

# NV200-2/D NET

## 2-Channel Digital Piezo Controller



**200 mA, 400 mA peak current**



**16 bit resolution**



**Ethernet connection for remote control**



**Software for complete control available**



The NV200-2/D NET is a digital piezo controller for controlling two independent piezo actuators. Each channel can be controlled independently via the serial and Ethernet interface for local and remote operation and servicing of piezo actuators. The user can control quasistatic or dynamic stepping position applications via network access, allowing greater flexibility and use in critical environments. Real-time SPI interfaces are available for highly dynamic applications. The amplifier can control piezo elements with up to 400 mA.

With its 16-bit resolution, the NV200-2/D NET ensures high positioning accuracy and minimal noise. It automatically recognizes connected actuators and adjusts control parameters using data stored in the EEPROM connector.

The NV200-2/D NET is compatible with actuators equipped with either strain gauge or capacitive sensors, as well as with sensorless actuators. In addition, it supports actuators based on the proprietary bi-directional NanoX® actuator technology developed by piezosystem jena.

### Features:

The NV200-2/D NET features an automatic sensor calibration (ASI / ASC). All relevant data from the actuating system, like actuator's serial number, name, control parameters, and filter settings, are stored directly in the actuator's connector. This enables easy replacement of actuators or controllers.

An integrated digital PID controller allows the user to adjust control parameters to suit the current configuration. For repetitive motion profiles, it supports an Iterative Learning Control (ILC) algorithm to ensure maximum tracking accuracy. This allows the NV200-2/D NET to achieve closed-loop precision at open-loop speeds. Thanks to its trigger input and output interfaces, multiple NV200-2/D NET units can be synchronized for multi-axis control.

### Further Highlights

- USB-A interface
- Real time SPI interface
- Analog interface
- Trigger I/O
- ASC-function
- Low-pass filter + slew rate limiter
- Feedback control with adjustable
- PID / ILC controller
- Arbitrary waveform generator
- Data recorder
- Integrated piezo current measurement

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## Technical Data

	Unit	
Part #	-	E-730-823
Power supply $\pm 10\%$	V	24VDC
Input current	A	max. 5A average, 5.8A peak
Power connector	-	M8-3pole Circular Metric Connectors
Channels	-	2
Output voltage	V	-20...130 or -10...+180 (automatically adapted to actuator)
Output current	mA	200 / 400 peak
output current NanoX®-mode	mA	2 x 100 / 2x 200 peak (1.2ms)
Voltage noise (@500 Hz Bandwidth)	mV <sub>RMS</sub>	0.7
Actuator connector	-	D-Sub 15 pol.
DA-converter resolution	bit	16
AD-converter resolution	bit	16
Sensor	-	external sensor, strain gauge, capacitive
Feedback controller types	-	PID control with lowpass and notch filters, ILC control
Features	-	<ul style="list-style-type: none"> <li>• short circuit proof</li> <li>• over temperature protection</li> <li>• arbitrary waveform generator</li> <li>• data recorder</li> <li>• piezo current measurement</li> </ul>
Interface module	-	<ul style="list-style-type: none"> <li>• USB-A</li> <li>• Ethernet (over external Ethernet Box at D-Sub Socket 15 pol. 3 rows)</li> <li>• SPI / Trigger (D-Sub Socket 15 pol. 2 rows)</li> <li>• analog Modulation / Monitor (D-Sub 9 pol.)</li> </ul>
Casing dimension (l/w/h)	mm	165 x 150 x 40 (length + ~9mm connectors unconnected)
Operating temperature	-	5 ... 55°C / 41 ... 131°F
Humidity	% <sub>rel</sub>	max. 99, non-condensing
Altitude	m	up to 2000

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