

# PiezoMike - Q-Motion® Controller

For Closed-Loop PiezoMikes, 1 Axis, TCP/IP, USB, RS-232 Interface



## E-871.1A1N

- Broadband encoder input
- Macro programmable for stand-alone functionality
- Data recorder
- ID chip support for quick startup
- Interfaces: TCP/IP, USB, RS-232, I/O
- Joystick for manual operation

### Digital servo controller for piezo inertia drives

Integrated power amplifier and voltage generator for piezo inertia drives. Point-to-point motion, actuator mode for nanometer precision positioning at the target position. 1 axis. For control of closed-loop PiezoMikes. Also suitable for Q-Motion® positioning systems (in applications which require silent travel (20 kHz)).

### Interfaces

TCP/IP, USB and RS-232 for commanding. Differential signal transmission for digital (A/B) or analog (sin/cos) encoder signals, BiSS interface for absolute encoders. TTL inputs for limit and reference point switches. I/O lines (analog/digital) for automation. Interface for analog joystick.

### Extensive functions, software support

Powerful macro command language. Nonvolatile macro storage, e.g., for stand-alone operation with autostart macro. Data recorder. ID chip detection for fast startup. PID controller, parameter changing during operation. Extensive software support, e.g., for NI LabVIEW, C, C++, MATLAB, Python. PIMikroMove user software.

### Scope of delivery

Scope of delivery includes wide-range-input power supply with power cord, USB, RS-232 cable, and network cable

## Specifications

E-871.1A1N	
Function	Controller for closed-loop PiezoMikes, also suitable for Q-Motion® positioners* Benchtop device with option for cabinet mounting
Drive type	Piezo inertia drive
Axes	1
Supported functions	Point-to-point motion. Startup macro. Data recorder for recording operating data such as motor voltage, position or position error. Internal safety circuitry: Watchdog timer. ID chip detection.
Motion and servo controller	
Controller type	PID controller, parameter changing during operation
Encoder input	Analog encoder inputs sine-cosine, interpolation selectable to 20000; Interpolation electronics preset for differential transmission, 1 V <sub>pp</sub> and 2.5 V encoder offset signal; BiSS interface for absolute encoders
Stall detection	Automatic motor stop
Input limit switch	2 × TTL (pull-up / pull-down, programmable)
Input reference point switch	1 × TTL for integrated reference in the encoder
Electrical properties	
Max. output power	30 W
Output voltage	0 to 100 V, drive-dependent selection
Interfaces and operation	
Communication interfaces	TCP/IP: RJ45/Ethernet; USB: Mini-USB type B; RS-232: D-sub 9 (m)
Motor / sensor connector	D-sub 15 (f)
I/O lines	4 analog / digital inputs, 4 digital outputs
Command set	PI General Command Set (GCS)
User software	PIMikroMove
Application programming interfaces	API for C / C++ / C# / VB.NET / MATLAB / Python, drivers for NI LabVIEW
Manual control	Analog joystick
Miscellaneous	
Operating voltage	24 V DC from external power adapter (in the scope of delivery)
Max. current consumption	2.5 A
Operating temperature range	5 to 40 °C
Mass	0.36 kg
Dimensions	147 mm × 104.5 mm × 44 mm (incl. mounting rails)

For applications that require/desire silent travel (20kHz) with point-to-point motion  
Ask about customized versions.

## Ordering Information

### E-871.1A1N

Compact PiezoMike - Q-Motion® controller, 1 axis, TCP/IP, USB, RS-232