

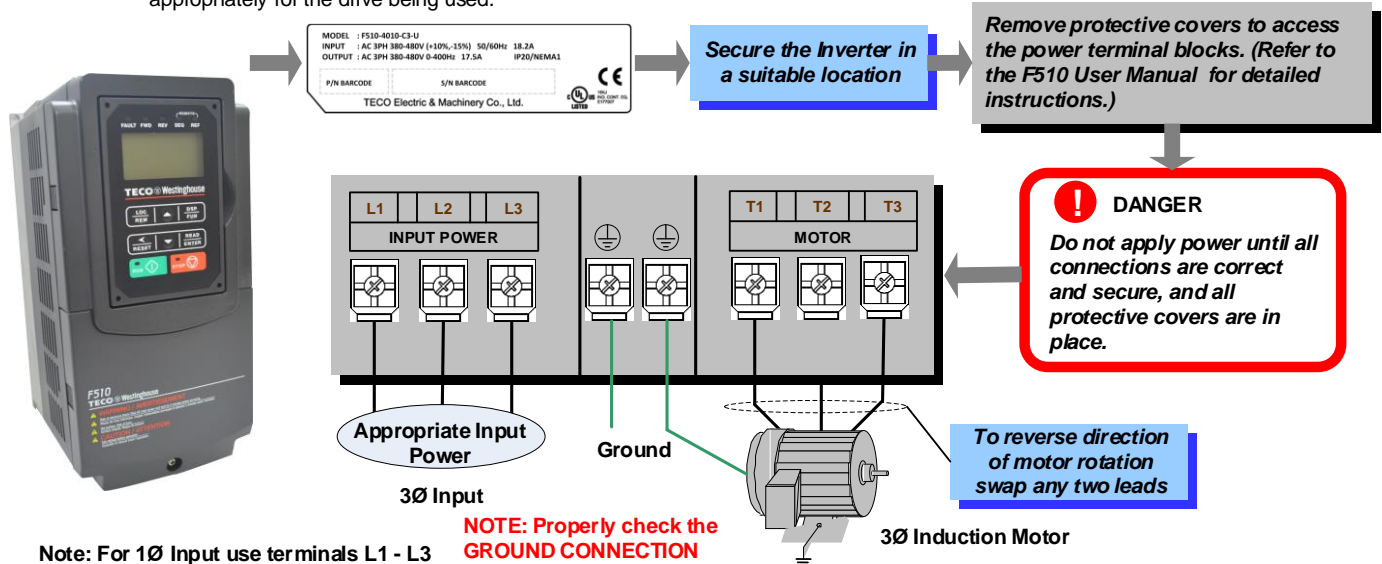
OUT of the Box Startup – Overview



This document is intended as a quick start guide to get familiarity with keypad navigation, changing parameters, and setting the F510 drive up for external start/stop and external potentiometer signal. Please note this document is not a substitute for the F510 User Manual and it is important that you reference the F510 user manual before proceeding.

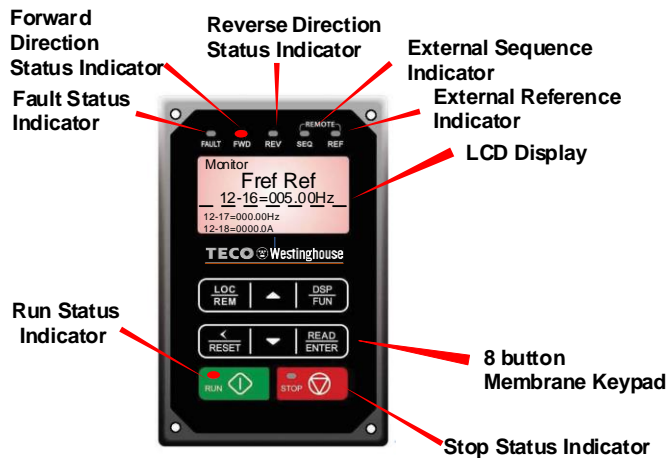
STEP 1 Check Nameplate and Connect Input / Output Wiring -

Check the inverter nameplate to insure that the information agrees with your order. Also insure that the power available is rated appropriately for the drive being used.



STEP 2 Power-up the Inverter, check the Digital Operator

In this step, after the initial power-up you will become familiar with the indications and functions of the Digital Operator.



KEYS (8) Description

- RUN:** RUN Inverter in Local Mode
- STOP:** STOP Inverter
- LOC/REM:** Switches between Local and Remote operation
- DSP/FUN:** Switches between available displays
- </RESET:** " < " Left Shift: Used to change parameters or values, RESET alarms and faults
- ENTER:** Used to display the preset value of parameters and to save changes
- ▲: Parameters navigation Up, Increase parameters or reference value
- ▼: Parameters navigation Down, Decrease parameters or reference value

F510 Control Settings (Factory Default)

RUN/STOP Control: Keypad (RUN / STOP key)

Press RUN to start the drive or STOP to stop the drive.

See **step 5.** to change to RUN/STOP to external switch/contact.

SPEED Control: Keypad (Default 5.00 Hz)

See **step 6.** to change to external potentiometer control.



Changing Speed Reference

Press **ENTER** button and use ▲ ▼ to change reference.

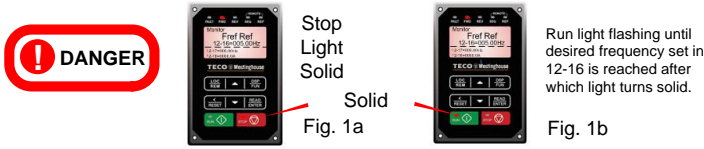
Press **</RESET** button to shift cursor to the left

Press **ENTER** button to save

STEP 3 Check Motor Rotation

This test is to be performed solely from the inverter keypad. Apply power to the inverter after all the electrical connections have been made and protective covers have been re-attached. At this point, **DO NOT RUN THE MOTOR**, the keypad should display as shown below in Fig. 1a and the speed reference 5.00 Hz should be blinking.

Important: Motor rotation and direction only applies to standard AC motors with a base frequency of 60Hz. For 50Hz or other frequency AC motors please set V/F pattern in group 01 before running the motor.

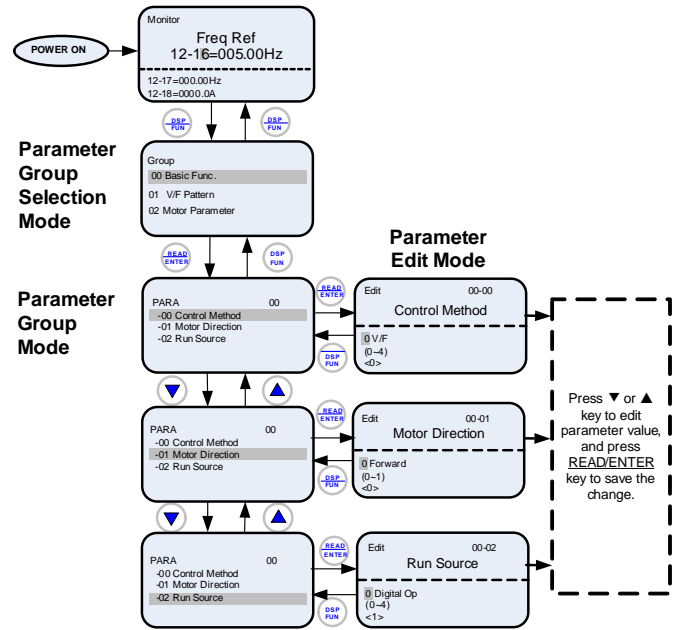


Next press the **RUN** key. The motor should now be operating at low speed running in forward (clockwise) direction. The keypad should display as shown above in Fig. 1b and the speed reference 5.00 Hz should be solid. Next press **STOP** key to stop the motor.

If the motor rotation is incorrect, power down the inverter. After the power has been turned OFF, wait **at least ten minutes** until the charge indicator extinguishes **completely** before touching any wiring, circuit boards or components.

Using Safety precaution, and referring to step 1 exchange any two of the three output leads to the motor (T1, T2 and T3). After the wiring change, repeat this step and recheck motor direction.

STEP 4 How to Change Parameters



STEP 5 Using Remote Run/Stop (Maintained Contact/Switch)

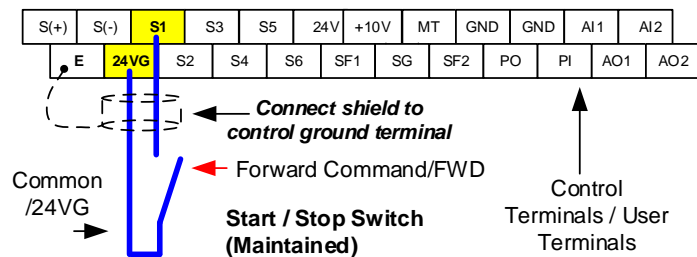
Default Setting: The F510 by default uses the keypad to run and stop, follow instructions below to change to a remote start/stop (maintained contact/switch).

Instructions to change to remote run/stop:

- Power down the drive, wait 10 min.
- Remove the protective covers (See F510 User Manual) and make the connections as shown below in Fig. 2a.
- Verify that all connections are secure, replace covers and power-up the drive.

Do not apply power until all connections are correct and secure, and all protective covers are in place.

After power-up set parameters **00-02=1** (Run Source from Control Terminals).



Terminal representation for 230V: 1 - 3 HP, 460V: 1 - 3HP (See section 3.3 of the instruction manual for other sizes) **Fig. 2a**

STEP 6 Using an external potentiometer for speed control

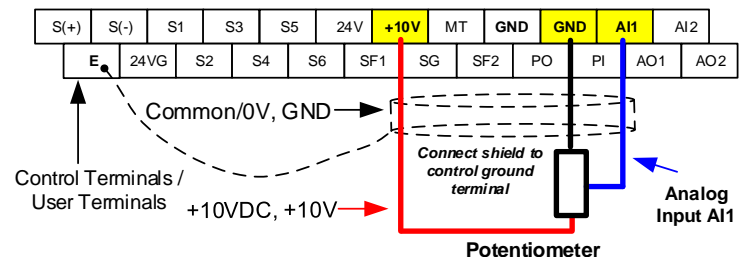
Default Setting: The F510 by default uses the keypad for frequency reference, follow instructions below to use a remote reference (external potentiometer).

Instructions to change to remote reference:

- Power down the drive, wait 10 min.
- Remove the protective covers (See F510 User Manual) and make the connections as shown below in Fig. 2b.
- Verify that all connections are secure, replace covers and power-up the drive.

Do not apply power until all connections are correct and secure, and all protective covers are in place.

After power-up set parameter **00-05=1** (Speed Reference from Control Terminals).



Terminal representation for 230V: 1 - 3 HP, 460V: 1 - 3HP (See section 3.3 of the instruction manual for other sizes) **Fig. 2b**

STEP 7 Frequently Used Parameters

Motor Nameplate Data (Parameter 02-01)

The motor rated current is set at the factory based on the inverter model. Enter the motor rated current from the motor nameplate if it does not match the value shown in parameter 02-01.

Setting range: Varies by model.

Using Keypad for Speed Reference (Parameter 00-05)

To use the keypad set parameter 00-05 to 0.

Acceleration and Deceleration Time (Parameter 00-14, 00-15)

Acceleration and Deceleration times directly control the system dynamic response. In general, the longer the acceleration and deceleration time, the slower the system response, and the shorter time, the faster the response. An excessive amount of time can result in sluggish system performance while too short of a time may result in system instability.

The default values suggested normally result in good system performance for the majority of general purpose applications. If the values need to be adjusted, caution should be exercised, and the changes should be in small increments to avoid system instability.

00-14 Acceleration time 1

00-15 Deceleration time 1

These parameters set the acceleration and deceleration times of the output frequency from 0 to maximum frequency and from maximum frequency to 0.

Factory Reset (Parameter 13-08)

To reset all parameters back to factory default set parameter 13-08 to 9.

For the complete F510 parameter listing and descriptions, refer to the F510 Instruction manual on our website www.tecowestinghouse.com