



Sherline/MASSO Controller Retrofit/Upgrade for Customers who Have a Linux CNC Computer

Upgrading your Linux CNC to a Sherline/MASSO Controller

If you are a Sherline customer who has an EMC2 or Linux CNC system with our PC, and you are considering upgrading to our new Sherline/MASSO controller, you are already half way there.

To use our Sherline/MASSO controller P/N 8781 (<https://www.sherline.com/product/8781-sherline-masso-cnc-controller/>), you need to have our driver box P/N 8760 (<https://www.sherline.com/product/8760-cnc-4-axis-driver-box/>).

If you have one of our EMC2 or Linux CNC systems with our PC, the driver board and connections that are inside of your PC are the same as our 8760 driver box. Therefore, if you want to upgrade your system to our new Sherline/MASSO controller, you already have the driver box which saves you approximately \$500.00.

In addition to having the driver box, the new Sherline/MASSO controller also needs a monitor with a VGA plug. You already have a VGA monitor with your existing Linux PC system.

Below are instructions on how to connect our Sherline/MASSO controller (S/M) to your existing PC driver board.

What You Will Need for the Upgrade

Before we get started on the instructions, there are a few components that you will need to purchase in order to do this upgrade.

Component list:

1. Sherline/MASSO controller, P/N 8781 (see link above).
2. 3' or 6' Parallel Cable, P/N's 870723 or 87072.
3. Power supply external-24v 4 Amp, P/N 87622.
4. In addition to the above components, you will need to purchase a wireless keyboard and mouse set.

NOTE: These need to be a set, since the controller has only one USB port available for both the keyboard and the mouse.

Instructions

1. On all of the PCs that we have sold prior to 2016, there is a parallel cable that comes out of the bottom of the computer and plugs into the parallel port in the back of the computer (see Figure 1). On PCs that were built since 2016, some of the parallel cables are inside the computer. This style of PC will be covered later.



FIGURE 1—Parallel Port Connection Cable

2. Disconnect the parallel cable from the parallel port on the back of the computer. Then connect the parallel cable to the front of the S/M controller using the 3' or 6' parallel cable.

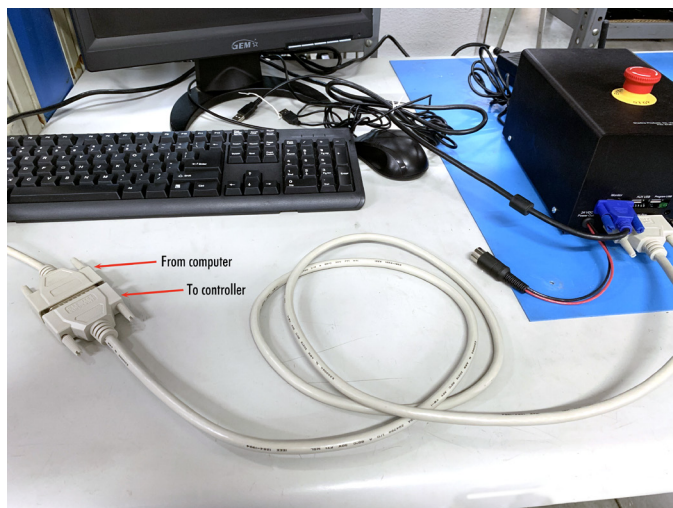


FIGURE 2—Shows the connection between the two parallel cords.

3. When you buy the S/M controller with the driver box. The power supply is connected to the S/M controller and there is a power cord on the controller that plugs into the driver box. With this set up, the power supply powers both the controller and the driver box.

When you are using the driver board inside of your PC, the PC power supplies the power to the driver board. You will need to connect a power supply to the S/M controller.



FIGURE 3—Connect the power supply to the controller.

4. Connect the monitor cable to the front of the S/M controller. Then insert the keyboard/mouse USB dongle. Then insert the controller flash drive. When you turn on the power switch, you will see the green power light come on.



FIGURE 4—Power on for the S/M controller.

5. Power for the stepper motors is still done using the toggle switch on the side of the PC. Turn this switch on to activate the driver board to drive the stepper motors (the same as before).



FIGURE 5—The red light indicates that the power is on to the driver box.

NOTE: When you connect the S/M controller to the PC in this way, the only part of the PC that is being used is the driver board. The PC is not used at all. There is no need to turn on the PC power. You are only turning on the toggle switch to power the board and the stepper motors.

If you wish to use the PC as a computer, you can load windows onto the PC. Then you can still use the PC as a

PC for CAD/CAM software or other standard computer programs. However, the PC will not be used to run your machine any more.

6. The instructions for installing and connecting your limit switches, and the optical encoder and speed control to the S/M controller can be found in the Sherline/Masso Instructions (https://sherline.com/wp-content/uploads/2019/07/sher-masso_cnc_initial_inst.pdf).

Thank you,
Sherline Products Inc.