

Mercury Servo Controller

1 Axis, for DC Motors and PWM Motor Drivers



C-863

- High-speed encoder input to 60 MHz
- Powerful macro programming language, e.g., for stand-alone operation
- Nonvolatile memory for macros and parameters
- Data recorder
- Daisy chain networking
- Connector for joystick

Digital motion controller for DC servo motors

1 axis. Motion control of PI positioning systems with DC motor: Direct motor control; PWM control for fast PI stages with integrated ActiveDrive amplifiers or with brushless motors and integrated block commutation. PID controller. Supports motor brake.

Interfaces and communication

USB and RS-232 interface for commanding. A/B quadrature encoder input. TTL inputs for limit and reference switches. I/O lines (analog/digital) for automation. Connector for analog joystick. Daisy chain networking for up to 16 axes operated via a common computer interface.

Extensive functions, software support

Powerful macro command language. Nonvolatile macro storage, e.g., for stand-alone operation with autostart macro. Data recorder. PID controller, parameter changing during operation. Extensive software support, e.g., for NI LabVIEW, C, C++, MATLAB, Python. PIMikroMove user software.

Specifications

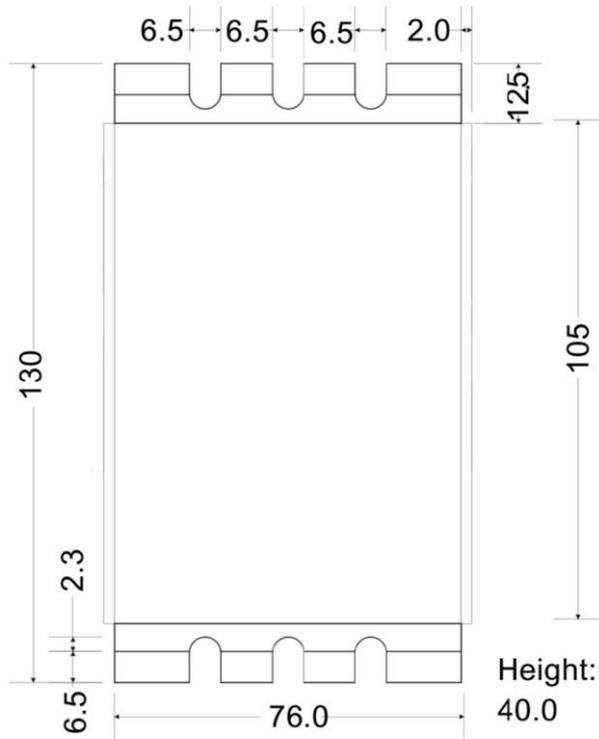
C-863.12	
Function	DC motor control
Drive types	DC motor, servo controlled Motors with PWM control, e.g., ActiveDrive amplifiers or brushless motors with integrated block commutation
Axes	1
Supported functions	Point-to-point motion. Startup macro. Data recorder for recording operating data such as motor voltage, velocity, position or position error. ID chip detection. Internal safety circuitry: Watchdog timer.
Motion and control	
Controller type	PID controller, parameter changing during operation
Servo cycle time	50 µs
Profile generator	Trapezoidal velocity profile
Encoder input	A/B quadrature single-ended or differential TTL signal acc. to RS-422; 60 MHz
Stall detection	Automatic motor stop when a programmable position error is exceeded
Limit switches	2 × TTL (programmable polarity)
Reference switch	1 × TTL
Motor brake	1 × TTL, can be switched by software
Electrical properties	
Max. output voltage*	0 V to operating voltage, for direct control of DC motors
Max. output power	60 W
Average output power	48 W
Power consumption, full load	48 W
Power consumption without load	3 W
Current limitation	2.5 A
Interfaces and operation	
Communication interfaces	USB; RS-232, D-sub 9 (m)
Motor connector	HD D-sub 26 (f)
Controller network	Up to 16 units** on a single interface
I/O lines	4 analog / digital inputs (0 to 5 V / TTL), 4 digital outputs (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
Manual control	Joystick, Y cable for 2-D motion, pushbutton box
Miscellaneous	
Operating voltage	12 to 48 V DC *** from external power adapter (24 V DC power adapter included in the scope of delivery)
Max. current consumption	40 mA without load (when supplied with 48 V) 80 mA without load (when supplied with 24 V)
Operating temperature range	5 to 50 °C (temperature protection switches off at excessively high temperatures)
Mass	0.48 kg
Dimensions	130 mm × 76 mm × 40 mm (incl. mounting rails)

* The output voltage depends on the power adapter connected.

** 16 units with USB; 6 units with RS-232.

*** Recommended operating voltage: 24 to 48 V DC

Drawings / Images



C-863, dimensions in mm. Note that a comma is used in the drawings instead of a decimal point.



C-863.12: Rear view



Scope of delivery for the C-863.12: Controller with power adapter and power cord, communication cables, adhesive feet, software CD, and user documentation

Ordering Information

C-863.12

Mercury servo controller, for DC motors and PWM motor driver, 1 axis, HD D-sub 26, USB, RS-232, I/O, connector for analog joystick

Accessories

C-819.20

Analog joystick for 2 axes

C-819.20Y

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

C-170.IO

I/O cable, 2 m, open end

C-170.PB

Pushbutton box with 4 buttons and 4 LEDs