C-848 DC-Servo-Motor Controller

DC Motor Controller for 2 or 4 Axes

C-848.43 Precision Motion Controller with various PI-stages: M-112.2DG micro-translation stage, M-232.17 DC-Mike, M-062.DG rotary stage and M-235.5DG heavy-duty DC-Mike

- **Simultaneous Operation of up to 4 DC Servo-Motors/ -Positioning Stages or Voice-Coil Scanners**
- **Powerful Macro Command Language**
- **16 I/O Lines for Flexible Automation**
- **Electronic Gearing**
- **Extensive Software Support**
- **RS-232 and Optional IEEE 488 Interface**

The C-848 is a flexible, multi-purpose, rackmount positioning and motion controller for DC servo-motors. It is designed for general positioning and automation tasks in research and industry.

Flexible Multi-Processor Architecture

Based on a dual-processor structure, the C-848 offers the flexibility expected in today´s demanding prototyping and high-precision production environment.

In parallel with the general processor handling communication and macro execution, a fast DSP motion-control chipset is dedicated to trajectory generation and servo-control. In addition to three inputs per channel for limit switches and home position, eight TTL inputs and eight TTL outputs are available for flexible automation.

The C-848 also offers advanced motion control features such as:

- Linear interpolation
- Trajectory generation for trapezoidal and s-curve profiles
- Electronic gearing
- Real-time reference and limit position capture

Integrated Servo-Amplifiers/-PWM Output

Integrated, low-noise, linear power amplifiers allow operation of any PI micropositioning system without additional external amplifiers, reducing costs and simplifying the setup. In addition to the linear amplifiers, PWM (pulse width modulation) output signals are available to drive PI micropositioning stages equipped with ActiveDrive™ motors.

PI General Command Set (GCS)

The comprehensive command structure is based on the PI General Command Set (GCS). With GCS the development of custom application programs is simplified, because the commands for all supported devices are identical in syntax and function. PI controllers for nanopositioning systems, for piezomotors and servo or stepper motors can be commanded with GCS.

Software / Programming

In addition to the user software for setup, system optimization and operation, comprehensive LabView™ and DLL libraries are provided.

Control of the C-848 is provided either through the RS-232 or an optional TCP/IP interface. For manual control, the unit can be operated with a C-819.10 joystick.

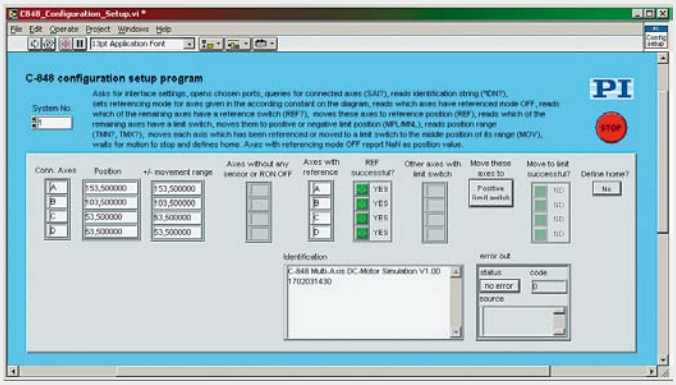
The C-848 can also run in stand-alone mode, and a standard computer keyboard and monitor can be connected for direct programming.

Ordering Information

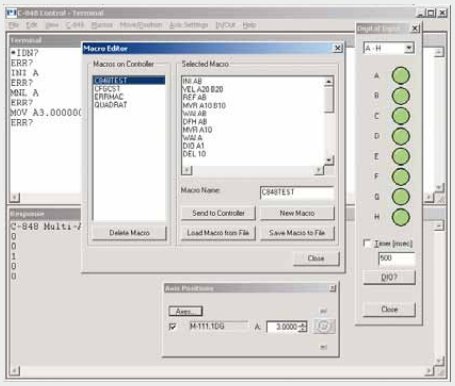
C-848.23
DC Servo Motion Controller, 2 Channels, 19“ Rack Mount, RS-232

C-848.43
DC Servo Motion Controller, 4 Channels, 19“ Rack Mount, RS-232

Accessories
C-819.10
Analog Joystick



Software for easy setup of the C-848 system



C-848 Control software, terminal window

Technical Data

Model	C-848.43	C-848.23
Function	DC-servo-motor controller	DC-servo-motor controller
Drive type	DC servo-motors Voice-Coil Linear Drives	DC servo-motors Voice-Coil Linear Drives
Channels	4	2
Motion and control		
Servo characteristics	Programmable PID V-ff filter, 100 µs per active axis, parameter changes on the fly	
Trajectory profile	Linear interpolation, trapezoidal, s-curve, electronic gearing	
Processor	Dual Processor: CPU 133 MHz and Motion chip, 2.5 kHz servo update rate	
Encoder input	AB (quadrature) differential TTL signal, 5 MHz	
Stall detection	Servo off, triggered by programmable position error	
Limit switches	2 TTL lines per axis, programmable	
Reference switch	1 TTL line real-time position capture per axis	
Motor brake	TTL, software programmable	
Electrical properties		
Operating voltage	Wide-range power supply, 100 to 240 VAC, 50 to 60 Hz	
Output power/channel	Analog H-bridge ±12 V, 5 W/channel, 12-bit D/A converters, 10-bit output for PWM drivers, 24.5 kHz	
Output voltage/channel	Analog: ±10.5 V PWM: TTL for SIGN and MAGN	
Current limitation	1 A per channel (short-circuit proof)	
Interfaces and operation		
Communication interfaces	RS-232 standard (cable included),	RS-232 standard (cable included),
Motor connector	Sub-D connector, 15-pin	
Controller network	Via TCP/IP option	
I/O ports	8 TTL inputs, 8 TTL outputs	
Command set	PI General Command Set (GCS)	
User software	C-848 Control user software, PIMikromove®	
Software drivers	LabView™ driver, DLL & COM for C, BASIC for Windows	
Supported functionality	Autostart macro, user-programmable macro Monitor and keyboard connectors Motor-Brake Control	
Manual control	Joystick via controller or host PC	
Miscellaneous		
Temperature range	+10 to +50 °C	+10 to +50 °C
Mass	8.2 kg	8.4 kg
Dimensions	447 x 450 x 90 mm (19-inch rackmount)	447 x 450 x 90 mm (19-inch rackmount)