

PIMag® Motion Controller

FOR 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- commuted operation, field- oriented current control. Automatic detection of the motor phase. PID controller for position and velocity. 20 kHz servo update rate

Encoder inputs

Differential signal transmission for digital (A/ B) or analog (sin/ cos) encoder signals. BiSS interface support for absolute encoders. TTL signal 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: Identifies the connected stages and simplifies configuration and exchangeability. Supports direction- sensing reference point switches. Extensive software support, for example for LabVIEW, dynamic libraries for Windows and Linux

Interfaces

USB 2.0, RS-232 commanding. Digital inputs and outputs for automation. Analog input for direct control of the motor current

Specifications

Preliminary Data	C-891.120200	Unit
Function	PIMag® motion controller for 3- phase linear motors, sine- commuted, field- oriented current control	
Motor channels	1	
Sensor channels	1	
Motion and control		
Servo characteristics	PID controller for position and velocity, parameter change on- the- fly	
Servo frequency	20	kHz
Profile generator	Trapezoidal velocity profile, setting of maximum velocity and acceleration	
Encoder input	Analog signals (sin/ cos) or digital signals (A/ B differential TTL or BiSS interface)	
Reference point switch	TTL	
Electrical properties		
Max. output voltage	24	V
Max. output current	3	A _{rms}
Interfaces and operation		
Communication interfaces	USB, RS-232	
Motor connector	HD Sub- D 26- pin (w)	
Sensor connection	Sub- D 15- pin (m)	
I/ O port	4 x digital input 4 x digital output Via HD Sub- D 15- pin (w) Optional analog input, -10 to 10 V	
Command set	PI General Command Set (GCS)	
User software	PIMikroMove	
Software drivers	LabVIEW driver, dynamic libraries for Windows and Linux	
Supported functions	Point- to- point motion, data recorder with 16,000 values and 8 recorder channels, movement, automatic motor phase detection, ID chip detection	
Safety features	Axis stop by hardware switch, overload protection of motor driver, overtemp protection of motor, overcurrent protection of the system	
Miscellaneous		
Operating voltage	24 V, external power supply included in scope of delivery	V
Max. current consumption	4.5	A
Operating temperature range	5 to 40	°C
Max. mass	1.0	kg
Dimensions	190 x 83 x 110 (206 x 83 x112 including rubber feet and supply voltage connector)	mm

Order Information

C-891.120200

PIMag® Motion Controller for magnetic direct drives, 1 channel, 24 V, 3 A, USB and RS-232 interfaces

Ask about custom designs!

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[C-863 Mercury Servo Controller](#)

[C-884 Four Axis Motion Controller](#)

Technology

[PIMag® Magnetic Direct Drives | In particular in terms of wear and dynamics, voice- coil actuators and magnetic linear drives offer advantages compared to common spindle- based technologies. Learn more ...](#)