

# Options Series

## Options

- **Auxiliary limit switches:**

A total of four additional limit switches can be installed in the Series 92, and a total of two additional limit switches can be installed in the Series 94 for interlocking with other equipment or valves. Also widely used as valve position confirmation (end of travel) with a PLC, DCS, etc. These switches are SPDT with a 15 amp rating.

- **Feedback potentiometer:**

A 1000-ohm, 1 watt feedback potentiometer with 5% linearity can be installed for position feedback. This varies from the auxiliary limit switches, as the feedback potentiometer provides a varying degree opening percentage from 0-1000 ohms.

- **Heater and thermostat:**

A pre-wired heater and thermostat is available for maintaining a constant temperature inside of the actuator housing, eliminating condensation that can form when the temperature fluctuates. It is imperative when the actuator is used in lower operating temperatures. The heater and thermostat are effective to -40 degrees F.

- **Modulation PCB:**

A solid state PCB can be installed inside of the actuator for precise modulating control. The standard PCB accepts 115 VAC supply voltage and a 4-20 mA control signal but can be configured at the factory for various voltage supplies such as 230 VAC, 24 VAC, etc and optional control signals such as 0-10 VDC.

- **Mechanical brake:**

This prevents oscillation typically found with rubber seated Butterfly Valves. The brake is installed on top of the motor armature and is electro-mechanical. When power is applied to the actuator, it is also applied to the brake, which releases the armature and allows the unit to cycle. When the power is lost the springs within the brake lock the armature so that it can no longer rotate, thus eliminating oscillation.

- **4-20 Transmitter:**

A solid state PCB installed in the unit will provide precise valve position to a PLC, DCS, etc. via a 4-20 mA signal. This is an output signal *from* the actuator NOT a control signal *to* the actuator. This does not require the use of a modulating PCB as it is not for controlling the actuator only for reporting the position to the appropriate piece of equipment.

- **Cycle length control (CLC):**

This option allows the field adjustment of the cycle time up to 10 minutes. The CLC can be configured at the factory for the open cycle only, for the close cycle only, or for the combination of open and close cycles.

- **Two-wire control:**

The two-wire control option is a relay installed inside of the actuator for direct wiring to timers, level switches (SPST), or for replacing a solenoid valve. A constant power supply and a SPST switch of some sort are required for cycling of the actuator. When the SPDT switch is closed, the valve opens, and vice versa.

- **Center off:**

This option is used when a 90-degree "off" position is required while using a three-way ball valve. Two limit switches and two cams are installed in the unit (not to be confused with auxiliary limit switches) and allow three positions for a three way valve; 0 degrees or left port open, 180 degrees or right port open, and 90 degrees or both ports closed.

- **Failsafe battery back up:**

A solid state PCB along with a rechargeable battery pack are installed inside of the actuator. When power is lost, the unit will then travel to a pre-determined "fail position". It is imperative that there be constant power to the unit to ensure that the battery pack maintains a full charge. This option allows for two selectable modes of operation:

- 1) The unit can be operated as an on/off unit; power open/power close. A loss of power would result in the unit returning to the "fail position".
- 2) The unit can be operated similar to a solenoid valve; power to one position and fail to the other position.

- **Multiturn:**

This is more of a necessity than an option. When electrically actuating a Gate or Diaphragm Valve, there must be multiple revolutions to open and close the valve. Asahi installs a 10 position rotary switch in parallel with the standard limit switches to achieve this. By wiring in parallel, the rotary switch overrides the standard switch allowing for multiple revolutions. This parallel wiring also requires that both switches be open for the actuator to stop. This is only available with the Series 92 Electric Actuator.

- **Bus System:**

A single pair of wires, which handles power and communications, is used to control the network by means of "chaining" the actuators with the PLC. Each actuator (or device) will then have its own unique address within the system and only that device with the proper address will respond to system commands.