



Typical CNC control installation when using the prebuilt M400 Control system.

Our standard prebuilt M400 Control package comes with the following features wired and ready for use:

- ✓ 3 axis of servo powered control.
- ✓ 3 each servo motors (29"/lbs. in size) Each servo motor has an encoder mounted and wired
- ✓ Flood coolant contactor for 220VAC 3 phase power
- ✓ Mist coolant wired for 110VAC air solenoid
- ✓ New cables for each limit switch – X, X-, y+, Y-, Z+, Z-
- ✓ New cable for powering the autolube pump (110VAC)
- ✓ New cables between the electrical enclosure and the professional level control console.



--- Spindle motor control ---

Our prebuilt control comes in 2 versions.

Ver. A Built with Fwd/Rev contactors. This is typical of mills built with a vari drive head or step pulleys type quill head.

Ver. B Built with control cabling that you will wire to your Variable Frequency Driver (VFD) This is more commonly seen on machines with a spindle gearbox or single ratio belted pulleys.

Use of a VFD will allow for programmable spindle speeds. When running a 3 phase spindle motor on 220VAC single phase power a VFD is your best solution. We offer these too.

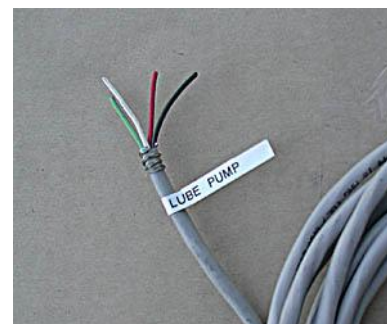
Our prebuilt M400 controls are configured to fit the most common 3 axis applications. If your machine has other features requiring additional control service just let us know. Centroid CNC controls are very flexible.

Installing your new CNC control.

Our control package includes a wired electrical enclosure. Typically 2' wide X 3' tall. This is mounted on your machine base. Look for a location that allows the enclosure door to be fully opened and does not interfere with any machine maintenance. Drill and tap 4 holes for this. We also offer a rolling floor stand for mounting your new electrical enclosure.

Next find a mounting location that places the console at a comfortable height. Typically on the right side of the ram. Drill and tap 4 holes for this. A heavy steel bracket has been included for use on machines that do not have a vertical mounting surface on the ram.

Mount your new servo motors in place of the old motors. Frequently our new servo motors will have the same bolt pattern and shaft size. If that is not the case on your machine a simple mounting plate may be needed.





The balance of your installation is related to wiring . Extending out the bottom of your new electrical enclosure are several cables. Each is labeled with its function. Autolube, or X+ limit, or flood coolant motor power, and so on. Simply connect each of these cables to the device on its label. There is an enclosed wiring print for additional detail.

It is likely that you will have an extra cable or two. For example, many machines do not use spray mist. Simply pull this cable back into the electrical enclosure. Be sure to safely cover the wire ends so they do not touch each other or any other surface inside the enclosure. The servo motor cables are cut to a universal length of 14'. You can coil up the excess cable length inside the enclosure or many installers will wire tie this excess cable under the enclosure.

Once each of these installation items have been completed its time to apply the power. Your new CNC control is using a Windows 10 PC computer. You will see this booting up same as your desktop. Just wait till the CNC software has been automatically loaded and is running.

Press in – then - twist and release the E-stop button on the console. If all your limit switches are closed you will be able to jog each axis with the push buttons located on the console jog panel. Check to see that the X axis moves with the X jog button. Also note whether each axis moves in the direction that corresponds to the button being pressed. Once you are at this stage we expect a phone call. A Machines in Motion technician will walk you through the control setup and automated servo tuning. About 20 – 30 minutes over the phone is common. Once we have ironed the settings your machine is ready to cut precision CNC parts.

This is our control installation overview document. Your new CNC control will arrive with more detailed wiring diagrams and information.

Machines in Motion can order your fully wired control system with any additional control features needed to fit your specific machine application. We want your control upgrade project to be successful! Lifetime technical support is an exclusive feature to all Machines in Motion control system customers. No annual fees and no hourly charges for email or phone support.

Quantity	Item	Price
1	Professional Slimline CNC console with PC and Windows 10	
1	All-in-1 DC servo drive board set	
3	29"/lbs servo motors with encoder and 14' cables set	
1	S function features – VFD, Mist, Lube, & Limit switch cables	
1	Contactors and wiring for 220VAC 3 phase flood coolant pump	
1	Swivel mounting arm for the console	
1	4' Flexible conduit with the console cables set	
1	Crating, Shipping and handling	
	Total package cost	\$11,985

Add \$689 for non-VFD spindle contactors with overload device.

FREE Shipping to your place of business inside the Continental USA

A forklift is required for off loading at your facility. Lift gate delivery will be extra.

Contact us today to place your order.

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