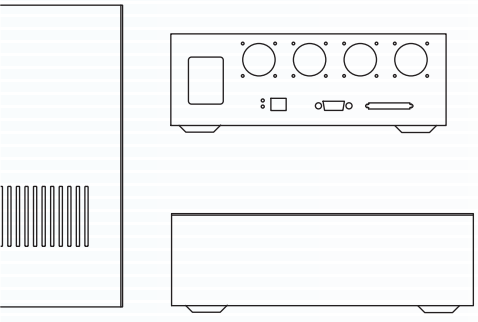
MDM2200 SERIES



Feature Summary

- Multi-axis stepper motor drive, 1-4 axes
- Integrated interface for National Instruments motion controllers
- Drive option for 3A or 5A continuous current
- Stepper motors
- Integrated 625 Watt motor power supplies
- Operates from 110 or 220 VAC
- External Enable loop
- Many different cable options

Overview

The MDM2200 is a 1-4 axis stepper motor drive with an integrated interface for a National Instruments motion controller. Because the MDM2200 has all the required drives, power supplies, and interface circuitry to NI motion controllers, no UMI is necessary. Only NI's standard SHC68-C68-S cable is required, reducing system setup time drastically. Thanks to Primatics unique SimpleMatch™ system, third party positioning stages or axes can also be operated from a properly configured MDM.

The MDM2200 is ideally suited for multi-axis stepper motor applications controlled with any of the National Instruments motion control cards. Each unit can be configured with the number and type of stepper drive that matches your requirement. The MDM2200 utilizes a robust circular connector for each axis, simplifying connections to positioning stages or motors with available cable assemblies. A variety of cable assemblies are available to connect a positioning stage or axis to the MDM.

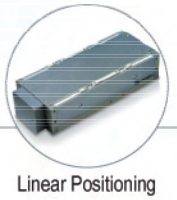
An external enable loop is provided to enhance the integration of the MDM2200 in to a safety system.

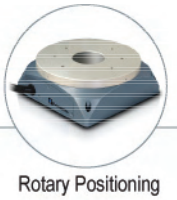
Standard Stepper Axis is defined by:

- Step motor
- Incremental encoder position monitoring
- Forward & Reverse travel limit
- Home flag
- Motor temperature fault monitor

For servo motor application use the MDM2100. For mixed motor types of steppers and servos, use the MDC400 Series product. Visit www.primatics.com for more information.

Primatics

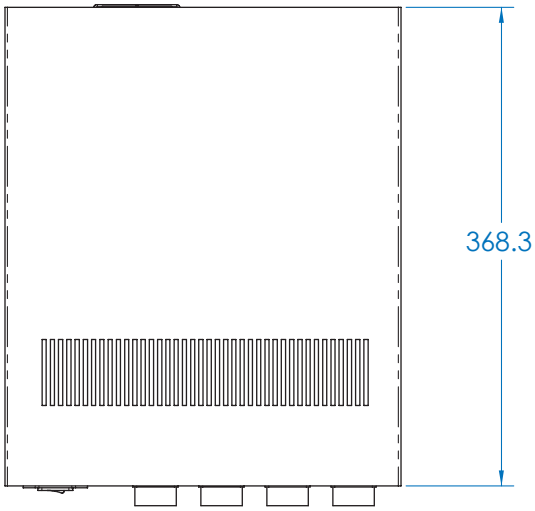

Linear Positioning

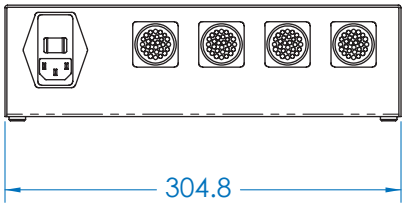

Rotary Positioning


Motion Controls


OEM Solutions

Controller Drawings





Specifications

MDM Drive Module	MDM2200
Number of Motion Axes	1 to 4
Motor Compatibility	Stepper
Controller Compatibility	National Instruments 7344, 7244, 7358, 7354, 7352, 7356
Input Power (VAC)	110 VAC, 50 / 60 Hz. Option for 220 VAC
Motor Voltage (VDC)	24, 42 or 60
Continuous Output Power (Watts)	625
Peak Output Power (Watts)	1250
Dimensions (H x W x D) (mm)	85.7 x 304.8 x 368.3
Operating Temperature (deg C)	0 to 45
Storage Temperature (deg C)	0 to 75
Weight (kg)	8.5

Stepper Drives	D5	D6
Motor Compatibility	Stepper, 2 Phase	
Continuous Current (A rms)	3	5
Peak Current (A)	4	7
Bus Voltage (VDC)	12 to 48	24 to 75
Chopping Frequency (kHz)	20	
Minimum Current (A rms)	0.4	
Micro Step Revolutions (µ-steps / step)	400 to 51,200 steps / rev for 1.8° motor	
Max Step Frequency (MHz)	10	

Encoder Specifications	Specification
Power	5 VDC +/- 5%, 150 ma
Input	Square wave differential line driver
Reference (Z channel)	Synchronized pulse, duration equal to one resolution bit

Limit & Home Specifications	Specification
Power	+12 VDC
Input	NC Current Sinking, Sink current minimum of 10 ma

CONNECTOR PINOUTS

Connector on MDM: FCI (Burndy) Female, circular connector, 28 contacts, size 20 shell pin-out.

Pin	Function
A	Motor Phase A+
B	Motor Phase B+
C	Motor Phase B-
D	<key>
E	Encoder 5V - power for encoder
F	Encoder A+ input
G	Encoder A- input
H	Encoder B+ input
J	Encoder B- input
K	Encoder Shield
L	Limit V + (Power for Limit & Home Sensors - set by JP1 Default: 12V)
M	DCCOM - Power return for Limit and Home Sensor
N	Home Sensor input (Connect to DCCOM to activate)
P	Not Used
R	Not Used
S	Chassis Ground
T	Motor Phase A-
U	Motor Phase B Common
V	Encoder Common
W	Encoder Index +
X	Encoder Index -
Y	Forward Limit Switch - switch to DCCOM in normal operation
Z	Reverse Limit Switch - switch to DCCOM in normal operation
a	Motor Cable Shield
b	Motor Phase A Common
c	DCCOM - Power return for Limit and Home Sensor
d	Temperature monitor - connect to DC Common for temperature OK
e	NC - No Connection

Enable Loop: 2-pin Pluggable Terminal Strip

Pin	Function
1	Loop A
2	Loop B

An open circuit between Loop-A and Loop-B will disable all drives. For normal operation, a closed circuit must be present.

MODEL NUMBER CONFIGURATION

OPTIONS:

Model Series
Desktop Stepper Motor Controller. **MDM2200D**

Number of Axes
1 Axis **1**
2 Axes **2**
3 Axes **3**
4 Axes **4**

Power Supply [1]
24V, 625W **24VW1**
42V, 625W **42VW1**
60V, 625W **60VW1**

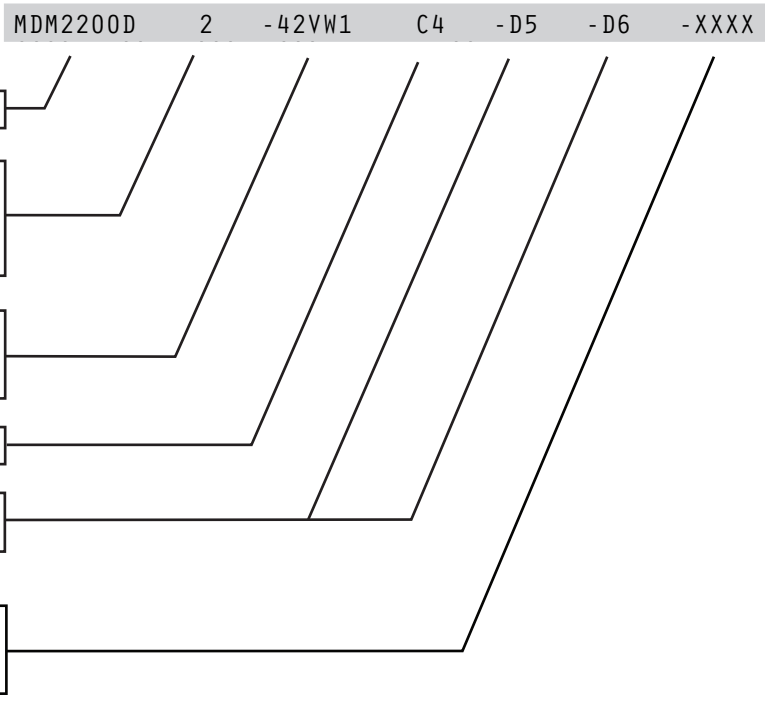
Motion Control Interface
NI-7344. . . . . **C4**

Drive Type (configure one per axis)*
Microstep drive, 3A rms / 4A peak. **D5**
Microstep drive, 5A rms / 7A peak. **D6**

Customization Code (optional)
Leave blank for 110VAC operation
220VAC operation with a NEMA 6-15 plug. **220US**
220VAC operation with a European (Schuko) plug . . . **220EU**
220VAC operation with a British Standard plug . . . **220BS**
Other codes assigned by factory.

* D5 used with 24VW1 or 42VW1 Power supply
D6 used with 42VW1 or 60VW1 Power supply
[1] Other supply voltages available upon request.

SAMPLE MODEL NUMBER:



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