Mercury Servo Controller

1 Axis, for DC Motors and Brushless DC Motors

C-863

- High-speed encoder input to 60 MHz
- Powerful macro programming language, e.g., for stand-alone operation
- Nonvolatile EEPROM for macros and parameters
- Data recorder
- Daisy chain networking
- Connection 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 point switches. I/O lines (analog/digital) for automation. Interface 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 LabVIEW, C, C++, MATLAB, python. PIMikroMove user software.

Specifications

	C-863.11
Function	DC motor control, servo control
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. Internal safety circuitry: Watchdog timer.

Motion and control	C-863.11
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 point switch	1 × TTL
Motor brake	1 × TTL, can be switched by software

Electrical properties	C-863.11
Max. output voltage*	0 to ±15 V for direct control of DC motor
Max. output power	30 W
Current limitation	2 A

Interfaces and operation	C-863.11
Interface / communication	USB; RS-232, Sub-D 9 (m)
Motor connector	Sub-D 15 (f)
Controller network	Up to 16 units** on a single interface
I/O lines	4 analog / digital inputs, 4 digital outputs (TTL), 5 V TTL
Command set	PI General Command Set (GCS)
User software	PIMikroMove
Software drivers	API for C / C++ / C# / VB.NET / MATLAB / python, drivers for LabVIEW
Manual control	Optional: Pushbutton box, joystick (for 2 axes), Y cable for 2-D motion

Miscellaneous	C-863.11
Operating voltage	15 to 30 V, in the scope of delivery: external power supply 15 V / 2 A
Max. current consumption	80 mA plus motor current (max. 3 A)
Operating temperature range	5 to 50 °C
Mass	0.3 kg
Dimensions	130 mm × 76 mm × 40 mm (incl. mounting rails)

* The output voltage depends on the connected power supply.
** 16 units with USB; 6 units with RS-232.

Ordering Information

C-863.11
Mercury servo controller, for DC motors and brushless DC motors, USB, RS-232, I/O, connection for analog joystick