PILine® Motion Controller

For Two-Axis Positioning Stages with PILine® Ultrasonic Piezo Motors

C-867.2U2

- Integrated power amplifier with dynamic frequency control

- Multifunctional encoder input: A/B, sin/cos, BiSS

- Macro programmable for stand-alone functionality

- Integrated interfaces: USB, RS-232, TCP/IP, SPI, I/O, joystick

- Daisy chain networking

- Trajectory support for 1- or 2-D motion patterns

Servo controller and power amplifier
Two-axis benchtop device with special PID controller for PILine® ultrasonic piezo motors. Network capable with up to 16 units on a single interface. Power amplifier for PILine® ultrasonic piezo motors and stages with performance class 1 and 2 piezo motors. Dynamic frequency control for optimum control.

Motion profiles
Point-to-point, trapezoidal velocity profile. User-definable trajectories (e.g., circles, sine curves) from externally fed points.

Interfaces and communication, encoder input
USB, RS-232, TCP/IP, SPI interface for commanding. I/O lines for automation. Connectors for analog and digital joystick. Differentially transmitted A/B signals (TTL) or sin/cos signals. BiSS interface for absolute encoders. Inputs for TTL signals from limit and reference point switches.

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.
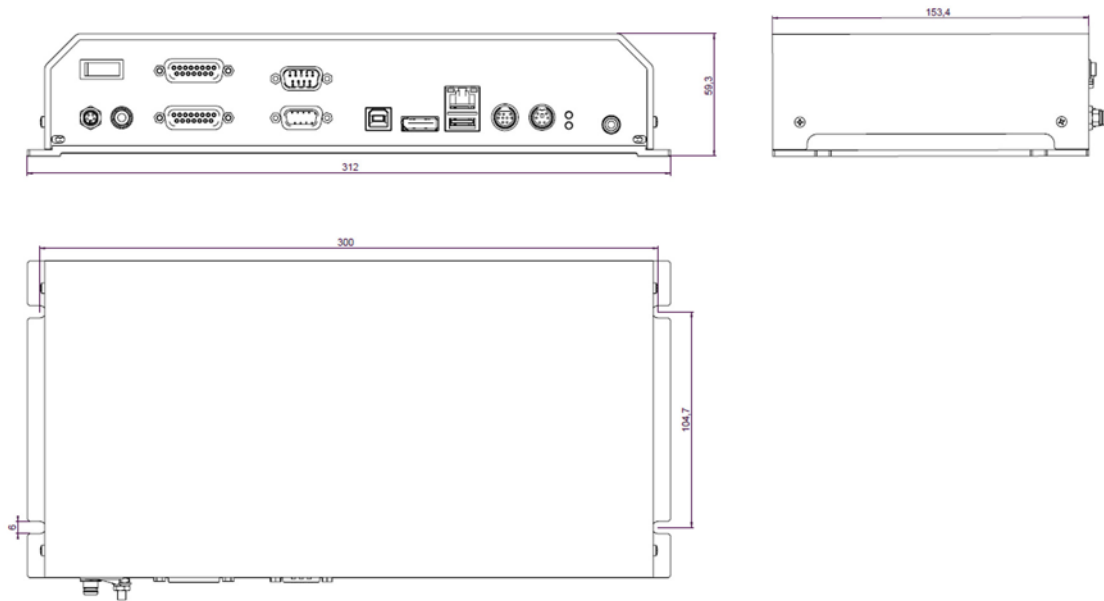
Fields of application
- Micromanipulation
- Automation
- Biotechnology
- Sample manipulation
- Sample positioning
- Optical measuring technology

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Specifications

	C-867.2U2
Function	Controller for XY positioning, scanning or microscope stages
Drive types	Performance class 1 and 2 PILine® motors
Axes	2

Motion and control	C-867.2U2
Controller type	Programmable PID control, parameter changing during operation
Motion profiles	Point-to-point trapeze, user-definable trajectories
Encoder input	Sin/cos (differential), A/B (TTL, differential), BiSS interface
Stall detection	Servo off, triggered by programmable position error or power level
Limit switches	2 programmable TTL lines per axis
Reference point switch	1 programmable TTL line per axis

Electrical properties	C-867.2U2
Max. output power per axis	15 W
Max. output voltage per axis	200 V_{pp}

Interfaces and operation	C-867.2U2
Communication interfaces	USB, RS-232, TCP/IP, SPI
Motor connection	Sub-D 15 (f)
Controller network	Up to 16 units on a single interface
I/O lines	4 analog / digital inputs 4 digital outputs to mini DIN, 9-pin Digital: TTL Analog: 0 to 5 V
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
Supported functions	Startup macro. Data recorder for recording operating data such as motor voltage, velocity, position or position error. ID chip detection.
Manual control	Pushbutton box, analog or digital joystick (for 2 axes)

Miscellaneous	C-867.2U2
Operating voltage	24 V DC (external power adapter in the scope of delivery)
Max. current consumption	600 mA plus motor current (max. 4 A)
Operating temperature range	5 to 40 °C
Mass	1.62 kg
Dimensions	312 mm × 153.4 mm × 59.3 mm (incl. mounting rails)

Ask about customized versions.

Drawings / Images

C-867.2U2, dimensions in mm

U-780 PILine® XY stage system with C-867.2U2 controller and joystick

Ordering Information

C-867.2U2
Piezo motor controller for PILine® systems, 2 axes, USB, RS-232, TCP/IP, SPI, I/O, analog or digital joystick, networkable via daisy chain

Accessories
C-862.CN
Network cable for daisy chain network, 30 cm

C-862.CN1
Network cable for daisy chain network, 1 m

C-862.CN2
Network cable for daisy chain network, 3 m

C-815.553
Patch cable 1:1, for connecting controller and PC via a TCP/IP network

C-815.563
Patch cable twisted, for connecting controller and PC directly via TCP/IP

C-815.34
RS-232 null modem cable, 3 m, 9/9-pin

C-170.PB
Pushbutton box with 4 buttons and 4 LEDs

C-170.IO
I/O cable, 2 m, open end

C-819.20
Analog joystick for 2 axes

C-819.30
Analog joystick for 3 axes

C-819.JD
Digital joystick for 2 axes, 3 programmable buttons