at time of order.

Theory of Operation

While power is present, the actuator will respond to drive control signals depending on the model chosen. A 2 position unit will drive until it reaches the full end of travel setting opposite the spring return direction. A Proportional control unit will follow an analog control signal for positioning and will HOLD until a modified control signal is received. In each of these models a motor brake unit is utilized to HOLD the actuator in position until commanded to move OR a loss of supply voltage. If power is lost or removed at any time, the brake is released and the mechanical spring mechanism returns the actuator to it's normal (unloaded) position. Once the spring mechanism has been released, the actuator will not drive under power again until all the following criteria are met:

a) the unit has reached it's fail stop (unloaded) position.
b) power has been restored to the actuator.
c) initial Power Startup time delay has elapsed.

Application Notes

1. These actuators are designed to be used in either a horizontal or upright position. Do NOT mount the actuator with the top below a horizontal position.
2. When installing conduit, use proper techniques for entry into the actuator. Use drip loops to prevent conduit condensate from entering the actuator.
3. Both NPT conduit ports MUST use proper equipment to protect the NEMA 4x integrity of the housing.
4. The internal heater is to be used in ALL applications.
5. Do NOT install the actuator outdoors or in humid environments unless it is powered up and the heater is functioning.
6. Use proper wire size to prevent actuator failure (see chart below for proper wire sizing).
7. Mechanical travel stops are factory calibrated for 90 degree operation. These stops are NOT designed to adjust mechanical rotation by more than +/- 3 degrees.

Spring Pack Notes

A modular cast aluminum housing incorporates the mechanical drive train, the spring pack and rack assemblies, the output drive shaft, motor and control section. The spring pack is **NOT** field serviceable and spring failure direction mode must be selected at time of order.

CAUTION!.....spring packs are under **EXTREME** tension and must **NOT** be altered or modified under any circumstances. Do **NOT** remove any bolts or screws from the actuator housing other than the (4) TOP COVER SCREWS. Failure to comply with this warning could cause ***severe bodily injury and voids any liability or warranty.***

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On/Off (2 Position Control)

On/Off (2 Position) control is used for damper or valve applications where the requirement is for either fully open or fully closed positioning. This actuator must drive to its end of travel opposite the spring fail position. Loss of control signal or power before reaching its end of travel will cause the unit to spring return.

Proportional Control

Proportional control is used for damper or valve applications where the requirement is for the device to follow an analog control signal to provide modulating control of the device.
The unit will accept various control signal inputs (4-20mA, 2-10vdc or 1-5vdc) and also will provide an analog feedback signal for external signal referencing. In this scheme, the motor brake will engage any time the drive motor is NOT moving under power.
Only a loss of supply POWER will cause the spring mechanism to fail-position the actuator. However, a loss of control SIGNAL can be programmed to drive the actuator to either fully open, fully closed or to fail-in position.
Proportional Control available for 120/230vac applications only.

Wiring Diagrams

Refer to the proper IOM for your chosen actuator for the correct wiring diagram.

Available Options

- Premium Proportional Controller Kit. Converts 2 position to proportional control.
- Cold weather auxiliary heater kit. Thermostatically controlled, On 32°F, Off at 50°F, auto reset, hermetically sealed, 24/120/230vac On/Off/Jog type actuators.
- Local Control Station offers “HAND/OFF/AUTO” Switch and OPEN/OFF/CLOSE Switch, No Indicator Lights (See catalog for additional Local Control Stations).
- Local Control Stations (LCS) are designed to be remotely located or directly mounted to the actuator. Proportional actuators will have different options than On/Off. Available in steel, stainless, or fiberglass enclosures (See catalog for additional Local Control Selections)
- 3 Phase models utilizing a Local Control Station housing a transformer which supplies single phase power to the actuator.

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ELECTRIC ACTUATOR
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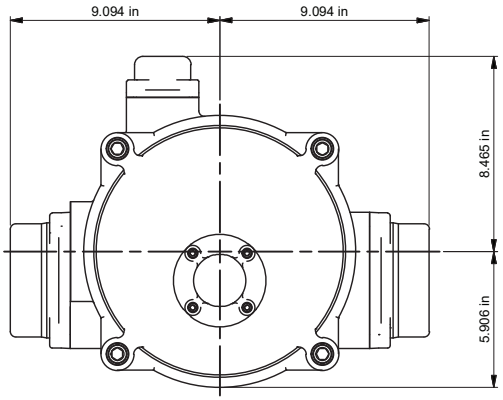
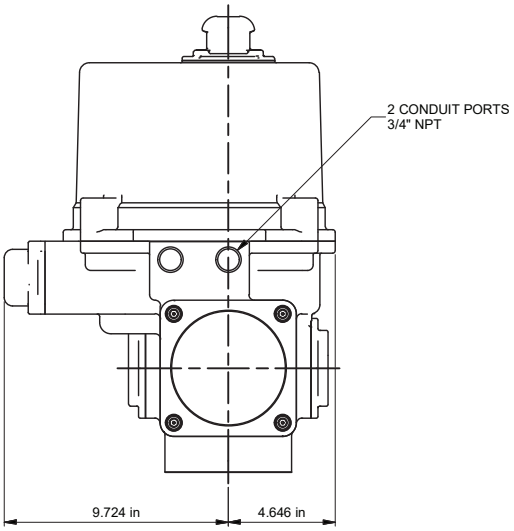
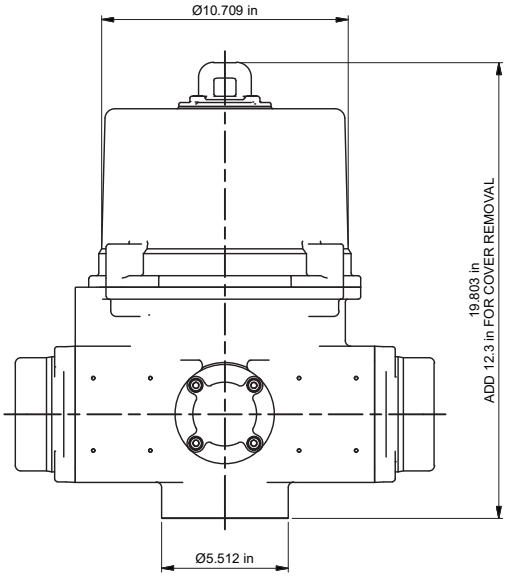
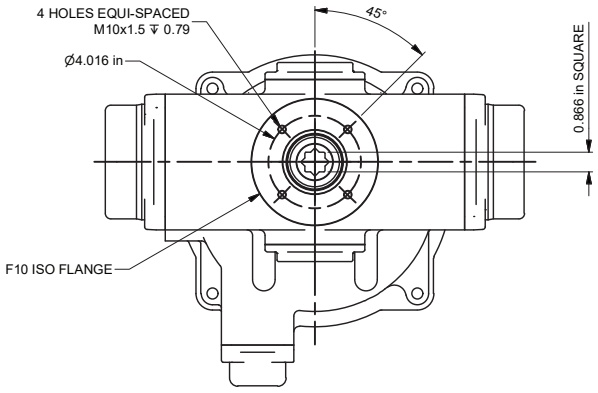
PS1200 Series
Dimensional Data
(CW version shown)









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ELECTRIC ACTUATOR
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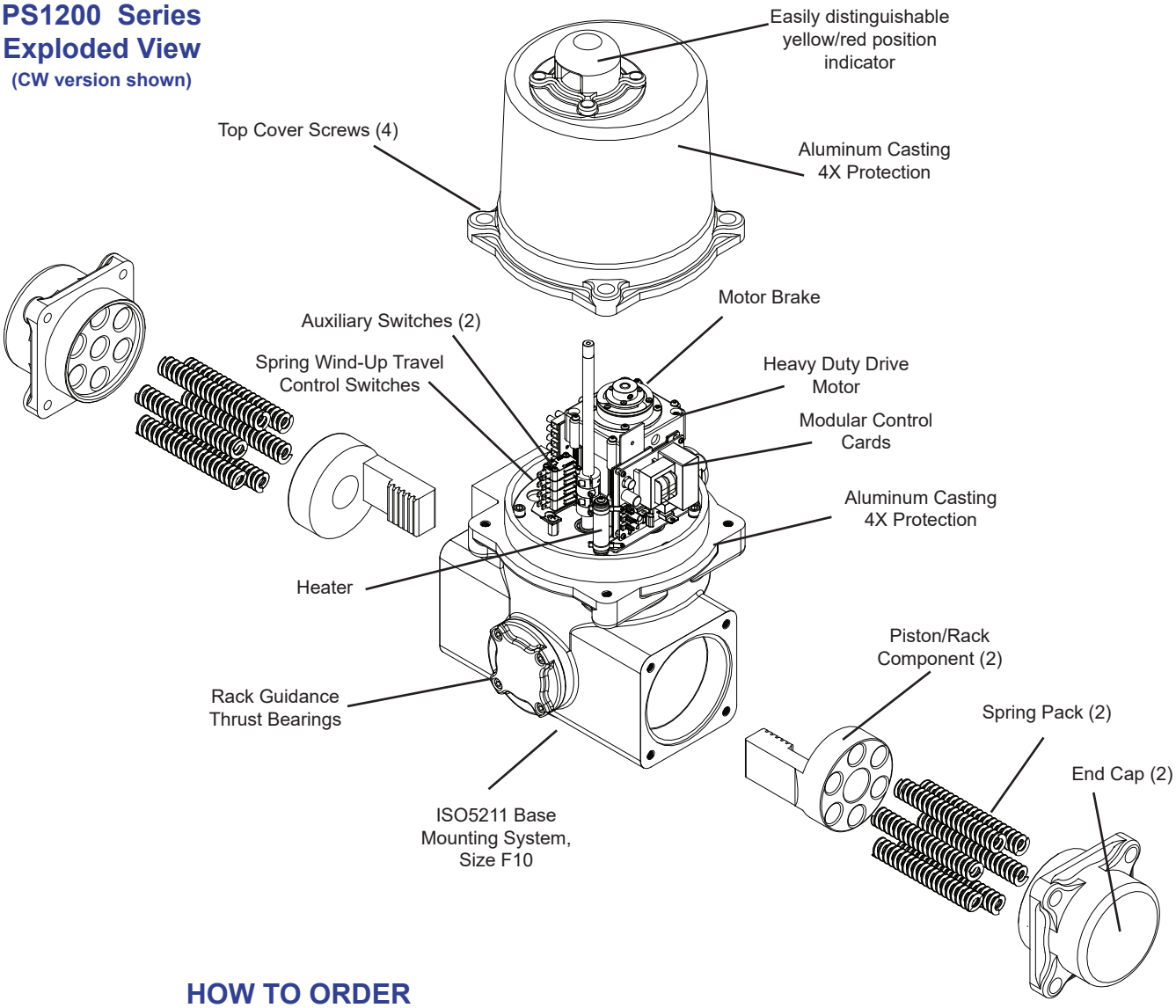
PS1200 Series Exploded View
(CW version shown)



HOW TO ORDER

PS1200	4X	24D	-	CW
Model	**Enclosure**	**Voltage**	**Control**	**Spring Return**
PS1200 - 1150 in.lbs	4X - NEMA 4X	24D - 24v DC 24A - 24v AC 120A - 120v AC 230A - 230v AC	blank - On/Off P - Proportional	CW - Clockwise CCW - Counter-Clockwise

Example ordering codes: PS1200-4X-24D-CW = 24v DC Electric actuator with On/Off control & clockwise spring return
PS1200-4X-120A-P-CCW = 120v AC Electric actuator w/ proportional control & counter-clockwise spring

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