

Controller for Hexapod Positioning Systems

6-Axis Motion Control, Comprehensive Functions



C-887.11

- Sophisticated controller using vector algorithms
- Freely programmable, virtual pivot point
- Data recorder
- Macro programming
- Stand-alone operation possible or control using TCP/IP and RS-232 interfaces
- Comprehensive software package, simulation software for workspace and single strut analysis

Digital controller for 6-axis parallel kinematics

A control for two additional single axes with servo motors is integrated.

Functions

Real-time system. Position control using Cartesian coordinates, vectorized motion. Stable, virtual pivot point can be freely defined in space. Data recorder for recording of operating data such as motor control, velocity, position or position errors. Macro programming. Stand-alone operation possible with Autostart macro or connection of keyboard and monitor.

Interfaces

TCP/IP Ethernet can also be used for remote control and service, RS-232. Monitor, mouse and keyboard interface. On request: RS-422 for up to 1.4 km cable length.

Extensive software support

PIMikroMove user software. Common command set for all PI positioning systems. Full set of drivers for use with NI LabVIEW. GUI input interfaces, configuration software, and graphically displayed scanning routines.

Customized versions

Customized versions are available for use at high altitudes, e.g. for astronomical telescope applications. Evaluation of absolute-measuring sensors. Control of motor brakes. Evaluation of additional (redundant) position sensors for increased safety requirements, e.g. in medical technology.

Specifications

C-887.11	
Function	6-axis controller for hexapods, incl. control of two additional single axes 19" housing, rack mountable
Drive types	Servo motors (hexapod and single axes) Optional: Piezo drives
Motion and servo controller	
Controller type	32-bit PID filter
Trajectory profiles	Trapezoid, linear interpolation
Processor	CPU: 1.8 GHz, motion control chip with 2.5 kHz servo update rate
Encoder Input	AB (quadrature) differential TTL signal, 5 MHz
Stall detection	Servo off, triggered by position error
Reference switch	TTL level
Electrical properties	
Max. output power/channel	10-bit outputs for PWM drivers, 24 kHz
Max. output voltage per channel	TTL in PWM operation for SIGN and MAGN
Interfaces and operation	
Communication interfaces	TCP/IP, RS-232 VGA (monitor), USB (keyboard, mouse, manual control unit)
Hexapod connection	MDR 68-pin for data transfer, M12 4-pin for power supply
Connectors for single axes	D-sub connector 15-pin
I/O lines	Optional: Analog inputs (photometer cards)
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 operation	Optional: C-887.MC control unit for hexapods
Miscellaneous	
Operating voltage	100 to 240 V AC, 50 / 60 Hz
Operating temperature range	5 to 40 °C
Mass	11 kg
Dimensions	395 mm × 483 mm × 185 mm

Ordering Information

C-887.11

6-axis controller for hexapods, TCP/IP, RS-232, 19-inch rack, incl. control of two additional axes

Accessories

C-887.VM1

PIVeriMove hexapod software for collision checking