

MMBOSS05-24DC-1Q

Quick Start Guide

This Quick Start Guide is intended for customers who are familiar with installing and operating the MMBOSS series drive. For calibration, troubleshooting and application notes information, refer to document number 250-0288, the MMBOSS User's Manual.

Connections

Warning

Do not install, remove, or rewire this equipment with power applied. Failure to heed this directive may result in fire or serious injury.

Do not reverse power input leads or apply reverse voltage at the drive terminals. The drive will be damaged.

Minarik strongly recommends the installation of a master power switch in the voltage input line, as shown in Figure 1.

The switch contacts should be rated at a minimum of 200% of motor nameplate current.

Motor

Connect a three-phase, low-voltage brushless motor to PCB terminals U, V and W, as shown in Figure 1. Connect motor phase A (or phase 1) to drive terminal U. Connect motor phase B (or phase 2) to drive terminal V. Connect motor phase C (or phase 3) to drive terminal W.

Power input

Connect the DC input power leads to PCB terminals BUS+ and BUS-. Connect the positive (+ or high) lead to BUS+. Connect the negative (- or common) lead to BUS-. **Minarik strongly recommends a master power switch for emergency use.**

Line fuse

Wire an external line fuse between the stop switch (if installed) and the BUS+ terminal. The line fuse should be rated at 75 volts and 150 - 200% of maximum motor nameplate current.

Connection to TB502

Connections to TB502 are identical to TB501. Refer to Figure 2 on page 4 for TB502 terminal assignments. Contact your Minarik representative for assistance in connecting to TB502.

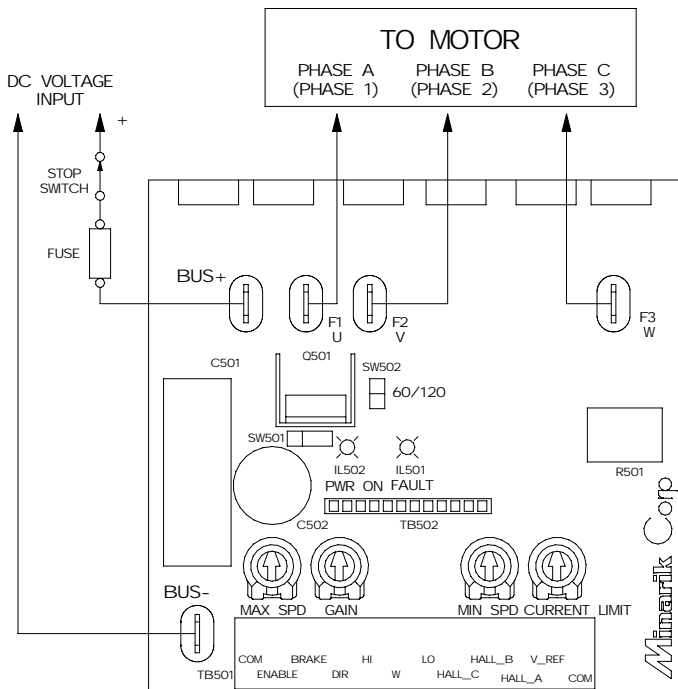


Figure 1. PCB Power, Fuse and Motor Connections

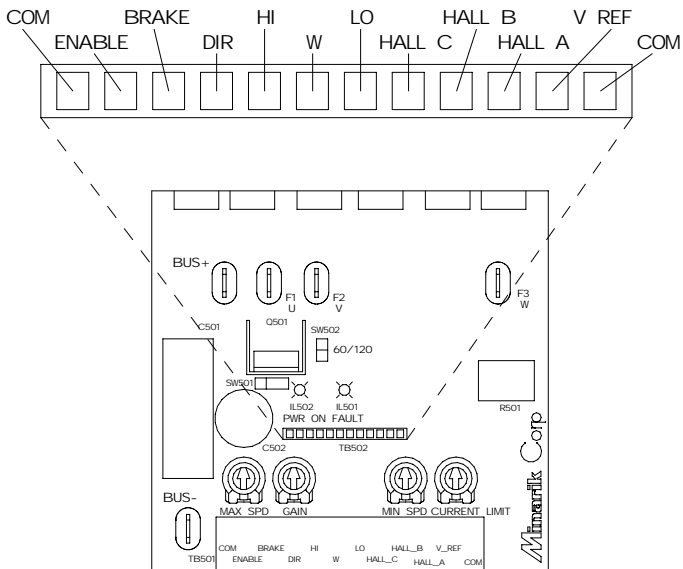


Figure 2. TB502 Pin Assignments

Optional switch connections

Connect the following switches to the terminal plug as shown in Figure 3 (page 6).

ENABLE/DISABLE switch

Install a single-pole, single-throw switch between the ENABLE and COM terminals (Figure 3). Close the switch to disable the drive and coast the motor to a stop. Leave open to enable the drive and run the motor.

RUN/BRAKE switch

Install a single-pole, single-throw switch between the BRAKE and COM terminals (Figure 3). Open the switch to brake the motor to a stop. Close the switch to run the motor and accelerate to set speed.

DIRECTION switch

Install a single-pole, single-throw switch between the DIR and COM terminals (Figure 3). Open or close the switch as required to change direction.

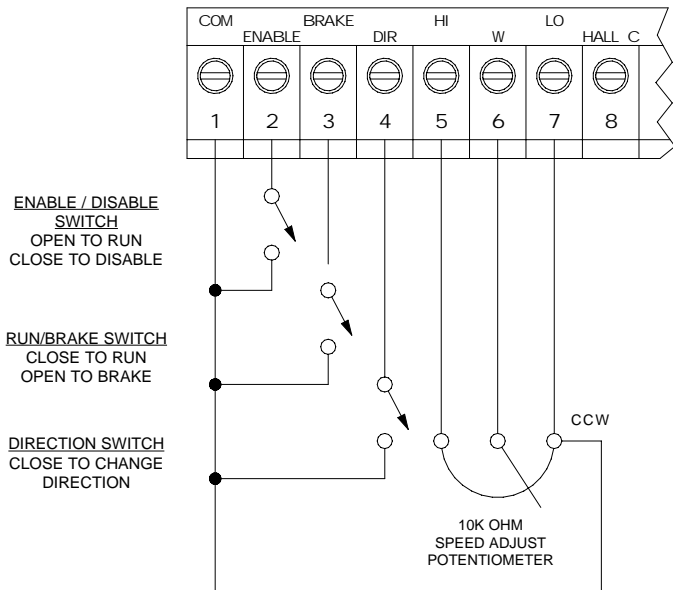


Figure 3. Optional Switch Connections

Operation

Before applying power:

- Verify that no conductive material is present on the printed circuit board.
- Ensure that all jumpers are properly set.

Startup

1. Verify that no conductive material is present on the PCB.
2. Check that the enable/disable switch is in the enable position (open).
3. Check that the run/brake switch is in the run position (closed).
4. Set the DIR switch to the direction you want the motor to rotate upon startup.
5. Set the speed adjust potentiometer to zero (fully CCW). If a voltage signal is used, set to zero.
6. Apply DC voltage input to the drive.
7. Slowly advance the speed adjust potentiometer so that motor speed increases in the desired direction. If a voltage signal is used, slowly increase the signal. The motor will slowly accelerate as the potentiometer is turned CW, or as the voltage signal is increased. Continue until the desired speed is reached.

Reversing

To change direction, set the DIR switch to the opposite position. To avoid motor damage from high braking currents, always brake the motor to a stop before reversing. An alternative is to close the ENABLE/DISABLE switch or remove power to the drive before reversing. Always wait for the motor to come to a stop before reversing.

Drive shutdown

To shut down the drive:

1. Set the input signal to minimum or zero speed.
2. Set the RUN/BRAKE switch to the BRAKE (open) position.
3. Set the ENABLE/DISABLE switch to the DISABLE (closed) position.
4. Remove line voltage.

To coast the motor to a stop, remove power to the drive. You may also close the ENABLE/DISABLE switch to coast to a stop.

