For current pricing, please see our website.

Modular Rack System Stepper Motor Controller

MST601

Our modular apt™ stepper motor driver provides a scalable motion control solution. Up to 12 stepper motors can be controlled by the 19" Rack Enclosure if it is loaded with six dual-channel stepper motor modules. The USB interface and advanced application software allow multiple channel systems to be seamlessly integrated into a single, large-scale solution. The modular apt™ stepper motor controller is supplied with a full suite of software support tools. An intuitive graphical instrument panel allows immediate control and visualization of the operation of the stepper unit. See pages 654 - 656 for a full description of the apt™ system software.

Driver Functionality

A wide range of 2-phase bipolar stepper motors and associated actuators are available, each with its own characteristics, such as step resolution, peak phase current or voltage, and leadscrew pitch. Operation of the apt™ Stepper Motor Module is fully configurable. For example, the motor step resolution and leadscrew pitch can be set, phase currents can be adjusted, and the limit switch can be configured. Moreover, relative and absolute moves can be initiated with move profiles set using velocity profile parameters. All of our stepper motor actuators and stages are compatible with the module except the ZST Series.

Features
- Dual (Synchronized) Drive Channels
- Supports 2-Phase Bipolar Steppers up to 50 W
- Differential Encoder Feedback (QEP Inputs)
- Maximum 128 Microsteps per Full Step
- 25,600 Microsteps per Rev (200 Step Motor)
- User Controlled Digital I/O Port
- Motor Control I/O Port
- Full Software GUI Control Suite
- ActiveX® Graphical Panel Controls
- ActiveX® Programming Interfaces
- Seamless Software Integration with apt™ Family

MMR601
19" Rack Assembly Shown with Various Modules
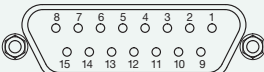All Sold Separately

Full Support for Encoder Feedback

The modular apt™ stepper motor controller also supports encoder feedback through dedicated quadrature encoded pulse (QEP) inputs, one for each of the two channels of operation. A built-in algorithm can be enabled to allow the stepper system to reach and maintain an encoded position through an iterative move sequence.

Specifications

- **Input/Output:**
  - **Motor Drive Channel (15-Pin, D-Type Female for Each Channel)**
    – 2-Phase Bipolar Motor Drive Output
    – Differential Quadrature Encoder Interface
    – Forward, Reverse Limit Switch Inputs
  - **Motor Control (15-Pin, D-Type Female)**
    – Jog Forward
    – Jog Back
    – Enable/Disable Interlock
    – Jog Control Handset Available
  - **User I/O (26-Pin, D-Type Female)**
    – Logic Level Trigger Input/Output
- **Stepping** (Assumes 200 Step Motor)
  - 25,600 Microsteps per Revolution
  - Maximum 128 Microsteps per Full Step

- **Compatible Motors:**
  - **Peak Powers:** 5 - 50 W
  - **Average Power (Max):** 25 W
  - **Max Drive Voltage:** 48 V
  - **Step Angle Range:** 20°-1.8°
  - **Coil Resistance (Nom):** 4 - 15 Ω
  - **Coil Inductance (Nom):** 4 - 15 mH
  - **Rated Phase Currents (Nom):** 100 mA to 1 A
- **General:**
  - **One Slot apt™ Rack**
  - **Dimensions (W x D x H):** 7.5" x 10.6" x 1.97" (190 mm x 270 mm x 50 mm)
  - **Weight:** 3.3 lbs (1.5 kg)

Motor Drive Connector Pin Out

Pin	Description	Pin	Description
1	Encoder A +ve	9	CW Limit Switch
2	Encoder A -ve	10	CCW Limit Switch
3	Encoder B +ve	11	0 V User
4	Encoder B -ve	12	Not Used
5	5V User	13	Not Used
6	Not Used	14	Phase B +
7	Phase B -	15	Phase A +
8	Phase A -		

ITEM #	$	£	€	RMB	DESCRIPTION
MST601	$ 1,210.00	£ 871.20	€ 1.052,70	¥ 9,643.70	apt™ 2-Channel Stepper Motor Controller Module