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 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

16.08.2017

Specifications

Preliminary data	
	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. Start-up 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-871.1A1N**
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; BiSS interface for absolute encoders
Stall detection	Automatic servo off
Input limit switch	2 × TTL (pull-up / pull-down, programmable)
Input reference point switch	1 × TTL for integrated reference in the encoder

Electrical properties	**E-871.1A1N**
Max. output power	30 W
Output voltage	0 to 100 V, drive-dependent selection

Interfaces and operation	**E-871.1A1N**
Communication interfaces	TCP/IP: RJ45/Ethernet; USB: Mini-USB type B; RS-232: Sub-D 9 (m)
Motor / sensor connection	Sub-D, 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 LabVIEW
Manual control	Analog joystick

Miscellaneous	**E-871.1A1N**
Operating voltage	24 V DC from external power supply (included in the scope of delivery)
Max. current consumption	1.5 A
Operating temperature range	0 to 50 °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

Ordering Information

E-871.1A1N
Compact PiezoMike - Q-Motion® Controller, 1 axis, linear encoder, TCP/IP, USB, RS-232, I/O, joystick