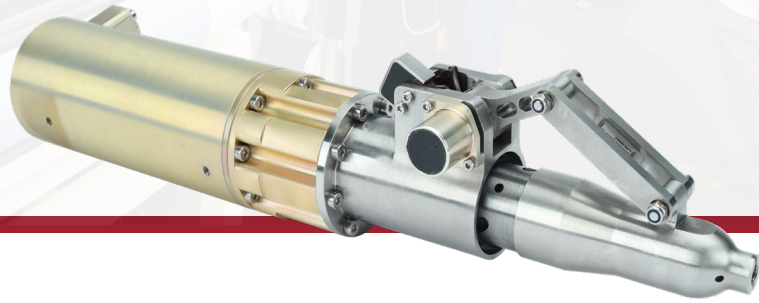


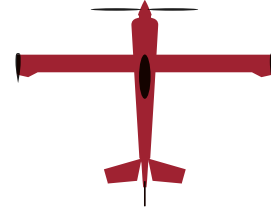
GSE101-0000-06

LINEAR ACTUATOR



APPLICATIONS

Developed for a civil aviation platform and integrated into wing structure to control spoiler flight control surface. Special feedback mechanism and sensor unit provides absolute positioning. Civil aviation certification process completed.



**Manned Fixed Wing <25m Nose to Tail Training Aircraft
Flight Control System**

STANDARDS

**MIL-STD-461F
MIL-STD-810G
RTCA DO-160E**

KEY FEATURES

- > Rotary absolute positioning sensor
- > Anti-rotation system
- > Retractable under 300N

Actuator Specifications

Nominal Voltage 28 V

Dimensions \varnothing 50 x 254 mm

Rated Speed 90 mm/s

Rated Force 5,200 N

Rated Output Power 450 W

Mechanical Stroke 40 mm

Static Load Limit 5,500 N

Operating Temperature -55°C to +70°C

Weight 1.85 kg

Motor - Gearbox Mount Type Inline

Feedback Hall Sensor + Potentiometer

Environmental Specification

Temperature / Altitude -55°C to 72°C Altitude: 35,000 ft

Temperature Variation Temperature Change Rate: -10°C/min

Humidity 10 Cycle Humidity Exposure. (1 cycle consist of; 2h 85%rH, 6h 95% rH and 16h 85% to 95% rH change.

Operational Shock 6g, 11 ms Saw Tooth shock profile, 3 axis

Vibration RTCA-DO160E Figure 8-3 Curve M (Sinusoidal standard vibration)

Explosion Proofness Non Ignition Test

Water Proofness Spray Proof Test

Sand and Dust RTCA-DO160E Sand and Dust, 3 axis

Fungus Resistance Fungus Growth (30°C 97%rH 28day)

Salt Spray 24h exposure, 24h drying, 24h exposure, 24h drying

Icing 25 Cycle Icing Exposure. Each cycle variates temperature (-20°C to 30°), pressure (ambient to 35000feeth altitude) and humidity (less than 85% to 95% rH)

Magnetic Effect 41,5 mm Compass Needle Effecting Distance

Induced Signal Susceptibility Magnetic fields induced into the equipment: 20 A rms at 400 Hz
Magnetic fields induced into interconnecting cables: $I \times L = 30A \cdot m$ at 400 Hz reducing to 0.8 A·m at 15 kHz
Electric fields induced into interconnecting cables: $V \times L = 1800 V \cdot m$ from 380 to 420 Hz
Spikes induced into interconnecting cables: Figure 19-4 L=3.0 m

Lightning Induced Transient Susceptibility While equipment is operating single stroke, multiple strokes, multiple burst and pin injection tests are executed. (A3J33)

Emission of Radio Frequency Energy (RE102) RE102 = 2MHz to 18GHz

MIL-STD-461F

RF Susceptibility (Radiated) (RS103) RS103 = 2MHz to 18GHz

Electrostatic Discharge (ESD) Susceptibility (CS118) MIL-STD-461G 15kV air discharge.

Steady State Acceleration MIL-STD-810 Structural Test Level: Forward: 4 g, Aft: 4 g, Up: 10.5 g, Down: 5.5 g, Lateral (+/-)3.45 g
Operational Test Level: Forward: 3 g, Aft: 3 g, Up: 7 g, Down: 3.5 g, Lateral (+/-)3 g