PILine® Motion Controller

For Ultrasonic Piezo Motors, 2 Axes, Inexpensive and Compact

C-877.2U12

- Integrated power amplifier
- PID servo control with dynamic parameter switching
- Macro programmable for stand-alone functionality
- Data recorder
- Daisy chain networking
- Extensive software support, e.g., for NI LabVIEW, C, C++, MATLAB, Python

Servo controller and power amplifier

Two-axis benchtop device with special PID controller for ultrasonic piezo motors. Network capable with up to 16 units on a single interface. Integrated power amplifier for PILine® performance class 1 and 2 drives and positioners.

Interfaces and communication, encoder input

USB and RS-232 interfaces for commanding. I/O lines for automation. Differential signal transmission (A/B). TTL inputs for 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

26.03.2018

Specifications

	C-877.2U12
Function	Controller for positioning or scanning stages with performance class 1 and 2 PILine® ultrasonic piezo motors
Axes	2

Motion and control	C-877.2U12
Controller type	PID controller, parameter changing during operation
Servo cycle time	100 µs
Profile generator	Point-to-point motion. Trapezoidal velocity profile.
Encoder input	A/B quadrature TTL level, differential according to RS-422
Stall detection	Automatic motor stop when a programmable position error is exceeded
Limit switches	2 × TTL (programmable polarity)
Reference point switch	1 × TTL

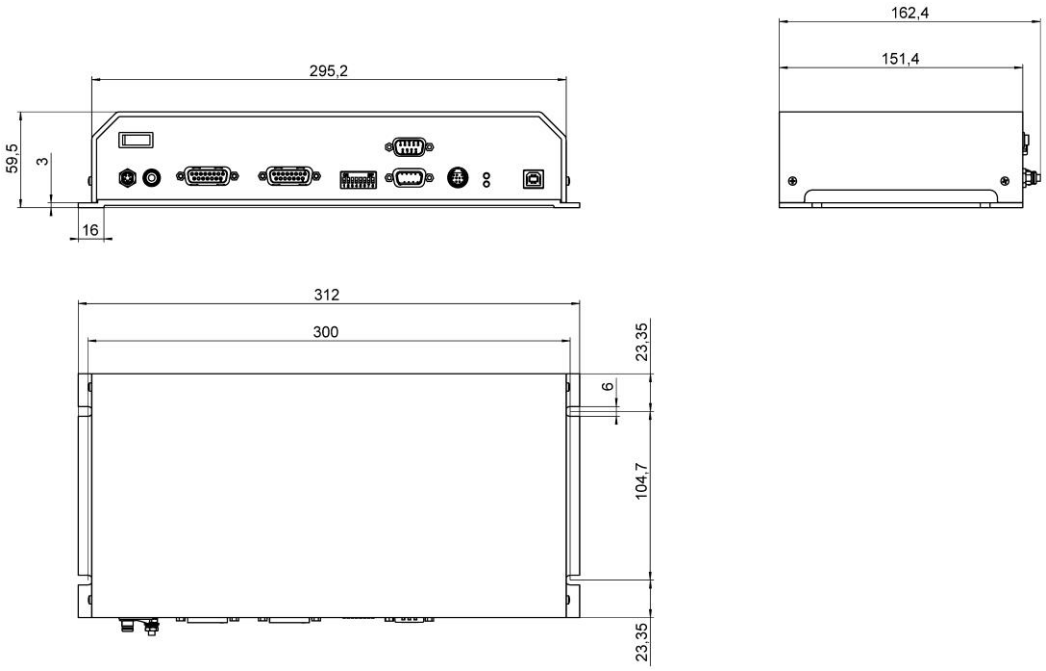
Electrical properties	C-877.2U12
Max. output power per axis	24 W
Max. output voltage per axis	200 V_{pp}, 71 V_{eff}

Interfaces and operation	C-877.2U12
Communication interfaces	USB; RS-232
Motor / sensor connection	2 x Sub-D 15 (f)
Controller network	Up to 16 units on a single interface
I/O lines	4 digital inputs (5 V TTL), 4 digital outputs (5 V TTL)
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. Internal safety circuitry: Watchdog timer. ID chip detection.

Miscellaneous	C-877.2U12
Operating voltage	24 V DC from 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 × 104.7 mm × 59.5 mm (incl. mounting rails)

Ask about custom designs!

Drawings / Images



C-877.2U12, dimensions in mm

Ordering Information

C-877.2U12
PILine® Controller, 2 axes, with USB and RS-232 interfaces, I/O, 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