

# PILine® Motion Controller

For Single-Axis Positioning Stages with PILine® Ultrasonic Piezo Motor



## C-867.1U

- 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, SPI, I/O, joystick
- Daisy chain networking

### Servo controller and power amplifier

Single-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 positioners 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-, SPI interface for commanding. I/O lines for automation. Interface for analog joystick. Differentially transmitted A/B signals (TTL) or sin/cos signals (1 V<sub>ss</sub>). 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

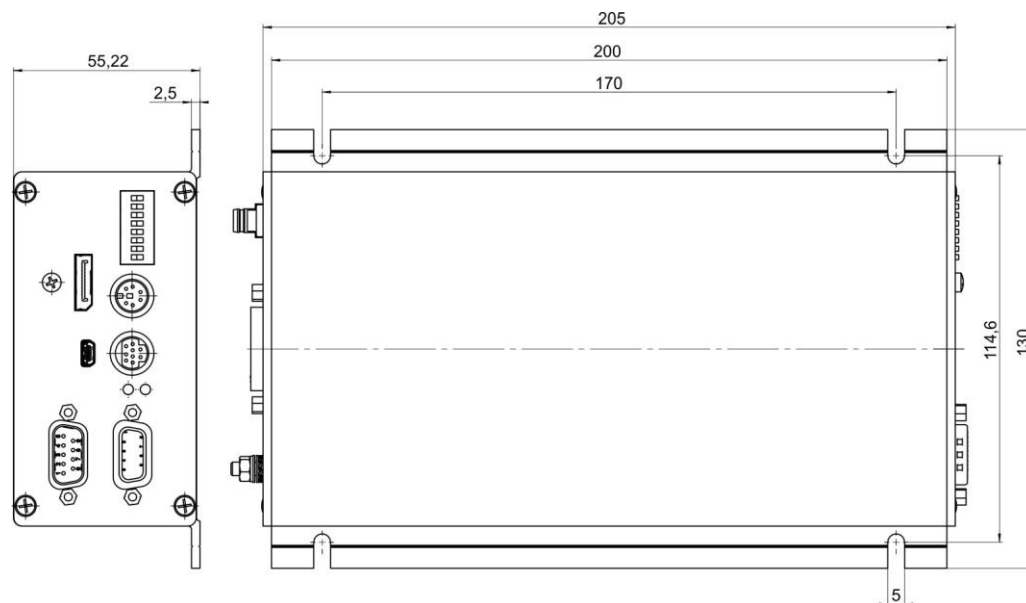
- Micromanipulation
- Automation
- Biotechnology
- Sample manipulation
- Sample positioning
- Optical Metrology

## Specifications

	C-867.1U
Function	Controller for single-axis positioning stages
Drive types	Performance class 1 and 2 PLine® motors
Axes	1
Motion and control	C-867.1U
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-867.1U
Max. output power per axis	15 W
Max. output voltage per axis	200 V <sub>pp</sub>
Interfaces and operation	C-867.1U
Communication interfaces	USB, RS-232, 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 joystick
Miscellaneous	C-867.1U
Operating voltage	24 V DC (external power adapter in the scope of delivery)
Max. current consumption	300 mA plus motor current (max. 2 A)
Operating temperature range	5 to 40 °C
Mass	1 kg
Dimensions	205 mm × 130 mm × 55.2 mm (incl. mounting rails)

Ask about custom designs!

## Drawings / Images



*C-867.1U, dimensions in mm*

## Ordering Information

### **C-867.1U**

Piezo motor controller for PLine® systems, 1 axis, USB, RS-232, SPI, I/O, analog 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-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-819.20Y**

Y cable for connecting 2 controllers to a joystick C-819.20

#### **C-819.30**

Analog joystick for 3 axes

#### **C-819.JA**

Analog joystick for 2 axes, 3 programmable buttons