

QUANTUMDRIVE -4000 SERVO AMPLIFIER



COMPACT
POWERFUL
SELF-PROTECTION FEATURES

SINGLE AXIS DRIVER
CLASS 1 SERVO OPERATION
CLASS 2 SERVO OPERATION

Nutfield Technology's QuantumDrive-4000 Servo Amplifier is small and powerful, giving higher performance at a most affordable price. The smallest Class 1 servo amplifier available, the QD-4000 features dual output power amplifiers for improved performances. Low noise components maximize signal-to-noise ratio for better accuracy. Low drift components reduce the effects of temperature variation.

QD-4000 construction features Position, Integration, and Differentiation (PID) terms and additional servo terms for extra stability and control. A notch filter is selected and tuned for each unique mirror-galvo combination to maximize system bandwidth. The result is faster, more accurate scanning.

QD-4000 circuits provide soft start/stop operation, open circuit AGC fail, and over/under voltage protections for laser systems and scanning mirrors. Onboard status LEDs provide service technicians with servo status and fault indications.

QD-4000 Servo Amplifiers are tested and tuned with serial number matched galvanometer and mirror to customer specifications. Together, Nutfield Technology's galvanometer-based scanning solutions are the strongest and most affordable in their class.



FEATURES:

// DIAGNOSTIC PORT:

- POSITION
- VELOCITY
- ERROR
- CURRENT

// OPTIONAL DIAGNOSTIC CABLES AVAILABLE

// DUAL PUSH/PULL OUTPUT

// ANALOG INPUT (± 5 , ± 10)

// INTEGRATES WITH ALL NUTFIELD GALVOS

// VARIOUS CONFIGURATIONS

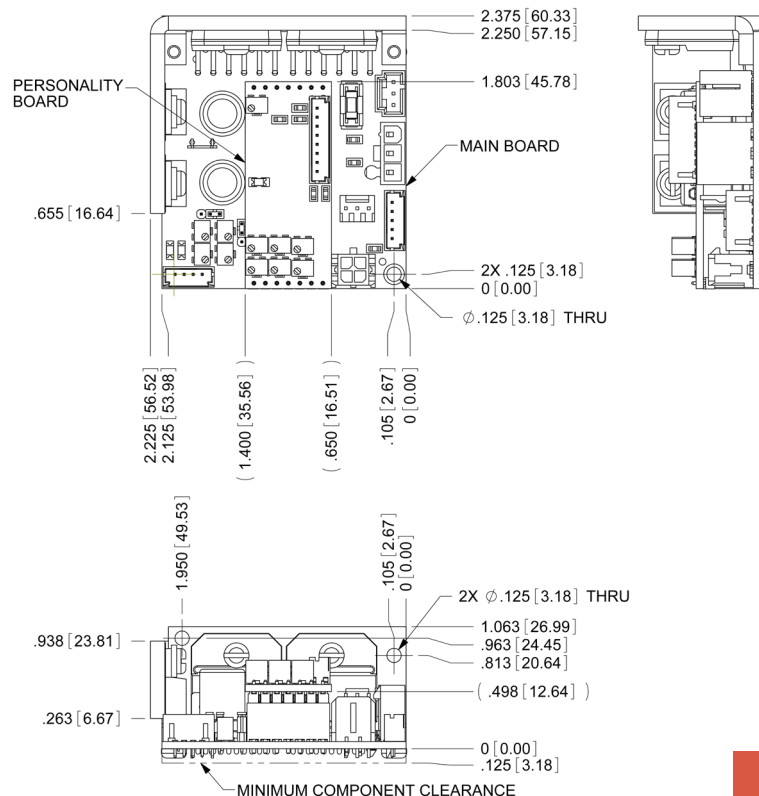
// SINGLE AXIS AND OPEN-FRAME CONFIGURATIONS

PROVIDED WITH A CONNECTOR KIT

SPECIFICATIONS

STANDARD SPECIFICATION*	QD-4000 SERVO AMPLIFIER
Command Input Impedance	20K \pm 1% ohms (Differential) 10K \pm 1% ohms (Single Ended)
Analog Output Impedance	1K \pm 1% ohms (for all observation outputs)
Position Input Scale Factor	customer specified \pm 5 or \pm 10V for \pm 5V @ \pm 20° = 0.25V/degree for \pm 10V @ \pm 20° = 0.5V/degree
Command Input Range	\pm 5 or \pm 10 volts (factory configured)
Position Offset Range	\pm 25V
Position Output Scale Factor	\pm 25 volt/°
Error Output Scale Factor	\pm 25 volt/°
Velocity Output Scale Factor	analog
Power Supply Requirements	\pm 15 to \pm 24 VDC configurations available
Maximum Drive Current Limit	10 amps peak; 4 amps rms
Gain Drift	up to 20 ppm/°C (3 sigma)
Offset Drift	up to 30 μ rad/°C (3 sigma)
Operating Temperature Range	0° to 45°C (with appropriate cooling)
Size	61mm x 57mm x 28mm

*Specifications subject to change without notice.



QD-4000
ALL DIMENSIONS ARE IN (MM)