WEAR YOUR SAFETY GLASSES
FORESIGHT IS BETTER THAN NO SIGHT
READ INSTRUCTIONS BEFORE OPERATING

SHERLINE PRODUCTS
INCORPORATED 1974

Sherline/MASSO 36V Closed-Loop Stepper Motor Specifications

Frame size:	NEMA #23
Shaft:	8mm (.315")
Input Voltage:	36V DC
Output Current:	4.5A 20 KHz PWM
Pulses/Revolution:	800
Maximum Torque:	1.2 Nm (Newton meters)
	12.236 kg/cm (kilogram centimeter)
	169.934 oz/in (ounce inch)
	10.62 in/lb (inch pound)

Torque Information

Stepper motors provide high torque at low RPM but as the RPM increases the available torque reduces. The below graph can be used for machine feed rate and torque calculations.

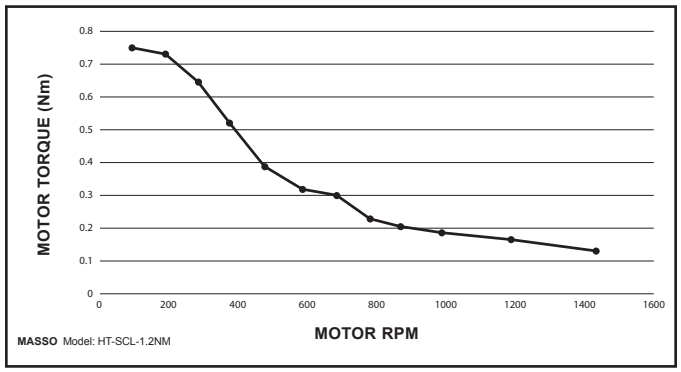

FIGURE 1— Motor torque curve model: HT-SCL-1.2NM with 1.2 Nm maximum torque

Mechanical Data

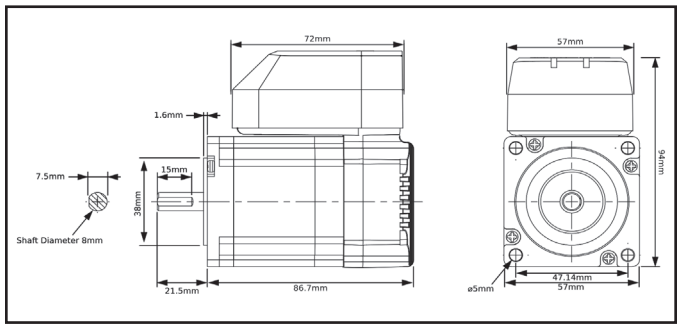

FIGURE 2— Model: HT-SCL-1.2NM

Status LED & Alarms

The motors provide two visual indications of motor status.

A Green LED indicates that the motor is powered.

A Red LED indicates that the motor is in an alarm state.

Alarms can be caused by any of the below reasons:

- The enable signal of 5v to 24v is not received by the motor.
- The motor received STEP signals that have acceleration or top RPM higher than the motor can support. This will also be affected by how much load is on the motor.
- The power applied to the motor is less or more than the motor's specifications.
- The current required to work under load is not enough.
- The motor is not able to complete requested rotation due to external mechanical issues such as the machine axis hitting something or getting stuck.

Troubleshooting

If your stepper motors are not functioning correctly for any reason e.g., erratic movement, moving in the wrong direction, or not moving the correct increments per revolution, you will need to do the following:

1. Remove the stepper motor cover by removing the two Phillips-head screws on the backside of the cover, and lift the cover off.
2. Check the dip switches. They should be set as shown below with #1 Off and the rest of the dip switches set to the On position.

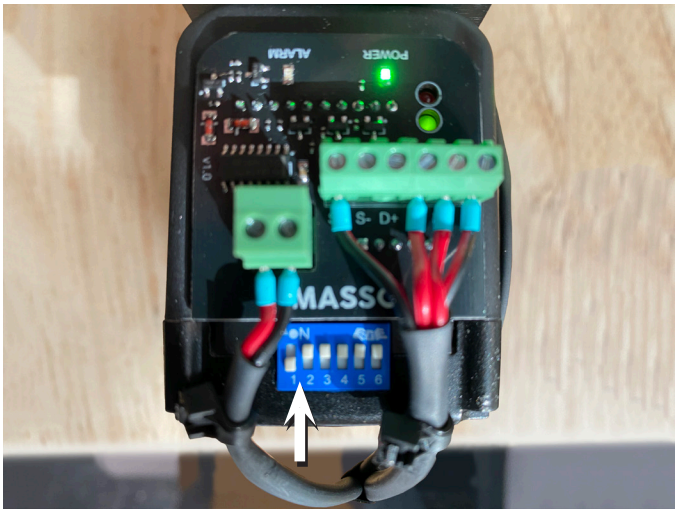

FIGURE 3—The arrow shows the location of the dip switches inside the stepper motor power supply.

3. Any time the red fault LED is lit, you must power the controller off/on in order to reset the fault alarm. If the

fault alarm continues, your axis has probably traveled into a hard stop. You will need to power off the control. Then turn the ball screw of the effected axis by hand until the axis has moved away from the hard stop. Then power on the controller. Check to see if the red led is off and the green LED is on. Before you home the machine, jog the axis away from the hard stop to be sure that it is working. You may still have a red axis alarm on the controller. Home the machine, and the alarm on the controller should be cleared.

4. After you have confirmed the switches are set correctly, put the cover back on and jog the axis again.
5. If you still have problems, contact us at Sherline@Sherline.com.

Thank you,
Sherline Products Inc.