

Description:

The actuation system has quad actuator control amplifier which controls 4-fin actuators. The actuator is built using BLDC motor, ball lead screw & LVDT. The QACA receives command in a differential analog form and also sends back position feedback and current feedback on an analog differential line. PWM generation & motor commutation is handled by standard Motor control IC. Actuator controller controls BLDC motor power by pulse width modulating.

Specification

Controller Type	: Analog Servo controller Amplifier
No of channels	: 4 Channel
Type of Actuator	: Linear Electromechanical Actuator
Controller Operating Voltage	: 24V – 32V DC
Controller Nominal Voltage	: 28V DC
Input Command Signal	: $\pm 10V$
Position Feedback Signal	: $\pm 10V$
Current Feedback	: $\pm 10V$
Feedback Sensors	: LVDT,
Drive Operating Voltage	: 28V DC
Drive Current	: 7Amp Peak
Drive Type	: Hex- Bridge 3-Phase BLDC Drive
Electrical Stroke	: $\pm 22mm$
Mechanical Stroke	: $\pm 25mm$
Continuous force	: $\geq 400 Nm$
Peak force @ 20 sec	: $\geq 1200 Nm$
Position Accuracy	: 0.3mm
Bandwidth (-3db or -90 deg Phase lag whichever is first)	: $10 \pm 3 Hz$
No load Speed	: $\geq 120 mm/sec$
Rise time	: 23msec
Settling Time	: 80msec
Over Shoot	: 0.44mm
Motor Type	: 3-Phase BLDC Motor
Output Shaft	: Ball Screw Mechanism
Operating Temperature	: $-40^{\circ}C$ to $+71^{\circ}C$

