



# Aerospace Application Solutions

Aerospace Controls' product lines are continually expanding to provide our customers with solutions for commercial, business and civil aviation, as well as military and cargo aircraft applications. Our extensive knowledge and experience within these markets enables us to provide our customers with superior products, services and support.

We recently introduced rotorcraft applications to our line of products & services to expand upon our inventory of aircraft parts. Aircraft components have always been a part of our product line with parts such as anti-icing valves, fuel temperature switches, even landing gear valves. With the addition of rotorcraft applications, we will be able to provide more specialized pieces to keep any aircraft up and running to industry standards.



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# Aerospace Actuation Components

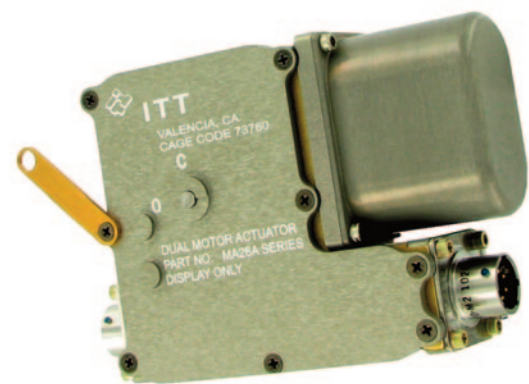




# Actuation Components for Aerospace Applications

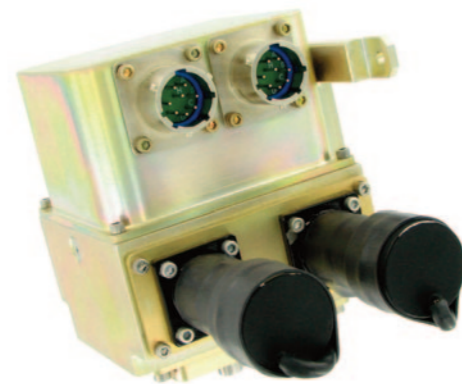
## Dual Motor Actuators

### Low Profile



- Redundant dual permanent magnet DC motors
- Position indication, electrical and visual
- 55 in-lb (6.2 Nm) rated load\*
- EMI/RFI filtering standard
- V-band mounting
- Endurance life of 100,000 cycles\*
- Single motor operation at rated load at 23.5 to 31.0 in-lb (2.7 to 3.5 Nm): 10 s max\*
- Two motor normal operation at rated load at 23.5 to 31.0 in-lb (2.7 to 3.5 Nm): 2 to 8 s\*

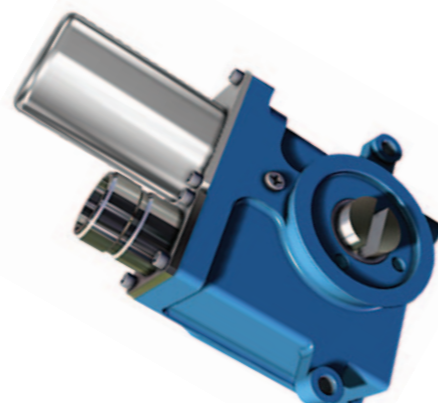
### Brushless Motor High Torque



- Redundant dual brushless DC motors with resolver and gear system
- Potentiometer rotary position feedback (conductive plastic element)
- 75 in-lb (8.5 Nm) rated load\*
- Hall effect switches sense end of travel
- Modulating continuous operation
- Typical application: Environmental Control System

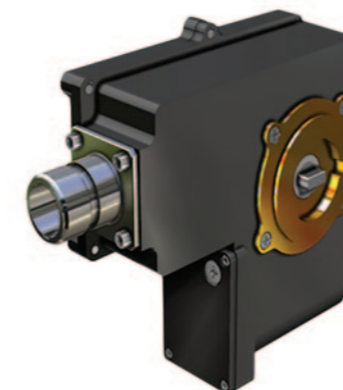
## Rotary Actuators

### Compact Actuator



- Compact size and low weight
- V-Band mounting
- Manual override feature
- 90° rotation
- Separate electro-mechanical position and indication switches
- Non-backdrivable gear train
- Environmentally Sealed
- Endurance Life 100,000 cycles
- EMI/EMC filtering

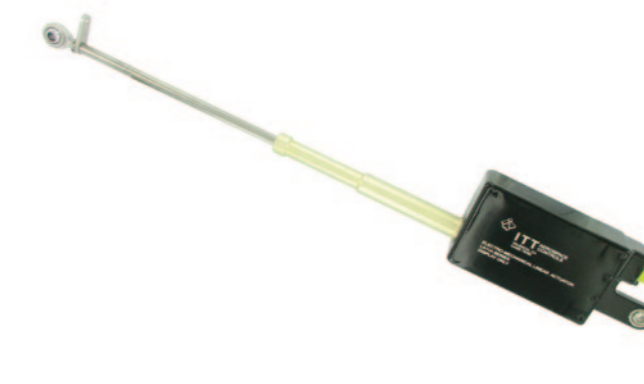
### Modulating Control Actuator



- Reliable Compact Low Profile Design
- Based on Proven Low Profile Actuator Designs with Qualification Pedigree
- Constructed of Lightweight Machined Aluminum
- Constant Position Feedback Control
- Industry Standard D38999 Electrical Connector

## Linear Actuators

### Standard Linear



- Permanent magnet DC motors
- Electro-mechanical switch indication
- Up to 2500 lbf (11121 N) static load\*
- Up to 700 lbf (3114 N) operating load\*
- EMI/RFI filtering available
- Force limiting capability
- Non-jamming mechanical stops
- Stroke: 1-7 in (25-178 mm)\*
- Speed: up to 1 in/s (25 mm/s)\*
- Non-backdriving mechanical design

### Compact Linear



- Permanent magnet DC motor
- Electro-mechanical switching indication
- Operational load capabilities up to 480 lbf (2135 N)\*
- Stroke: 1.30 in (33.0 mm)\*
- Current draw less than 3.0 amps at rated load\*
- +100,000 life cycles at a 287 lbf (1275 N)\*
- Linear speed of 0.35 in/s (8.9 mm/s)\*
- Non-backdriving mechanical design
- EMC/HIRF conformance to RTCA/DO-160F
- Typical application: Fan Air Inlet Door

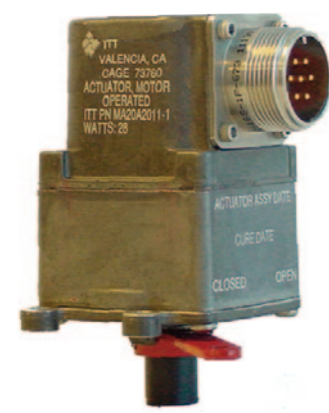
## Single Motor Actuators

### Opto-Electronic



- Permanent magnet DC motor
- Patented optical switch indication for enhanced reliability
- 25 in-lb (2.8 Nm) rated load\*
- EMI/RFI filtering standard
- Patented output shaft electrical isolation
- Endurance life of 100,000 cycles at rated load\*
- FAR 25.981 and SFAR88 compliant
- Operating time 1.7 to 5.0 s (90° travel)
- Lightweight and low power consumption
- Manual override clutch standard

### Upright Mechanical Switching



- Permanent magnet DC motor
- Electro-mechanical switch indication
- 25 in-lb (2.8 Nm) rated load\*
- EMI/RFI filtering available
- Lightweight and low power consumption
- Manual override clutch available
- Standard aluminum housing
- Optional stainless steel and composite materials

### Position Control High Torque



- Brushless DC motor
- Potentiometer rotary position feedback
- Speed controlled
- Up to 204 in-lb (23 Nm) max operating load\*
- EMI/RFI filtering standard
- Four-bolts mounting
- Dual output shafts for left/right side mounting
- Endurance life to 90,000 cycles\*
- Current draw limited
- Typical application: RAM Air Door

### Low Profile



- Permanent magnet DC motor with worm gear drive and spur gear set
- Position indication or manual override
- 0-35 in-lb (0-4.0 Nm) torque load\*
- EMI/RFI filtering available
- V-band mounting
- Modulating option available
- Endurance life of 100,000 cycles\*
- Operating time .5 to 1.0 s (90° travel)

### Harsh Environment Linear



- Operating Load: 400 lbf (1800 N)
- Stroke: 3.5 in (90 mm)
- Linear Speed: up to 1 in/s (2.5 cm/s)
- Temperature Range: -67°F to +185°F (-55°C to +85°C)
- Endurance: 20,000+ cycles under load
- Current Draw: 2A
- Brushed, permanent magnet DC motor
- Input Power: 18-32 VDC (AC version available)
- Position indication output
- Environmentally sealed to withstand 14.7 PSI differential pressure
- Suitable for aircraft installations exposed to the external environment
- RTCA/DO-160G Certified
- EMI/RFI Filtering

\* Specifications referenced above are typical. For custom settings, please contact [info.aerospace@itt.com](mailto:info.aerospace@itt.com)

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