

The FMAX controller provides high performance motion control for applications that require 1, 2, 3 or 4 axes of movement, including robot and linear stage applications (such as microscopes and scanners).



Specifications

Specification	FMAX-4X-2SD
Size (mm)	220 (W) x 100 (D) x 55 (H)
Weight (g)	580
Controller Power Supply Voltage	DC24V \pm 10%, Max 1.0A
Driver Bus Voltage (VDC)	12 ~ 48
Driver Max. Continuous Power Output (W)	160
Number of Controllable Axes	4 (X, Y, Z, U)
Number of Built-in Drivers	2 (X and Y axes)
Serial Port	USB 2.0 mini B type (for controller) RS-232C (for driver) ¹
Maximum Output Frequency (MHz)	5 for Z and U axes 2 for X and Y axes ²
Analog Input	2 inputs (Aln1, Aln2) ³
Pulsar Input	PA, PB (each axis)
Comparator Output	4 (CMPx, CMPy, CMPz, CMPu)
Drive I/F Signal ⁴ (Output) Z and U Axes Only	Pulse Output (PLS, DIR) Excitation ON/OFF (SON) Clear Deviation Counter (ERC)
Drive I/F Signal ⁴ (Input) Z and U Axes Only	Encoder Signal (EA, EB, EZ) Alarm (ALM) In Position (INP) Servo Ready (RDY)
Mechanical Input Signal	+EL, -EL, ORG, SD (each axis) Emergency stop, external start
General Purpose Output	12 Photocoupler outputs
General Purpose Input	12 Photocoupler inputs
Corresponding Standard*	CE, RoHS (2011/65/EU), EMC Directive

¹RS-232C is for built-in driver adjustment.

²The X and Y axes can be up to 2 MHz due to specification of built-in driver.

³Aln1 corresponds to X axis and Aln2 corresponds to Y axis. Z and U axes are not supported..

⁴Regarding driver I/F signal, only the Z axis and the U axis are connected to the connector (CN5). Since the X and Y axes are connected to the built-in drivers, they are not connected to the connector.

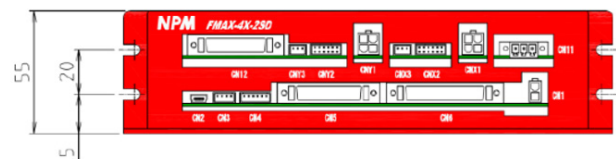
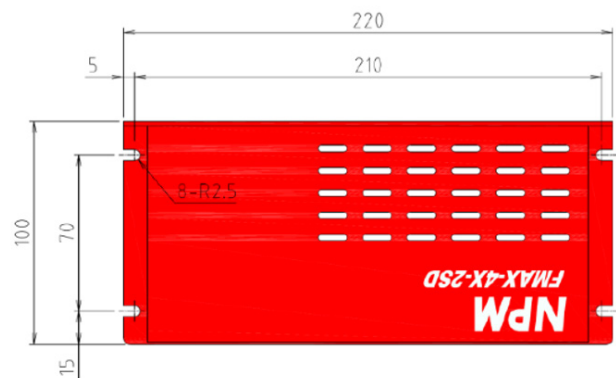
*See manual for all standards

Features:

- Four-axis controller, with built-in servo drivers for X and Y axes to control rotary and linear brushless motors such as Nippon Pulse's Linear Shaft Motor.
 - Z and U axes can control other motors — including DC brushless, linear brushless and stepping motors — by connecting additional drivers.
 - Build a fully functioning 2-axis system with just a power supply, motor and cable!
- Can be controlled as standalone unit or with USB connection to PC.
- Can be controlled via joystick for jog operations.

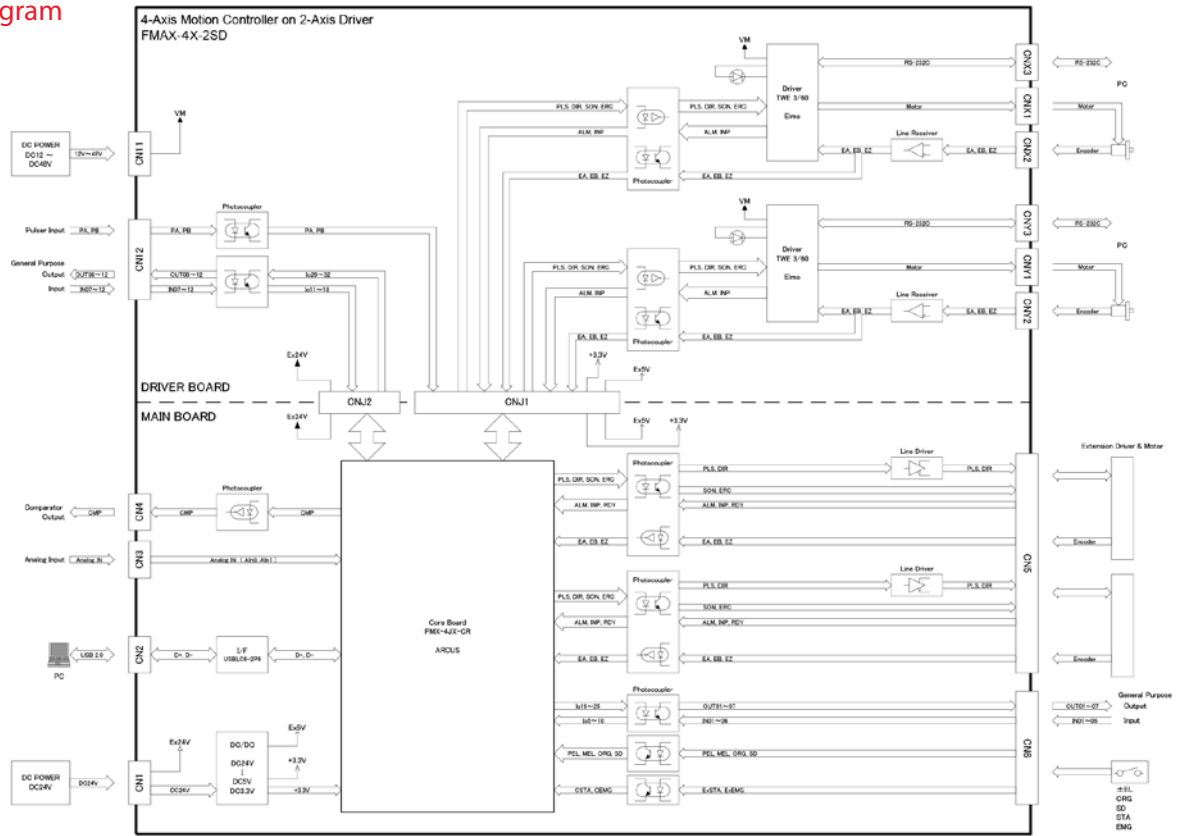
Functions:

- 13 types of homing mode
- On-the-fly parameter adjustment (speed and positioning)
- 2 to 4 axis linear interpolation
- 2 axis circular interpolation
- S-curve and trapezoidal profiles
- Absolute or incremental positioning
- Comparator function
- External pulsar input
- 12 inputs and 12 outputs as general purpose I/O signals

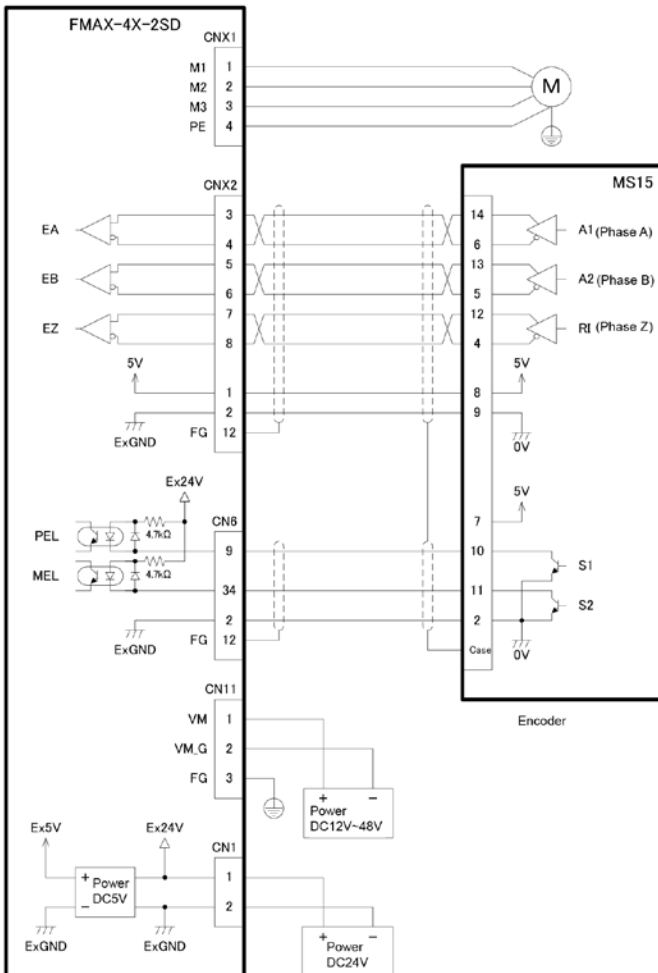


Support available for Windows 7 and 8.

Block Diagram



Connection example with a Shaft motor and an encoder



Connection example with an external driver (A5 series made by Panasonic)

