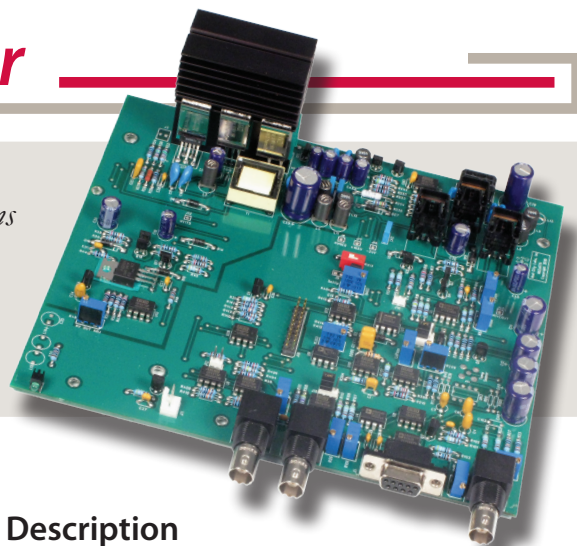


OEM Nano-Drive® Controller



Features

- ▶ Closed loop servo/ driver for all Mad City Labs nanopositioning systems
- ▶ Proportional-Integral feedback
- ▶ Analog or digital (USB) positioning control
- ▶ High power models available for continuous high speed scanning
- ▶ ROHS and CE compliant **CE**

Board Specifications	
Power Input	12 W @ 24 VDC
Amplifier Output Voltage	-20 V to +165 V
Power Output (continuous)	10 W
Maximum Drive Current (continuous)	50 mA
Sensor	PicoQ®
Closed Loop Feedback	Proportional Integral
Analog Input	0 V to +10 V (others by request)
Sensor Output	0 V to +10 V
Output Short Circuit Protection	YES
Steady State Power Consumption	< 0.5 W
Current Consumption (max.)	0.5 A
Command Signal Input Impedance	10 kΩ
Operating Temperature	5°C to 40°C
Interface and Standards	
Power Input	4 pin pigtail
Stage and Sensor Connector	DB-9, board mounted
Analog input/sensor output	BNC
USB Interface (option)	Daughter board
Dimensions	7.625" × 6.75" × 2.5" (193.68 × 171.45 × 63.5 mm)
Standards	ROHS Compliant CE Directives: 2004/108/EC 2006/95/EC

Product Description

The Nano-Drive® Series of controllers are complete electronic packages for sub-nanometer positioning. All Nano-Drive® controllers include low noise, low drift amplifiers, absolute position control, bandwidth selection, and closed loop feedback. Closed loop feedback ensures that the displacement as a function of input voltage is highly linear and free of positioning errors caused by inherent creep and hysteresis in the piezo actuators. Standard analog control inputs are via a BNC. The standard analog position command signal is configured for a 0-10V input with other ranges available upon request. A sensor output BNC provide access to the real-time position sensor signal. The Nano-Drive® is also available with higher power output and custom configurations upon request.

Nanopositioners combined with a Nano-Drive® controller form a calibrated system which is optimized for the specific motions requested by the customer. Factors such as load (sample mass), type of motion (steps, scanning, etc.), and required positioning speed are all factored into the setup.

Optional USB Interfaces

An optional USB digital control interface is available as a daughter board plug-in. Our USB interface is available as a 16-bit or 20-bit digital control interface to provide true "Plug & Play" connectivity for your OEM application.

- "Plug & Play" 16-bit and 20-bit digital USB interfaces are Windows XP, Vista, and 7 compatible, for both 32-bit and 64-bit PC's. USB drivers are included.
- C++ and LabVIEW compatible.
- Computer waveform generation and position data logging with internal memory for up to 10,000 positions.
- Daughter board assembly for easy installation.
- Custom firmware available upon request.