

Bistable SMA Linear Actuator

Almatech's patented **linear actuator**, built with high-temperature **shape-memory alloy**, offers stable latching and unlatching positions, ensuring high reliability and a long lifespan at temperatures **up to 120°C**. Its modular SMA-based design enables **customizable push/pull** configurations with adjustable stroke and force



Benefits

- Bistable (unpowered)
- Push-pull action
- High activation temperature (>120°C)
- Long life (> 1'000 cycles)
- Lightweight
- High reliability
- Slow acting
- Customizable design

Features

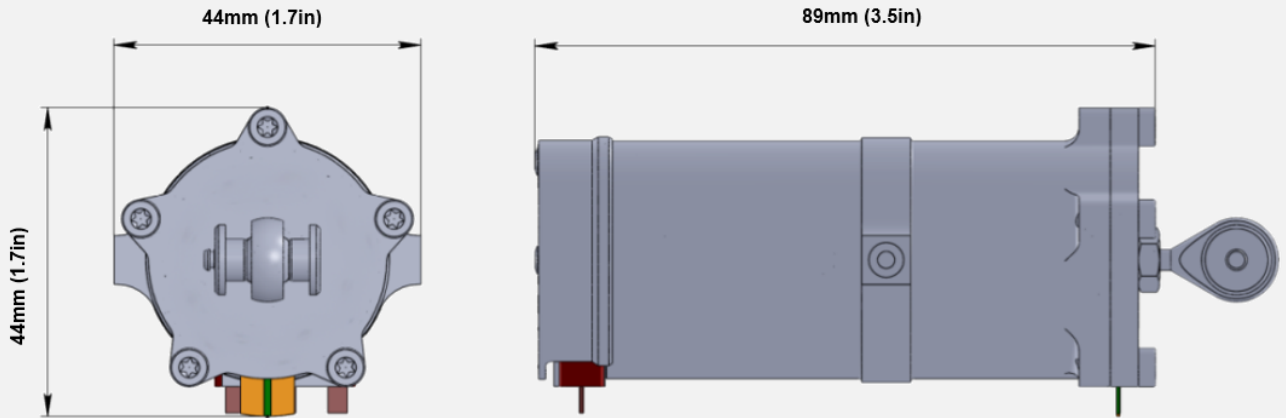
- Customizable stroke/force
- Different Push/Pull configurations
- High redundancy features
- Cluster of SMA actuators
- Modular wiring configurations

Applications

- Latching/unlatching
- Appendices deployment
- Payload release
- Switching

Customizable to your needs !

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Customizable to your needs !

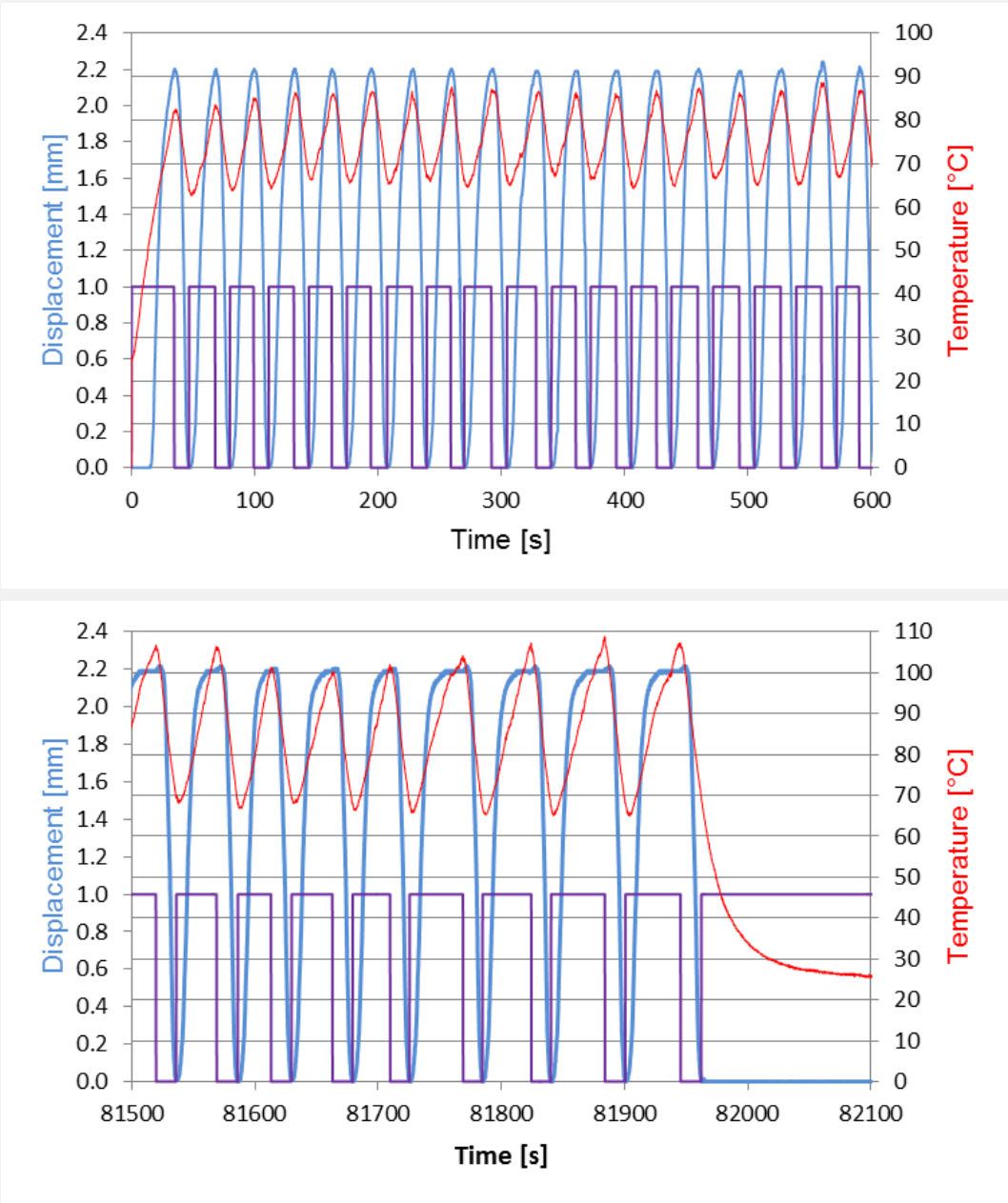
Main Characteristics

Dimensions	44 x 44 x 89 [mm]
Mass	118 grams
Lifetime (tested)	> 1'000
Power Consumption	49.8 W (27.8V, 1.79A)
output force (nominal/tested)	176N / 96N
Latching stroke	1.5 mm
Maximal stroke	2.5 mm
Push duration (in ambient air)	6.5± 0.4 s
Pull duration (in ambient air)	11.9±5.4 s
Operating Temperature	120°C can be extended up to +170°C
launch vibration load (tested)	28.3g _{RMS}

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Heating System tests

Test parameters	Values
Weight	58 N
SMA stress	80 MPa
Stroke	2.2 mm
Heating current	1.8 A



Displacement and temperature versus time for the first and last 600s of the heating system validation test

