

Hexapod Motion Controller

Compact Bench-Top Device for Controlling 6-Axis Systems



C-887.52x

- Sophisticated controller using vector algorithms
- Commanding in Cartesian coordinates
- Easy customization of coordinate systems by command
- Analog interfaces and motion stop optional
- Extensive software package

Digital controller for 6-axis parallel kinematics

High-performance digital controller for hexapods (6-axis parallel-kinematics) with DC motors. Additional control for two further single axes with integrated ActiveDrive.

Functions

Position input via Cartesian coordinates, coordinate transformation handled by the controller. To simplify integration of the hexapod, the reference system (Work, Tool) can be quickly and easily changed. The real-time operating system prevents jitter and therefore guarantees constantly low response times. 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. An autostart macro allows stand-alone operation. The controller supports motor brakes and absolute-measuring sensors with BiSS interface.

Interfaces

TCP/IP for remote control and remote maintenance. RS-232. USB connection for external input devices (HID).

Additional interfaces (depending on version):

- Motion stop: The supply voltage of the hexapod drive can be switched off using the external switch connected to the controller. The sensor technology remains active so that position information continues to be available and a reference move is not necessary when the drive is reactivated.
- Analog inputs

Optional

- Control via manual control unit
- Collision checking for restricted space with PIVeriMove software

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 scan routines.

Scope of Delivery

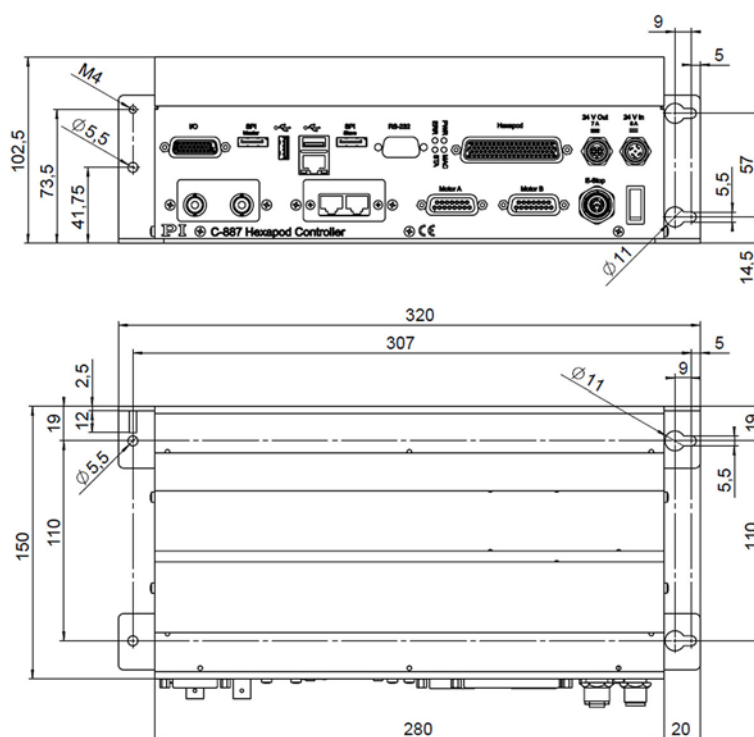
The order is made together with suitable hexapod mechanics. The scope of delivery includes the hexapod, controller with software package, cable set, and power adapter.

Specifications

	C-887.52 / C-887.521 / C-887.522 / C-887.523
Function	6-axis controller for hexapods, incl. control of two additional single axes Compact benchtop device Extending the functionality of C-887.52: C-887.521: Additional analog inputs C-887.522: Additional motion stop C-887.523: Additional motion stop and analog inputs
Drive type	Servo motors (hexapod and single axes)
Motion and control	C-887.52 / C-887.521 / C-887.522 / C-887.523
Controller type	32-bit PID controller
Trajectory profiles	Jerk-controlled generation of dynamics profile with linear interpolation
Processor	Intel Atom dual core (1.8 GHz)
Servo cycle time	100 µs
Encoder input	AB (quadrature) differential TTL signal, 50 MHz BiSS
Stall detection	Servo off, triggered by position error
Reference point switch	TTL
Electrical properties	C-887.52 / C-887.521 / C-887.522 / C-887.523
Hexapod control	12-bit PWM signal, TTL, 24 kHz
Hexapod power supply	24 V
Maximum output current	7 A
Interfaces and operation	C-887.52 / C-887.521 / C-887.522 / C-887.523
Communication interfaces	TCP/IP, RS-232 USB (HID, manual control unit)
Hexapod connection	HD Sub-D 78 (f) for data transmission M12 4 (f) for power supply
Connectors for single axes	Sub-D 15 (f)
I/O lines	HD Sub-D 26 (f): 4 × analog input (-10 to 10 V, via 12-bit A/D converter) 4 × digital input (TTL) 4 × digital output (TTL)
Analog inputs	C-887.521 and C-887.523 only: 2 × BNC, -5 V to 5 V, via 16-bit A/D converter, 5 kHz bandwidth
Input for motion stop	C-887.522 and C-887.523 only: M12 8 (f)
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	Optional: C-887.MC manual control unit for hexapods

Miscellaneous	C-887.52 / C-887.521 / C-887.522 / C-887.523
Operating voltage	24 V (external power adapter for 100 to 240 V AC, 50 / 60 Hz in the scope of delivery)
Maximum current consumption	8 A
Operating temperature range	5 to 40 °C
Mass	2.8 kg
Dimensions	280 (320) mm × 150 mm × 103 mm Power adapter: 170 mm × 85 mm × 42.5 mm

Drawings / Images



C-887.5xx, dimensions in mm. Version-dependent interfaces

Ordering Information

C-887.52

6-axis controller for hexapods TCP/IP, RS-232, benchtop device, incl. control for two additional servo axes

C-887.521

6-axis controller for hexapods, TCP/IP, RS-232, benchtop device, incl. control of two additional axes, analog inputs

C-887.522

6-axis controller for hexapods, TCP/IP, RS-232, benchtop device, incl. control of two additional axes, motion stop

C-887.523

6-axis controller for hexapods, TCP/IP, RS-232, benchtop device, incl. control of two additional axes, motion stop, analog inputs

Accessories

C-887.MC

Manual control unit for hexapods, USB connector, 3 m cable

C-887.VM1

PIVeriMove Hexapod software for collision checking