

SmartStep™ Precision Electric Actuators

500, 1200, 2500, and 5000 In-Lbs



Key Features:

- Robust design engineered for 100% Modulation and Open/Close operation
- UL/CUL and CE approved with Class 1, Division II, Group A, B, C, and D Hazardous Location Rating
- Electronic Power Backup option powers actuator enabling it to return to pre-programmed safe position in the event of loss of control signal or power
- Life Expectancy of Power Backup option is greater than 10 years due to super capacitor technology
- ISO 5211 direct mounting for F07 and F10 compatible valves
- Each model may be configured for 24VAC/24VDC, 48VDC, or 100VAC to 240VAC input power
- 2 year warranty
- All models designed to fit in same compact footprint



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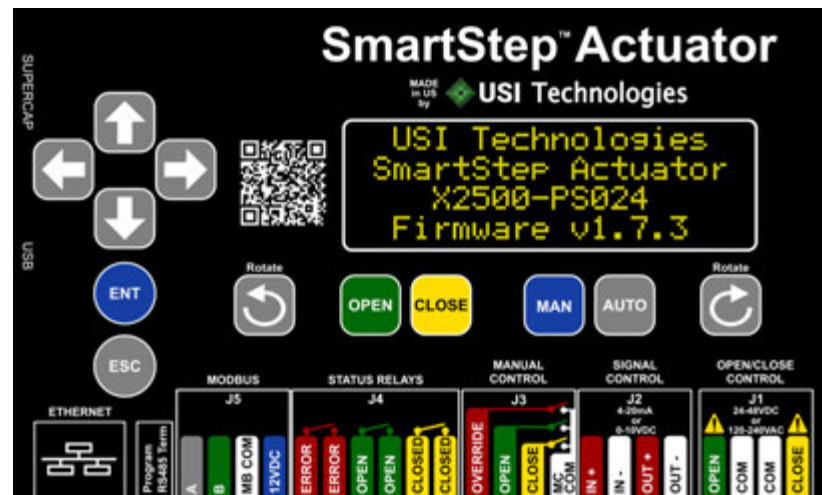
Made in USA

Standard Functional Features:

- Non-contact position sensing increases reliability. No mechanical switches or contacts to wear out.
- -30°C to 60°C (-22°F to 140°F) Operating Temperature.
- 4-20mA output provides actual position feedback.
- 100% Continuous Duty Cycle.
- 100% Modulation.
- $\pm .3$ Degree position accuracy. (MODBUS control)
- $\pm .5$ Degree position accuracy. (4-20mA control)
- Heavy duty aluminum NEMA4 enclosure.
- Enclosure cover has captive screws.
- Robust drive-train permanently lubricated.
- Can exceed 6000 starts per hour.
- 27mm double-square standard female drive allows direct mounting of any F07 or F10 compatible valve.

Standard Operational Features:

- 4 models available: 500, 1200, 2500, or 5000 in-lbs torque.
- Easily programmable start and stop points.
- Bright four-line LCD display shows an extensive list of valve status values and service advisories including: valve position, cycle count, back-up power charge statues, current/max temperature values, system faults, and many others.
- 3 Relay outputs allow external monitoring of Open Position, Closed Position, and Error Condition.
- Maximum temperature is permanently stored in memory.
- Safe position for Loss of Signal or Power is programmable.
- Drive speed is programmable.
- Clockwise or counter-clockwise programmable direction.
- 12 button keypad for easy access to features.
- Clamping terminal blocks for secure connection with color coded terminals for straight-forward wiring.



Color-coded 12-button keypad simplifies wiring and allows easy access to many functions

Electrical:

Voltage In	Typical Max Amp Draw
24 VDC	3.3 A
48 VDC	1.67 A
120 VAC	0.47 A

System Protection:

- 4-20mA input protected to 240 VAC
- 4-20mA output protected to 24 VDC
- 24 VAC/VDC power input protected to 240 VAC
- 48 VDC power input protected to 240 VAC
- Isolated MODBUS

Networking Features:

- Ethernet port standard
- Bluetooth Module provides remote access to Controller Status as well as error and history logs.
Available by end of 2020

Certifications:

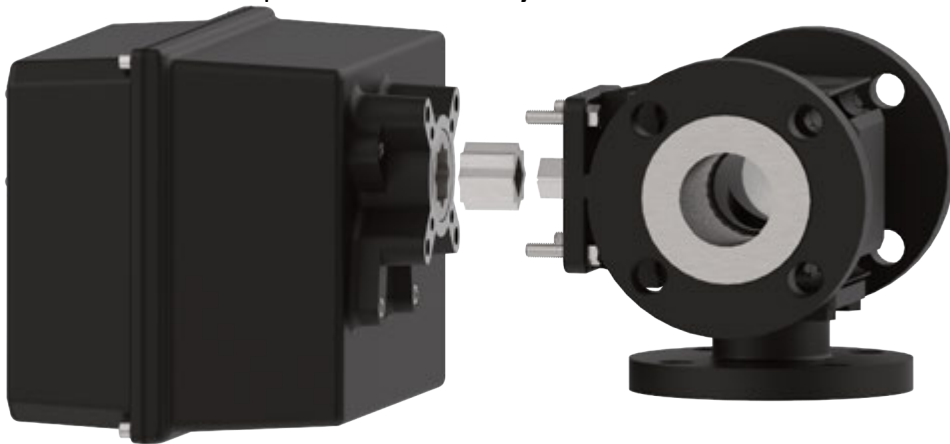
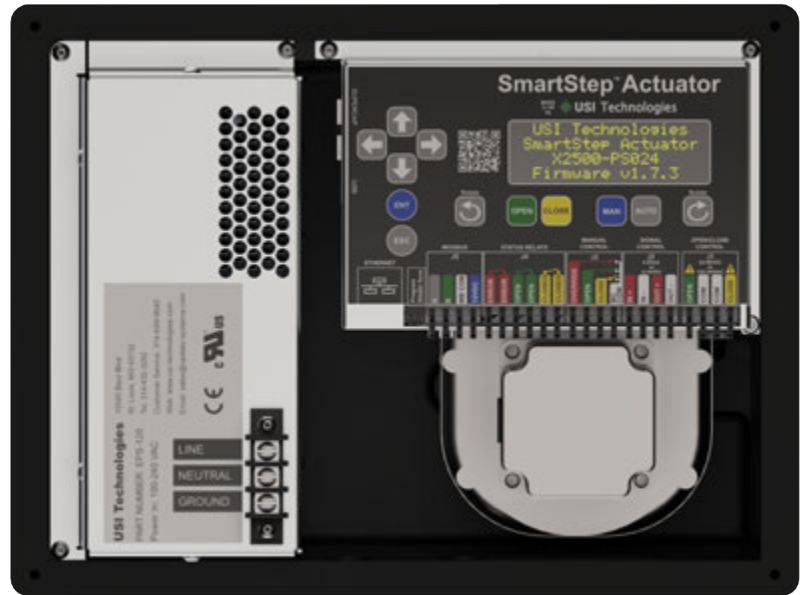
- CE Certified
- UL/CUL Certified.
- UL Class 1, Div 2, Groups A, B, C, D Hazardous Location Rated



*All specifications subject to change without notice

Modular Design:

- Components designed to be field replaceable for easy in-field servicing without replacing entire actuator.
- Both the SuperCap and Power Supply module can be removed or installed with three screws. Easily interchangeable for in the field upgrades.
- Controller Module can be removed with three screws.
- Data Transfer option provides for easy, automatic transfer of all programmable settings to a new control module should control module need to be replaced. **Available by end of 2020**



Actuator shown with 2" valve and 17mm to 27mm adaptor

ISO 5211 Compliant

- Direct mounting of F07 and F10 compatible valves without extra brackets needed.
- 27mm double square drive standard. Other inserts available for valves with smaller than 27mm stem as shown in the picture to the side.

Ordering Information

Part Number	Type	Description	Input Voltage	SuperCap
X0400	Base Model	500 in-lbs SmartStep actuator	48 VDC	No
X1200	Base Model	1200 in-lbs SmartStep actuator	48 VDC	No
X2500	Base Model	2500 in-lbs SmartStep actuator	48 VDC	No
X5000	Base Model	5000 in-lbs SmartStep actuator	48 VDC	No
PS024	Add-on Module	Enables 24VAC/VDC power input	24 VAC/VDC	No
PS120	Add-on Module	Enables 100-240 VAC power input	100-240 VAC	No
PS048-EPB	Add-on Module	Add SuperCap backup to base 48 VDC actuator	48 VDC	Yes
PS024-EPB	Add-on Module	Enables 24VAC/VDC power input with SuperCap backup option	24 VAC/VDC	Yes
PS120-EPB	Add-on Module	Enables 100-240 VAC power input with SuperCap backup option	100-240 VAC	Yes
XCTRL	Replacement Module	SmartStep Controller Module	48 VDC	No

All items may be ordered a-la-carte. To order an actuator with the module factory installed hyphenate the module part number behind the actuator part number as shown below. Otherwise all items will be separate line items and boxed separately as well. XCTRL is standard on all Base Model actuators and should only be ordered if a replacement is needed.

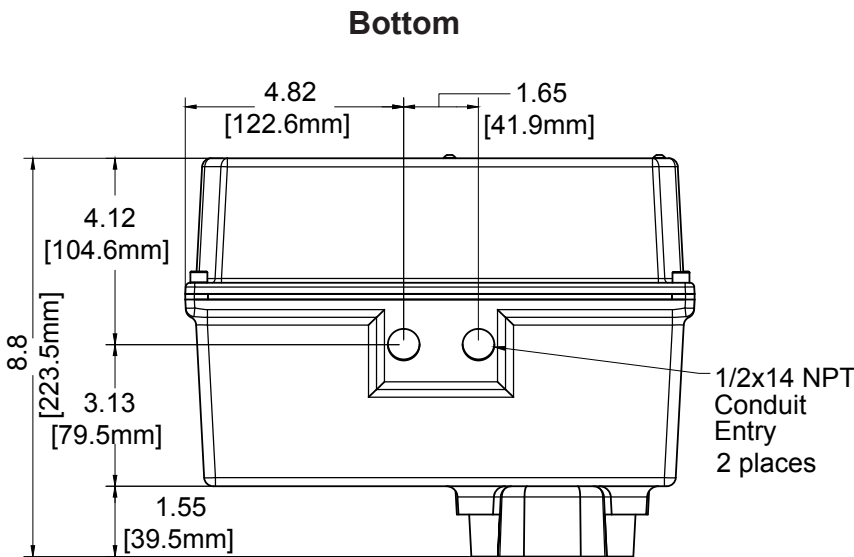
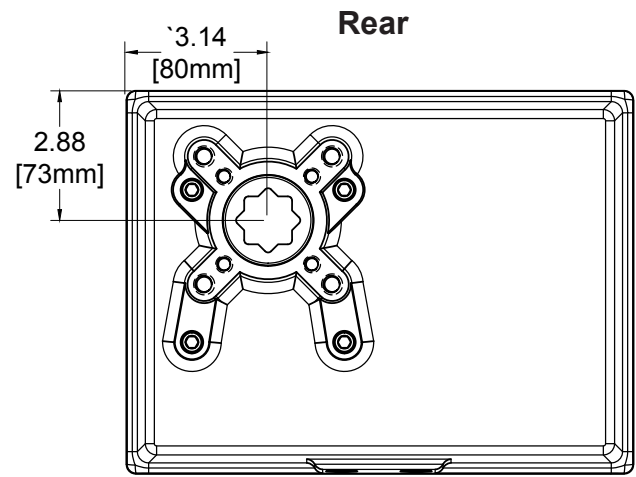
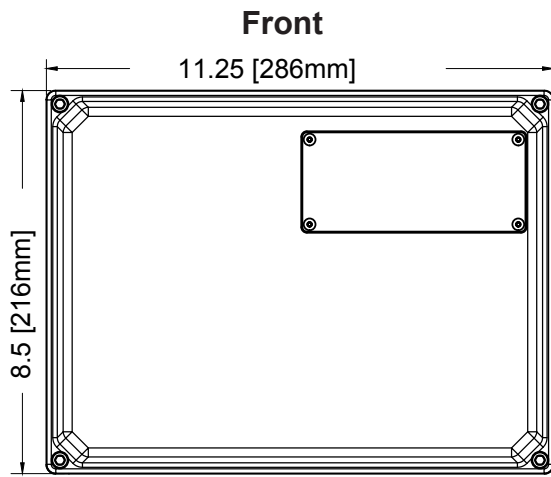
Examples: Actuator without module: **X0400**

Actuator with module: **X0400 - PS048-EPB**

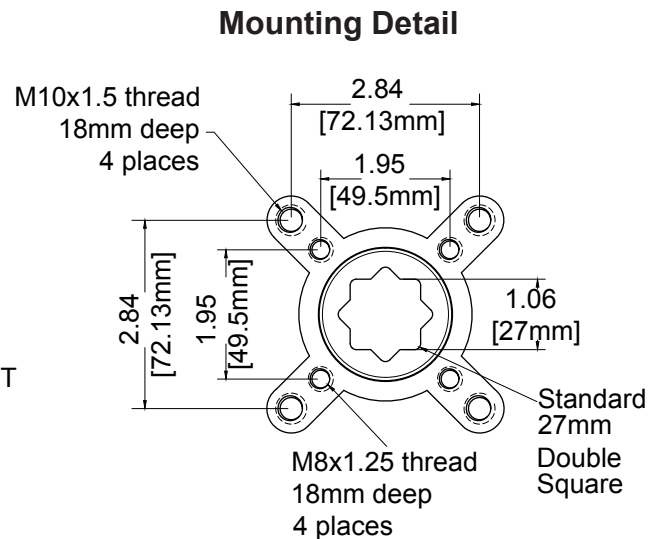
Quick Specifications and Install Dimensions

Model	Torque	Standard 90° Rotation Time*	Cycle Time Range
X0400	500 In-lbs	4 seconds	3 to 10 seconds
X1200	1200 In-lbs	8 seconds	7 to 20 seconds
X2500	2500 In-lbs	14 seconds	12 to 36 seconds
X5000	5000 In-lbs	32 seconds	28 to 80 seconds

*Actuators are shipped at 70% max speed by default



Note: add 3.5" [89mm] clearance for cover removal



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SmartStep Brochure V2.0