DS Series
Quarter Turn Reversible
Compact Spring Return
90 in.lbs thru 445 in.lbs
Manual Override
On/Off/3 Position or Proportional Control
12v thru 230v

PL Series
Linear
Non-Spring Return
550 in.lbs thru 4400 in.lbs
Manual Override
Up To 4” stem travel
On/Off/Jog or Proportional Control
12v thru 230v

P Series
Quarter Turn
Non-Spring Return
300 in.lbs thru 40500 in.lbs
Manual Override (optional)
On/Off/Jog or Proportional Control
12v thru 230v

PS Series
Quarter Turn Reversible
Spring Return
450 in.lbs thru 2300 in.lbs
Manual Override (optional)
On/Off/Jog or Proportional Control
12v thru 230v
### DS Series

The AVCO DS Series is a compact reversible electric spring return actuator. Stainless steel and sintered metal gears are contained in a compact, robust aluminum housing adhering to NEMA 4/IP66. It has direct coupling capabilities on dampers with 12mm or 16mm square shafts or can be used with brackets on almost any quarter turn product i.e. ball or butterfly valves. The shaft has 95 degree rotation including 5 degree pre-tension. Basic manual override is standard with the addition of a handwheel being optional.

### Key Features

- Universal voltage (24 thru 230v AC/DC)
- Site adjustable motor run times
- Site selectable spring return times
- Proportional, On/Off and Jog (3 position) control with or without spring return
- 100% overload protection
- Integral heater for temperatures down to -40°F
- Integral safety temperature sensor
- Integral design for field selection of run time and spring speed
- Automatic voltage switching
- Maintenance free

### Model Torque Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Torque (in.lbs)</th>
<th>Voltage</th>
<th>Motor Run Time (seconds)</th>
<th>Spring Return (seconds)</th>
<th>Control</th>
<th>Available Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT-EL-DS045</td>
<td>45</td>
<td>24 thru 230v AC/DC</td>
<td>3, 15, 30, 60 or 120 @ 90°</td>
<td>3 or 10 @ 90°</td>
<td>On/Off, Jog or Proportional</td>
<td>EMT Enclosure 1/2&quot; Conduit Entry Terminal Strips Man. Override Handwheel External Auxiliary Switches ISO 5211 Conversion Bracket</td>
</tr>
<tr>
<td>ACT-EL-DS090</td>
<td>90</td>
<td>24 thru 230v AC/DC</td>
<td>3, 15, 30, 60 or 120 @ 90°</td>
<td>3 or 10 @ 90°</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-DS133</td>
<td>133</td>
<td>24 thru 230v AC/DC</td>
<td>3, 15, 30, 60 or 120 @ 90°</td>
<td>3 or 10 @ 90°</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-DS265</td>
<td>265</td>
<td>24 thru 230v AC/DC</td>
<td>40, 60, 90, 120 or 150 @ 90°</td>
<td>20 @ 90°</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-DS445</td>
<td>445</td>
<td>24 thru 230v AC/DC</td>
<td>40, 60, 90, 120 or 150 @ 90°</td>
<td>20 @ 90°</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
</tbody>
</table>

*Not all combinations possible*
P Series
The AVCO P Series is an electric actuator. The planetary epicyclic gear design is contained in a robust cast aluminum housing adhering to NEMA 4/4X to resist environmental attack. The internal modular design eliminates excess wiring and allows for simple field conversion between 2 position and proportional control. It has direct coupling capabilities with many valves via the ISO 5211 mount pad, culminating in a lower profile assembly. The shaft gives 90 degree rotation with a ±3 degree adjustment and its position is clearly shown on a raised indicator for quick visual verification. Manual override is optional and is achieved without the need for levers to engage the override function.

Key Features
- Patented self-locking drive
- Proportional, On/Off and jog control
- Internal heater
- Dual SPDT auxiliary switches
- Internal motor thermal protection
- 3/4” NPT wiring ports (2)
- Positive mechanical stops
- Operating range (ambient) -22°F to 150°F

### Model Torque Voltage Motor Run Time Spring Return Control Available Options
<table>
<thead>
<tr>
<th>Model</th>
<th>Torque (in.lbs)</th>
<th>Voltage</th>
<th>Motor Run Time (seconds)</th>
<th>Spring Return (seconds)</th>
<th>Control</th>
<th>Available Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT-EL-P0300</td>
<td>300</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>12</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td>Basic Local Control&lt;br&gt;Mid-Level Local Control&lt;br&gt;Full Local Control&lt;br&gt;Chain Wheel Override&lt;br&gt;Additional Auxiliary Switches&lt;br&gt;Potentiometric Feedback&lt;br&gt;No Manual Override</td>
</tr>
<tr>
<td>ACT-EL-P0445</td>
<td>445</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>12</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P0800</td>
<td>800</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>15</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P1300</td>
<td>1335</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>22</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P3500</td>
<td>3560</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>18</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P4400</td>
<td>4450</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>22</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
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<tr>
<td>ACT-EL-P5800</td>
<td>5785</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>28</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P8900</td>
<td>8900</td>
<td>120/230v AC/DC</td>
<td>46</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P13500</td>
<td>13350</td>
<td>120/230v AC/DC</td>
<td>46</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P17500</td>
<td>17800</td>
<td>120/230v AC/DC</td>
<td>58</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P22000</td>
<td>22250</td>
<td>120/230v AC/DC</td>
<td>58</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P26500</td>
<td>26700</td>
<td>120/230v AC/DC</td>
<td>58</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P31000</td>
<td>31150</td>
<td>120/230v AC/DC</td>
<td>58</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-P40500</td>
<td>40500</td>
<td>120/230v AC/DC</td>
<td>80</td>
<td>-</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
</tbody>
</table>

*Not all combinations possible or available for all actuators - consult AVCO*
PS Series

The AVCO PS Series is a reversible electric spring return actuator. The mechanical drive train is contained in a robust cast aluminum housing adhering to NEMA 4/4X to resist environmental attack. The internal modular design eliminates excess wiring and allows for simple field conversion between 2 position and proportional control. It has direct coupling capabilities with many valves via the ISO 5211 mount pad, culminating in a lower profile assembly. The shaft gives 90 degree rotation with a +/- 2 degree adjustment and its position is clearly shown on a raised indicator for quick visual verification. Manual override is optional and is achieved without the need for levers to engage the override function.

Key Features

- Patented self locking drive
- Proportional, On/Off and jog control
- Internal heater
- Adjustable spring return
- Dual SPDT auxiliary switches
- Internal motor thermal protection
- 3/4” NPT wiring ports (2)
- Positive mechanical stops
- Operating range (ambient) -22°F to 150°F

<table>
<thead>
<tr>
<th>Model</th>
<th>Torque (in.lbs)</th>
<th>Voltage</th>
<th>Motor Run Time (seconds)</th>
<th>Spring Return (seconds)</th>
<th>Control</th>
<th>Available Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT-EL-PS0450</td>
<td>450</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>7 or 9</td>
<td>3</td>
<td>On/Off, Jog or Proportional</td>
<td>No Manual Override</td>
</tr>
<tr>
<td>ACT-EL-PS1150</td>
<td>1150</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>7, 8 or 9</td>
<td>3 or 8</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-PS1750</td>
<td>1750</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>11 or 13</td>
<td>3 or 12</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-PS2300</td>
<td>2300</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>14 or 17</td>
<td>3 or 12</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
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</table>

NOTE: Motor run time and spring return is dependant upon voltage requirements and is not selectable.
PL Series

The AVCO PL Series is a linear electric actuator. The mechanical drive train is contained in a robust cast aluminum housing adhering to NEMA 4/4X to resist environmental attack. The internal modular design eliminates excess wiring and allows for simple field conversion between 2 position and proportional control. It has direct coupling capabilities with many valves via the ISO 5211 mount pad and easily adapts to most rising stem designs. The stem travel is controlled using integrated torque switches and its position is clearly shown on the stem position indicator for quick visual verification. Manual override is standard and is achieved without the need for levers to engage the override function.

Key Features
Patented self locking drive
Proportional, On/Off and jog control
Internal heater
Internal motor thermal protection
3/4" NPT wiring ports (2)
Operating range (ambient) -22°F to 150°F

<table>
<thead>
<tr>
<th>Model</th>
<th>Torque (in.lbs)</th>
<th>Voltage</th>
<th>Motor Run Time (seconds)</th>
<th>Stroke (mm)</th>
<th>Control</th>
<th>Available Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT-EL-PL0550</td>
<td>550</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>78, 148 or 201</td>
<td>20, 38 or 50</td>
<td>On/Off, Jog or Proportional</td>
<td>None</td>
</tr>
<tr>
<td>ACT-EL-PL1100</td>
<td>1100</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>83, 155 or 205</td>
<td>20, 38 or 50</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-PL2200</td>
<td>2200</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>166, 224, 338 or 450</td>
<td>38, 50, 75 or 100</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
<tr>
<td>ACT-EL-PL4400</td>
<td>4400</td>
<td>12/24v AC/DC, 120/230v AC/DC</td>
<td>162, 212, 314 or 416</td>
<td>38, 50, 75 or 100</td>
<td>On/Off, Jog or Proportional</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Motor run time is dependant upon stroke length
Wiring Diagrams

Wiring diagrams are available for all actuators in all combinations and can be freely sourced by contacting AVCO directly. Some samples are shown below:

P Series 24v with Jog Control

PS Series 120v with On/Off Control
**PL Series 120v with Proportional Control**

**P Series 12v with On/Off Control**
Further Information
Product specific datasheets are available from AVCO for all actuators contained within this literature giving detailed information for all variations of each product. We also carry installation and operation manuals which we can provide prior to orders being placed to expedite project planning to better serve our customers' needs.