PIMag® Motion Controller for Magnetic Direct Drives

1 Axis, for 3-Phase Linear Motors with Average Power Consumption

C-891

- Maximum average current consumption 3 A
- 20-kHz control bandwidth
- USB interface for sending commands and for configuration
- Digital inputs and outputs
- Optional analog input

Digital motion controller for PIMag® linear motors

1 motor channel, 1 sensor channel. For three-phase linear motors, maximum current consumption 3A (rms) per phase. Sine-commutated operation, field-oriented current control. Automatic detection of the motor phase. PID controller for position and velocity. Servo update rate 20 kHz.

Encoder inputs

Differential signal transmission for digital (A/B) or analog (sin/cos) encoder signals. BiSS interface support for absolute encoders. TTL inputs for limit and reference point switches.

Extensive functionality

Data recorder: Recording of operating data such as motor current, velocity, position or position error. Wave generator: Saves and outputs periodical motion profiles. ID chip support: Detects the stages connected and simplifies configuration and exchangeability. Supports direction-sensing reference point switches. Extensive software support, e.g., for LabVIEW, C, C++, MATLAB, python. PIMikroMove user software.

Interfaces

USB and RS-232 for commanding. Digital inputs and outputs for automation. Analog input for direct control of the motor current.

Specifications

	C-891.120200
Function	PIMag® Motion Controller for 3-phase linear motors, sine-commutated, field-oriented current control
Motor channels	1
Sensor channels	1
Supported functions	Point-to-point motion. Data recorder. Wave generator. Automatic detection of the motor phase.
Safety features	Switch-off via external switch. Overload protection of the motor driver. Overheat protection of the motor. Overcurrent protection of the system.

Motion and control	C-891.120200
Controller type	PID controller for position and velocity, parameter changing during operation
Servo frequency	20 kHz
Profile generator	Trapezoidal velocity profile, setting of maximum velocity and acceleration
Encoder input	Analog (sin/cos) or digital signals (A/B differential, TTL, or BISS interface)
Reference and limit switches	TTL

Electrical properties	C-891.120200
Max. output voltage	24 V
Max. output current	3 A$_{rms}$

Interfaces and operation	C-891.120200
Communication interfaces	USB, RS-232
Motor connector	HD Sub-D 26 (w)
Sensor connection	Sub-D 15 (m)
I/O port	4 x digital input, 4 x digital output Optional analog input, -10 to 10 V
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

Miscellaneous	C-891.120200
Operating voltage	24 V, external power supply included in the scope of delivery
Max. current consumption	4.5 A
Operating temperature range	5 to 40 °C
Max. mass	1.0 kg
Dimensions	190 mm × 83 mm × 110 mm (with rubber feet and connection for supply voltage: 206 mm x 83 mm x 112 mm)

Ask about custom designs!

Ordering Information

C-891.120200

PIMag® motion controller for magnetic direct drive, 1 axis, 24 V, 3 A, USB and RS-232 interface