PI

Q-Motion® Servo Controller, 3 Axes

For Piezoelectric Inertia Drives, TCP/IP, USB Interface

E-873.3QTU

- Broadband encoder input

- Macro programmable for stand-alone functionality

- Fast startup due to ID chip detection

- Data recorder

- Digital I/O ports (TTL)

- Digital 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, trapezoidal velocity profile, actuator mode for nanometer precision positioning at the target position. 3 axes.

Encoder inputs
Differential signal transmission for analog (sin/cos) encoder signals. Input for TTL signals for reference point switches.

Interfaces
USB and TCP/IP for commanding. I/O lines (digital) for automation. Connection for digital 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.

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Specifications

	E-873.3QTU
Function	Q-Motion® controller for positioning systems with piezo inertia drives, benchtop device with option for control cabinet mounting
Axes	3
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 control	E-873.3QTU
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_{pp} and 2.5 V encoder offset signal.
Stall detection	Automatic motor stop
Input reference point switch	1 × TTL for integrated reference in the encoder

Electrical properties	E-873.3QTU
Max. output power	30 W per axis
Output voltage	0 to 100 V, drive-dependent selection

Interfaces and operation	E-873.3QTU
Communication interfaces	TCP/IP, USB
Motor / sensor connection	3 × Sub-D 15 (f)
I/O lines	4 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 (optional)	USB joystick

Miscellaneous	E-873.3QTU
Operating voltage	24 V from external power adapter (in the scope of delivery)
Max. current consumption	5 A
Operating temperature range	0 to 50 °C
Mass	1.7 kg
Dimensions	312 mm x 153.4 mm x 59.2 mm (incl. mounting rails)

Ask about customized versions.

Ordering Information

E-873.3QTU
Q-Motion® controller for piezoelectric inertia drives, 3 axes, benchtop device (industry), TCP/IP, USB, I/O, joystick