Application Guide

550-0100 Compact Style Power Lock Actuator

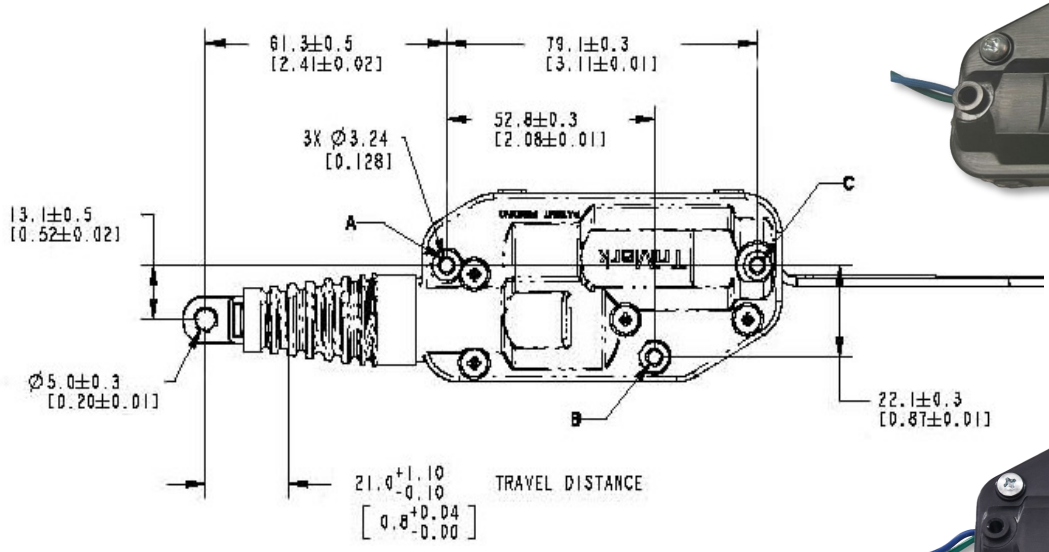
For consistent and trouble-free operation these guidelines must be followed:

ELECTRICAL:

- This actuator is designed to operate normally between 9 and 16 VDC, nominally at 12V, or between 18 and 32 VDC, nominally at 24V
- Extension occurs when blue wire is positive (12V or 24V) relative to green wire. Retraction occurs when green wire is positive (12V or 24V) relative to blue wire.
- The actuator should not be energized for more than 0.5 seconds per event (extend or retract), and not more than 6 cycles per minute (without diminished performance due to thermal protection)
- Each actuator can draw up to 4.9 (12V) or 2.2 (24V) amps of current at nominal voltage levels. Proper sized and located circuit protection is required at triggering device (switch/relay) that controls the actuator.
- Motor is equipped with 12V or 24V thermal protection. Excessive overuse will temporarily reduce effectiveness of actuator until actuator returns to normal temperature.
- Each actuator is tested to 10.0 lbs./44.5N—maximum output force is 13.5 lbs./60N. It is recommended that a minimum load of 2.5 lbs./11N be applied in the application for maximum product life.

MECHANICAL:

- Maximum operational efforts should not exceed 62 N (13.8 LBF) at nominal 12V or 24V,
- It is recommended that a minimum load of 2.5 lbs./11N be applied in the application for maximum product life
- The internal stops for the actuator's maximum and minimum extension should not be reached in an application. The application should limit the travel of the actuator to a dimension less than maximum and restrict complete retraction (Reference 21.0mm stroke dimension as shown in the illustration below).
- Side loads applied to the rotatable/detachable tip will significantly and detrimentally affect actuator performance and product life
- Manual operation resistive forces will be less than 8N (1.8 LBF) for the Bellow style, and 5.7N (1.3LBF) for the wiper style at the actuator end
- Bellow style actuators will have a higher manual resistance due to forces from the rubber bellow



Bellow Style

Wiper Style

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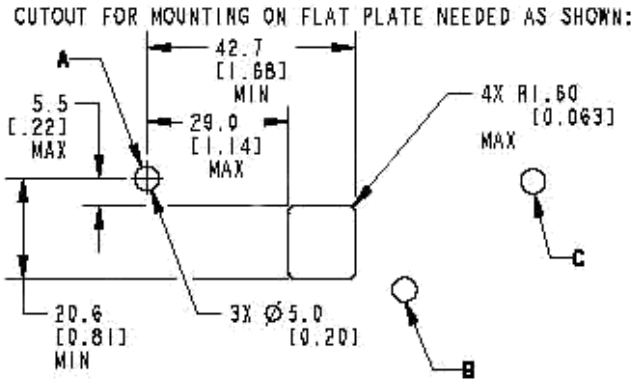
FORCE OUTPUT:

- For optimal design consideration the force output at the lower end of the acceptable voltage range needs to be considered. Additional friction in your door application also needs to be considered. Therefore, the following table should aid in your design considerations. Validation in your door at –40 to 185 F (-40 to 85C) at 9V (12V actuator) or 18V (24V actuator) is recommended
- Sustained force values are outputs for the duration of the stroke of the actuator. Peak force values will be higher. These values were tested in ambient thermal conditions with he noted test voltage

FORCE OUTPUT TABLE			RETRACT SUSTAINED		EXTEND SUSTAINED	
Test voltage	Style	Units	Ave	Min	Ave	Min
9V	12V Bellow	Lbf	8.3	7.8	8.3	7.7
9V	12V Wiper	Lbf	8.7	7.8	8.8	8.2
9V	12V Bellow	N	36.8	34.5	37.1	34.2
9V	12V Wiper	N	38.9	34.6	39.0	36.5
12V	12V Bellow	Lbf	9.5	9.1	10.4	9.9
12V	12V Wiper	Lbf	10.0	9.3	10.6	9.7
12V	12V Bellow	N	42.3	40.4	46.3	44.1
12V	12V Wiper	N	44.6	41.6	47.0	43.2
18V	24V Bellow	Lbf	7.7	7.1	7.6	7.1
18V	24V Wiper	Lbf	7.9	7.3	7.8	7.3
18V	24V Bellow	N	34.3	31.6	33.9	31.6
18V	24V Wiper	N	35.2	32.4	34.8	32.4
24V	24V Bellow	Lbf	8.9	8.3	9.5	9.1
24V	24V Wiper	Lbf	9.2	8.5	9.5	8.8
24V	24V Bellow	N	39.4	36.7	42.1	40.5
24V	24V Wiper	N	40.8	38.0	42.4	39.1

INSTALLATION:

- This actuator should not be used in extremely wet environments, if it is intended to be used in a wet environment; the area where the wires enter the case must be level or pointed down relative to the horizon to reduce water infiltration
- Recommended mounting fastener; #8 self tapping screw (Reference Tri*Mark* P/N 19935-02) with at least 2 of the 3 mounting holes must be used for proper stability and operation
- Recommended torque of mounting fasteners is not to exceed 2.8 Nm (25 in-lbs) during installation
- If the actuator is intended to be mounted on a flat plate the following mounting pattern and cutout must be used to avoid distortion and binding of the actuator case



Tri*Mark* can provide application assistance and has various mounting brackets available for various products—please inquire.