Parallel Kinematics Controller

For Parallel-Kinematic Positioners with Q-Motion® Piezo Inertia Drive

C-886.31

- Sophisticated controller using vector algorithms
- Commanding in Cartesian coordinates
- Easy customization of coordinate systems by command
- Suitable for Q-Motion® SpaceFAB
- Can be optionally expanded by two single axes
- Extensive software package

Digital controller for 6-axis parallel kinematics
High-performance digital controller for parallel-kinematic positioners with Q-Motion® Piezo Inertia Drives, e.g., Q-Motion® SpaceFAB. Control can be added for up to two single axes with freely selectable drive concept.

Functions
Position input via Cartesian coordinates thanks to coordinate transformation in the controller. Coordinate systems can be changed quickly and easily (including work, tool). Virtual pivot point can be freely defined in space. Data recorder for recording position values and status bits. Macro programming with autostart macro for stand-alone operation. Wave generator for periodic motion.

Interfaces
TCP/IP and USB for commanding, differential signal transmission for analog (sin/cos) encoder signals, BiSS interface for absolute-measuring encoders. TTL inputs for limit and reference point switches.

Software support
PIMikroMove user software with 3-D representation. Extensive programming support, e.g., for LabVIEW, C, C++, MATLAB, Python.

08.03.2018

Specifications

	C-886.31
Function	Controller for parallel-kinematic positioners
Axes	6 Optional: 2 additional single axes

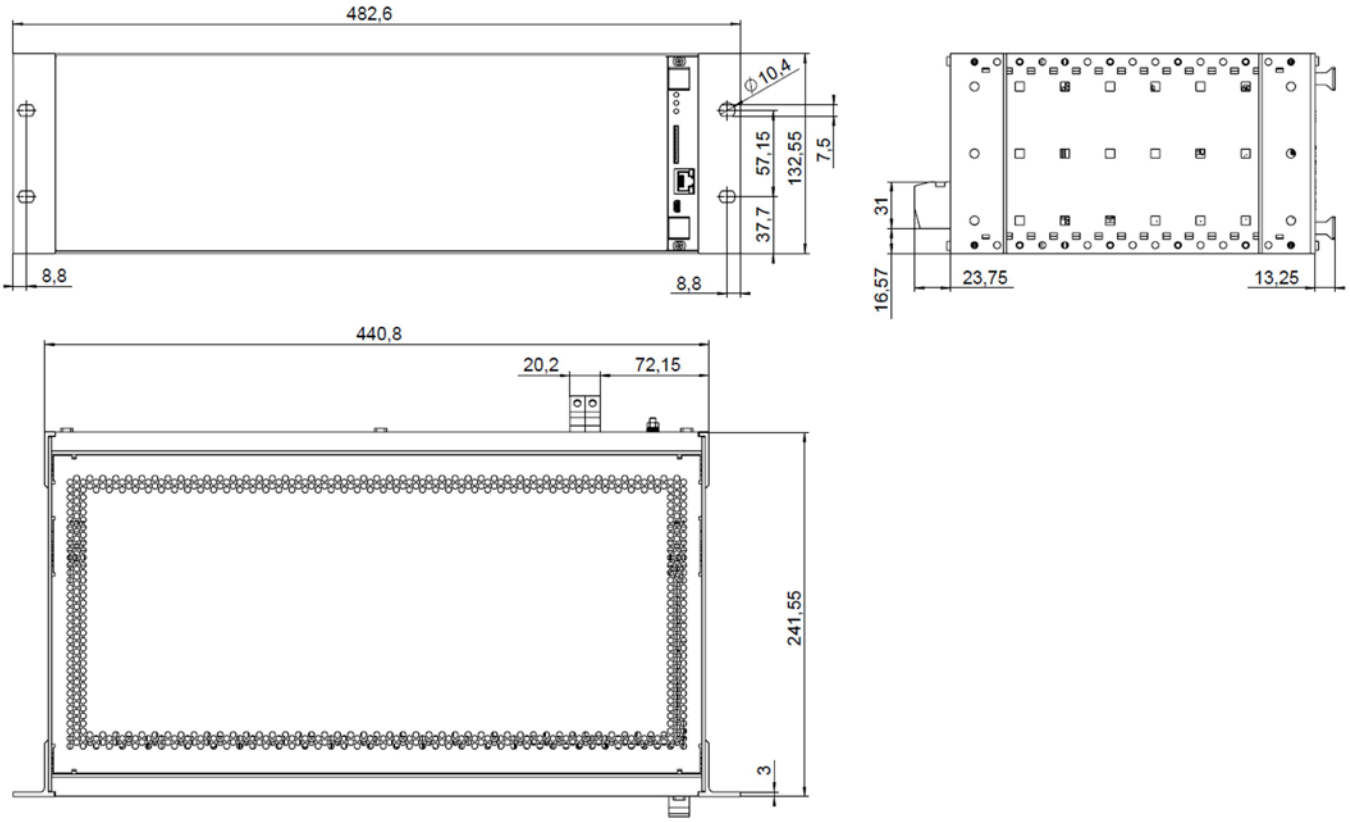
Motion and control	C-886.31
Drive type	Q-Motion® Piezo Inertia Drive Optional single-axis drive type
Motor connection	Sub-D 15 (f)
Controller type	PID controller
Servo cycle time of slave modules	50 µs
Cycle time of the C-886	10 ms
Encoder input	Sin/cos (differential), BiSS interface
Stall detection	Servo off, triggered by position error
Limit switches	2 × TTL per drive (polarity programmable)
Reference point switch	1 × TTL per drive
Characteristics of single axes	Depending on the drive type

Electrical properties	C-886.31
Output voltage	0 to 48 V
Max. output power	30 W per drive
Characteristics of single axes	Depending on the drive type

Interfaces and operation	C-886
Communication interfaces	TCP/IP: RJ45/Ethernet; USB: Mini-USB type B
Command set	PI General Command Set (GCS)
User software	PIMikroMove
Application programming interfaces	API for C / C++ / C# / VB.NET / MATLAB / Python, drivers for LabVIEW
Supported functions	User-defined coordinate system. Startup macro. Data recorder for recording operating data. Wave generator for periodic motion.

Miscellaneous	C-886
Operating voltage	External power adapter 24 V / 10 A in the scope of delivery
Max. current consumption	32 A
Operating temperature range	10 to 40 °C
Mass	4.4 kg without drive modules for single axes
Dimensions	482.6 mm × 132.55 mm × 278.55 mm

Drawings / Images



C-886, dimensions in mm, here without drive modules

Ordering Information

C-886.31
Controller for parallel-kinematic positioners, 6 axes, for Q-Motion® Piezo Inertia Drives, TCP/IP, USB, 2 optional single axes

Optional single axes

C-863.20C885
Motion controller module for DC motors, 2 axes, for PIMotionMaster, PID controller

C-663.12C885
Mercury Step stepper motor controller module, 1 axis, HD Sub-D 26, for PIMotionMaster, 1 axis, closed-loop and open-loop operation, support of external sensors

E-873.10C885
Q-Motion® controller module for PIMotionMaster, 1 axis, for systems with piezoelectric inertia drive

Cover plates

C-885.AP1
Cover plate for PIMotionMaster, 3 RU, 4 HP

C-885.AP2
Cover plate for PIMotionMaster, 3 RU, 8 HP