



S4 Series

Universal Voltage Electric Valve Actuators



The **Assured Automation S4 Series Universal Voltage Electric Valve Actuators** automatically detect and accept any voltage from 24 to 240 Volts AC or DC. They incorporate the latest advances in motor and control technology at an economical price.

The S4 units incorporate an electronic torque limiter to protect the actuator and LED status lights allow for easy field diagnostics. They have a domed position indicator that provides a local visual indication of the valve's position. Electrical connections are made with DIN connectors which allow the unit to be field wired without opening the actuator.

Options include a plug-and-play analog to digital positioner board and a battery "spring return" feature that allows the actuator to fail to closed or open in the event of a power failure.

SPECIFICATIONS

Materials:**Housing:** Anticorrosive polyamide**External Shaft:** Stainless Steel**Gears:** Steel and polyamide**Indicator:** Glass filled polyamide**Direct Mounting to Valve:****ISO 5211:**

S40170 & S40300: F03, F04, and F05

S40480 & S40750: F05, and F07

S41200 & S42600: F07, and F10

Drive Shaft: Female square (star)

S40170 & S40300: 14mm

S40480 & S40750: 17mm

S41200 & S42600: 22mm

Electrical Connection:

DIN 43650, ISO 440, C192

Temperature Range:

-4°F to 158°F

Enclosure Rating:

All: NEMA 4/4X weatherproof

S40170 to S40750: IP67

S41200 to S42600: IP65

Motor:

Single phase reversing motor with end of travel limit switches

Duty Cycle: 75%**Thermostat Controlled Heater:**

3.5 W

FEATURES

- Universal-voltage 24 to 240 Volts AC/DC
- Internal thermostat controlled anti-condensation heater
- Isolated end of travel limit switches
- Manual override knob for emergency operation by hand
- Electronic torque limiter
- Auto-voltage sensing reduces field wiring mistakes
- Visual domed position indicator
- LED status indicator
- IP67 (S40170 to S40750)
IP65 (S41200 and S42600)
- NEMA 4/4X
- External wiring connection with DIN Plugs, no need to open unit for field wiring
- ISO5211 mounting flange
- CE Marked

OPTIONAL FEATURES

- DPS analog to digital positioner (4-20mA and 0-10 VDC)
- Battery failsafe (fail closed or open).
- Potentiometer: 1K, 5K, 10K
- 3 position operation
- Cord sets or NPT DIN connectors

TYPICAL APPLICATIONS

- 2-way and 3-way Ball valves
- V-port ball valves for flow control
- Butterfly valves

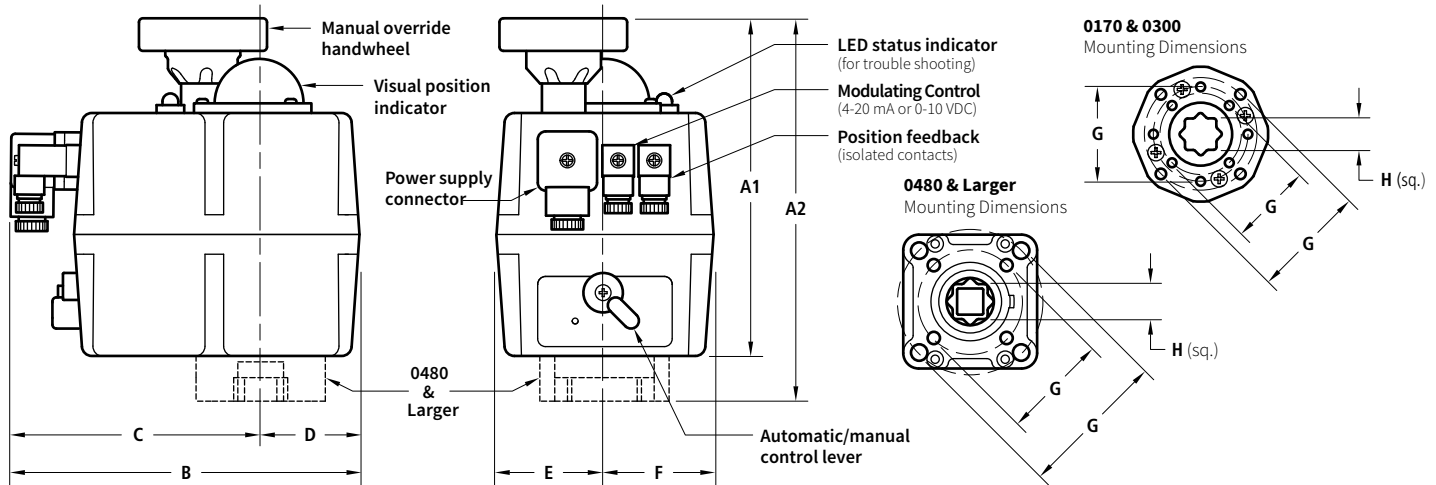


S4 Series



Universal Voltage Electric Valve Actuators

DIMENSIONS (Normally Closed Valves - in Inches except where noted)



Size	A1	A2	B	C	D	E	F	G	H □ mm	Weight (lbs.)	Speed (seconds)		Torque (in./lbs.)	
											12 - 24V	85 - 240V	Run	Start
0170	6.73	-	6.97	4.96	2.01	2.16	2.16	F03/F04/F05	14	4.0	12	11	177	221
0300	6.73	-	6.97	4.96	2.01	2.16	2.16	F03/F04/F05	14	4.2	12	11	309	353
0480	-	7.72	6.97	4.96	2.01	2.16	2.16	F05/F07	17	5.3	16	14	486	540
0750	-	7.72	6.97	4.96	2.01	2.16	2.16	F05/F07	17	6.6	35	40	752	796
1200	-	10.00	9.25	5.04	4.21	4.21	4.21	F07/F10	22	11.4	33	33	1239	1504
2600	-	10.00	9.25	5.04	4.21	4.21	4.21	F07/F10	22	11.5	60	60	2655	3097

ISO5211 MOUNTING PATTERN DIMENSIONS [in mm (inches)]

Dimension	F03	F04*	F05	F07	F10
Ø Bolt Circle	36 mm (1.417")	42 mm (1.654")	50 mm (1.969")	70 mm (2.756")	102 mm (4.016")
Bolt Square	25.4 mm (1.00")	29.7 mm (1.17")	35.4 mm (1.39")	49.5 mm (1.95")	72.1 mm (2.84")
Stem Square	9 mm (0.354")	11 mm (0.433")	14 mm (0.551")	17 mm (0.669")	22 mm (0.866")
Bolt Holes	(4) M5	(4) M5	(4) M6	(4) M8	(4) M10

*F04 Pattern is offset by 45°

CURRENT DRAW (in Amps)

Size	24VDC	24VAC	120 VAC	240V/1phase
0170	1.0	0.9	0.2	0.1
0300	1.5	1.1	0.3	0.2
0480	1.6	1.3	0.3	0.2
0750	1.2	1.0	0.2	0.1
1200	3.0	3.6	0.7	0.3
2600	3.0	3.6	0.7	0.3



S4 Series



Universal Voltage Electric Valve Actuators

STATUS INDICATOR LED

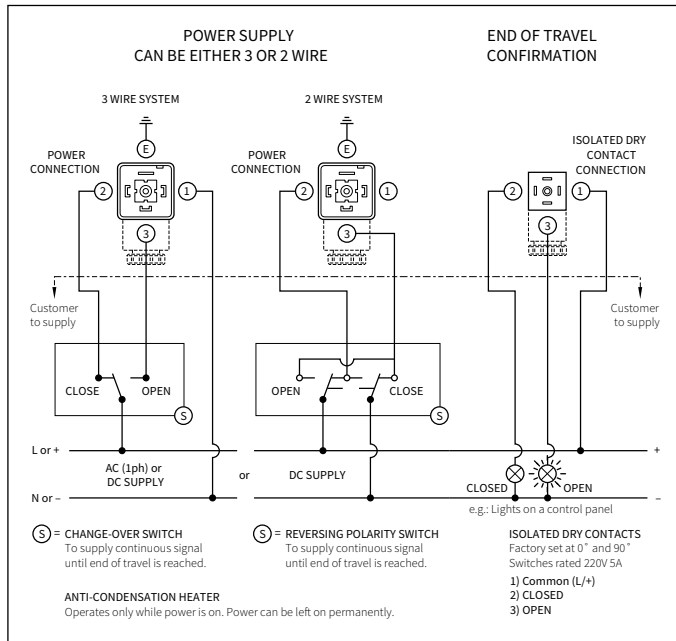
- Off:** No power to actuator
- Solid Red:** Power to actuator while in **CLOSED** Position
- Solid Green:** Power to actuator while in **OPEN** Position
- Red, Orange alternating:** Actuator **CLOSING**
- Green, Orange alternating:** Actuator **OPENING**
- Red blinking:** Actuator **CLOSING** with torque limiter function on
- Green blinking:** Actuator **OPENING** with torque limiter function on
- Orange blinking:** Battery failsafe needs recharging - it is currently disabled
- Red blinking:** Actuator **CLOSING** on Battery Failsafe (max. 3 min.)
- Green blinking:** Actuator **OPENING** on Battery Failsafe (max. 3 min.)

Units with Modulating Positioner Board Only:

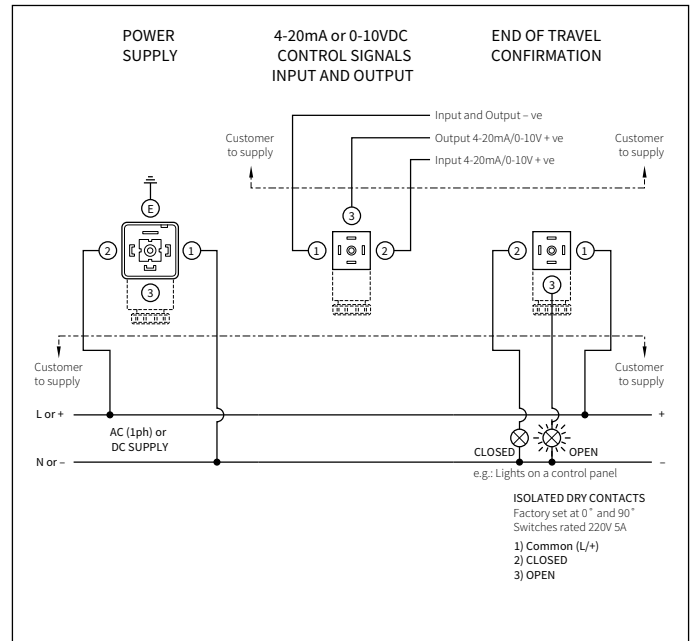
- Solid Blue:** Stopped and power is present
- Blue, Green alternating:** Actuator **OPENING**
- Blue, Red alternating:** Actuator **CLOSING**

WIRING DIAGRAMS

On/Off Actuators [shown in Off (closed) position]



Modulating Actuators





S4 Series



Universal Voltage Electric Valve Actuators

OPTIONS

Battery Fail-safe



The BSR option provides a backup power source to move the valve to the preferred fail safe position similar to the “spring return” capability that is found on pneumatic actuators. The actuator can be set to fail open or fail closed upon loss of power.

This option is significantly smaller and cost competitive when compared to mechanical spring return electric actuators. The battery is constantly charging so it is sure to have maximum charge when needed.

It provides the power to close or open the valve a few times upon loss of power. If you plan to use the actuator to replace a solenoid; energize to open, fail close, you will have to allow a short period to charge the battery back to maximum power between cycles. A positioner can be installed with the BSR option.

Digital Positioner for Modulating Control



The DPS is a microprocessor based electronic positioner that listens to an analog input signal (4-20mA or 0-10VDC) to determine where the actuator should be positioned and also provides an analog output (4-20mA or 0-10VDC) to communicate the actual position.

The positioner is self-calibrating upon start up or after the valve is positioned manually. Digital control insures high sensitivity and repeatability. The positioner can be installed in the field for retrofitting into existing S4 actuators.

FUNCTION

Basic On/Off Models:

- Power to Open
- Power to Close
- Remains in place upon loss of power

On/Off Models with Battery Fail-safe:

- Power to Open
- Power to Close
- Trickle Charges Battery while Open or Closed
- Driven to fail-safe position on loss of power failure (can be Open or Closed)
- Returns to pre-failure position when power is restored

Modulating Models:

- Power to Open
- Power to Close
- Standard Operation:

Controlled by analog control signal (4-20mA or 0-10VDC)
4mA or 0VDC = CLOSED
20mA or 10VDC = OPEN

 (can be reversed)
- Fails to LOW end of signal on loss of signal (can be reversed)
- Remains in place on loss of power
- Provides analog output signal (same format as input) to communicate actual position

Additional Notes:

- Actuator power supply must be on a dedicated circuit and must be grounded
- Isolated dry contact switches are set approximately 5° ahead of the final motor stop position.
- Do not use the the isolated dry contact switches to cut the power to the motor.
Doing so will prevent the actuator from reaching the full open and/or full closed positions.
- The actuator is designed to have continuously energized power.



S4 Series



Universal Voltage Electric Valve Actuators

ORDERING INFORMATION

S4 0170 UV19 -EP420L

Series	Size/Torque	Voltage	Options
--------	-------------	---------	---------

Output Torque: (start / run)

- 0170** = 177 / 221 in/lbs.
- 0300** = 309 / 353 in/lbs.
- 0480** = 486 / 540 in/lbs.
- 0750** = 752 / 796 in/lbs.
- 1200** = 1239 / 1504 in/lbs.
- 2600** = 2655 / 3097 in/lbs.

Supply Voltage:

UV19 = Universal Voltage (24 to 240 Volts AC/DC)

Options and Accessories:

**Add accessories in order shown here top to bottom*

Modulating Positioner Board

- EP420L = 4-20mA - fail to low end
- EP420H = 4-20mA - fail to high end
- EP010L = 0-10VDC - fail to low end
- EP010H = 0-10VDC - fail to high end

Battery Fail-safe

- BSRC = Fail CLOSED
- BSRO = Fail OPEN

If the S4 Series Electric Actuator does not fit your application, please consider another series in our comprehensive offering.

CE Series



R Series



S4 Series



K4 Series



B7 Series



Make it Easy!
Compare All Electric Actuators Now