**OVERVIEW**

The following procedure is a supplement to other documentation supplied with this equipment and will guide the user in properly wiring the V1000 and motor. It will also allow the installer to check motor direction, correct if necessary and perform a motor Auto-Tune.

**DANGER! Improper wiring can and will cause bodily harm as well as damage to the equipment.**

When installing the system be sure to follow good wiring practices and all applicable codes. Ensure that the mounting of the various components are secure and that the environment, such as extreme dampness, poor ventilation etc. will not cause system degradation.

Please read this document and other documentation provided with the V1000 thoroughly before attempting any installation.

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**Step 1**  
V1000 Model Identification and Mounting

To make sure you received the correct model it is essential to verify the V1000 nameplate with your order; and make sure that the drive has the correct rating so it can be used with your motor. Please check the nameplate information as shown in the example below.

- Check that the available power meets the input power requirements.
- Ensure that the output power from the VFD is compatible with the motor requirements.
- In the case of systems with multiple VFDs, follow the above procedure for each VFD and motor.

**Mounting the V1000**

The mounting of the V1000 is extremely important regarding environment and accessibility. Depending on your system, there are various models available and the mounting dimensions (footprint) may be different. Because the mounting procedure is fairly extensive, it is beyond the scope of this document. The user is referred to the V1000 Quick Start Guide (Manual No. TOEPC71066/14) received with the V1000. Section 1 Physical Installation describes the procedure that you should follow and refer to the manual to ensure a safe and functional installation. In cases where the system has more than one V1000, refer to the manual to ensure a safe and functional installation. In cases where the system has more than one V1000, refer to the manual to ensure a safe and functional installation.

**Removing Protective Covers**

Improper removal of the V1000 protective covers, as well as the conduit bracket (NEMA 1) can cause excessive dampness, extreme temperatures, electrical exposure, corrosive areas etc. to avoid damage to the equipment and to maintain safety.

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**Step 2**  
Connect Motor and Line Power

Fig. 1 & 2 below show the electrical connections for the input power and motor terminals for various V1000 Drive Models. Select the proper diagram for the single or three phase model you are installing. (see Step 1) and WITH POWER OFF, make the appropriate connections. Make sure to follow good wiring practices and all applicable codes. Ensure that the equipment is grounded properly as shown.

**WARNING! DO NOT CONNECT ANY OF THE FOLLOWING TERMINALS TO EARTH GROUND**

1. **B1**
2. **B2**
3. **+1**
4. **+2**

**Step 3**  
Check Motor Direction

In this step the motor is checked for proper direction and operation. This test is to be performed solely from the digital operator. Apply power to the V1000 after all the electrical connections have been made and protective covers have been re-attached. At this point, DO NOT RUN THE MOTOR, the Digital Operator should display as shown below in Fig. 3.

**Step 4**  
Auto-tuning

In this step the V1000 is setup for use with the motor. Make sure all protective covers have been re-attached then apply power to the V1000.

**DANGER! LETHAL VOLTAGES ARE PRESENT. Before applying power to the V1000, ensure that all protective covers are fastened and all wiring connections are secure. After the power has been turned OFF, wait at least five minutes until the charge indicator extinguishes before touching any wiring, circuit boards or components.**

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**Fig. 1: Input Power and Output Motor Electrical Connections for Single Phase Input V1000**

**Fig. 2: Input Power and Output Motor Electrical Connections for Three Phase Input V1000**

**Fig. 3 Digital Operator**
Quick Start Parameters

Selecting Start/Stop and Speed Method

This step shows how to setup the sequence and reference method of the V1000. The sequence method determines how the V1000 drive receives its start and stop command and the reference method determines how the speed of the motor is controlled. Make sure all protective covers have been re-attached and power is turned on. DO NOT RUN THE MOTOR.

This section may require you to change one or more V1000 parameters. Please refer to Step 5 for a detailed explanation on how to change parameters.

**SELECT SPEED METHOD** b1-01

1. Adjust motor speed / frequency from the Digital Operator
   - Go to parameter b1-01.
   - To adjust frequency use + and press.

2. Speed reference from external terminals (Potentiometer or Analog Signal)
   - Go to parameter b1-01.
   - (Factory Default)

**SELECT START / STOP CONTROL METHOD** b1-02

1. Start / Stop Control from Digital Operator
   - Go to parameter b1-02.
   - (Factory Default)

2. Start / Stop Control from external terminals (switch or relay contact)
   - Go to parameter b1-02.
   - (Factory Default)

FREQUENTLY ASKED QUESTIONS

**Question:** How do I reset the drive back to factory default settings?

**Answer:** Increase the value of parameter E1-04 Maximum Frequency and verify motor rated current parameter E2-01 and motor overload parameter settings. Increase deceleration time parameter C1-02.

**Question:** How do I adjust the time it takes the motor to speed up or slow down?

**Answer:** Adjust the acceleration time parameter C1-01 and deceleration time parameter C1-02.

**Question:** How do I prevent my drive from tripping on an OV fault (overvoltage) while my motor is ramping down?

**Answer:** Verify motor rated current parameter E2-01 and motor overload parameter settings.

**Question:** How do I prevent my drive from tripping on an OL fault (overload) while my motor is ramping down?

**Answer:** Verify motor rated current parameter E2-01 and motor overload parameter settings.

**Question:** I want to run my motor above the nominal motor speed?

**Answer:** Increase the value of parameter E1-04 Maximum Frequency Warning. Verify that the motor and system allow for this.