

S2U IP66 out of the box startup – Overview

General information

This document intends to be a quick start guide to familiarize the user with keypad navigation, changing parameters and setting up the S2UIP66 drive for external start/stop and external potentiometer signal.



Please note that this document **DOES NOT** substitute the S2UIP66 operating instructions document. It is important that you read and observe the operating instructions before proceeding.



For more information about the range of functions of the device and about operation, maintenance and storage, refer to the applicable operating instructions document.

Step 1 – Check the nameplate and connect Input/Output wiring



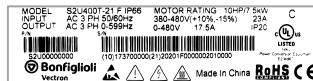
DANGER

Risk of electric shock

Touching blank or not connected wires/cables will result in electric shock and physical injury including the risk of death.

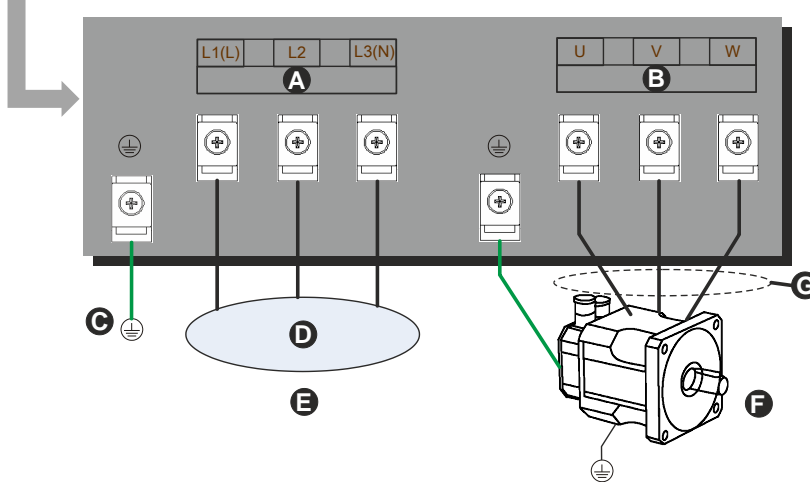
- Do not apply power until all connections are correct and secure and all protective covers are in place.

Check the inverter nameplate to ensure that the information on the nameplate corresponds to your order. Also ensure that the power supply available is rated appropriately for the drive being used.



Secure/mount the inverter in a suitable location

Remove protective covers to access the terminal blocks. (Refer to the S2UIP66 operating instructions for details)



| | |
|----------|---|
| A | Input power terminals |
| B | Motor terminals |
| C | Ground |
| D | Appropriate input power |
| E | 3ph Input |
| F | 3ph asynchronous motor |
| G | To reverse direction of motor rotation swap any two leads |

Note: For 1ph Input use terminals L1-L3

Step 2 – Power up the inverter, check digital operator

This step describes the indications and functions of the Operator panel.



| | | |
|----------|------------------------------------|---|
| A | Forward direction status indicator | Description of keys (C): RUN: Run inverter in Local Mode. STOP: Decelerate or Coast to Stop. ▲: Increment parameter number and preset Values. ▼: Decrement parameter number and preset Values. FWD/REV: Switch between Forward and Reverse Run DSP: Switch between available displays FUN: Examine the parameter content READ/ENTER: Display the preset Value of parameters and save the changed parameter values. “<” Left Shift: used to change parameters or parameter Values RESET: Reset alarms or resettable faults |
| B | Reverse direction status indicator | |
| C | 8-button membrane keypad | |
| D | Run button | |
| E | Stop button | |
| F | LED display | |
| G | Frequency potentiometer | |

S2UIP66 Control Settings (Factory Default)

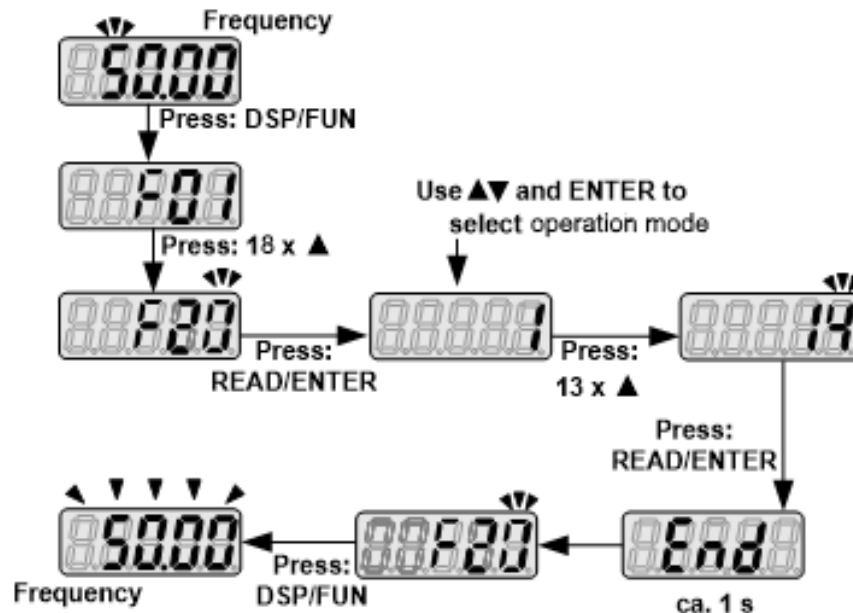
- RUN/STOP Control: **External Run/Stop control**
- Activate the analog input I1D to START the drive.
See step 4.
- SPEED Control: **External AI1 Analog Signal Input**
See step 5.

While number is flashing the speed reference can be changed.
Please use **External Analog Signal Input** to change reference.

Fig. 1a

Step 3 – Changing parameters

(Example F_20 “Digital input I2D” change to 14 “Rapid Stop”)



Step 4 – Using External RUN/STOP

Default Setting:

The S2UIP66 by default uses the External Run/Stop to run and stop, follow instructions below to change to External Run/Stop.

Instructions to change to External Run/Stop:

- Power down the drive, wait 5 min.
- Remove the protective covers (See S2UIP66 Operating instructions) and make the connections as shown below in Fig. 2a.
- Verify that all connections are secure, replace covers and power-up the drive.

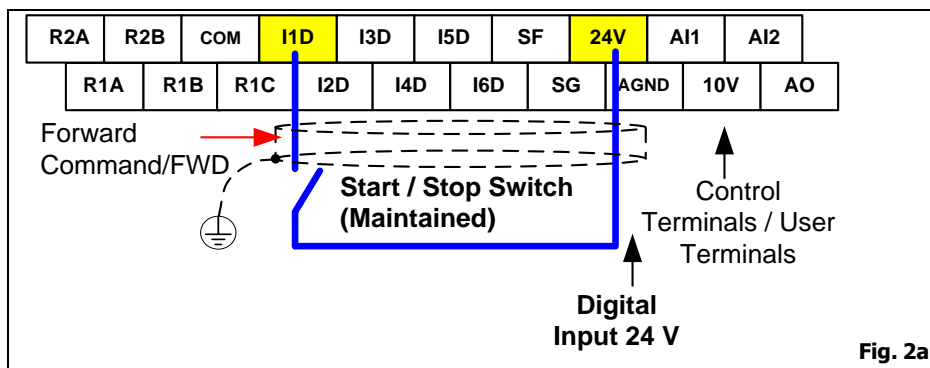


DANGER

Risk of electric shock

Touching blank or not connected wires/cables will result in electric shock and physical injury including the risk of death.

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



Step 5 – Using an external Analog Input for speed control

Default Setting: The S2UIP66 by default uses the External Analog Input for frequency reference, follow instructions below to use External Analog Input reference.

Instructions to use External Analog Input reference:

- Power down the drive, wait 5 min.
- Remove the protective covers (See S2UIP66 Operating instructions) and make the connections as shown below in Fig. 2b.
- Verify that all connections are secure, replace covers and power-up the drive.

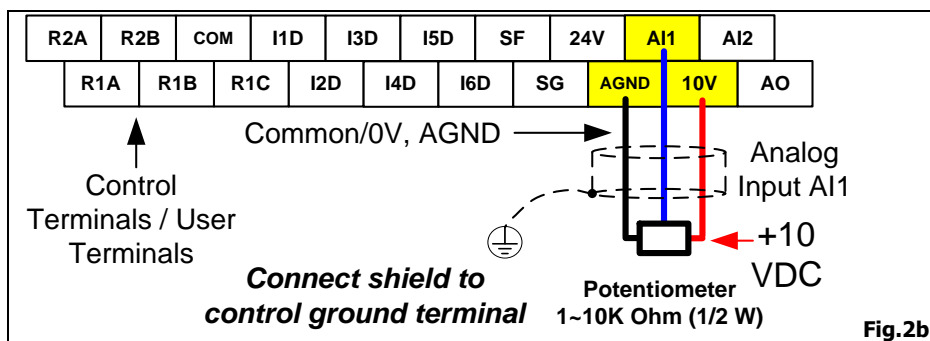


DANGER

Risk of electric shock

Touching blank or not connected wires/cables will result in electric shock and physical injury including the risk of death.

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



Step 6 – Check motor rotation



DANGER

Risk of death and irreversible destruction of material due to immediate starting at power-up

If immediate restarting after power-up is configured, the device will start immediately. This will result in serious physical injuries, death or irreversible destruction of the device.

- Execute utmost caution when in the operating range of the device or its peripheral components.



DANGER

Risk of electric shock

The DC-link capacitors will hold dangerous voltage levels until the capacitors in the DC link are discharged.

- After shutdown, wait for at least 5 minutes before starting any electrical or mechanical work on the frequency inverter.
- Even after this waiting time, make sure that the equipment is de-energized in accordance with the safety rules before starting the work.
- Do not make any connections when the inverter is powered on.
- Do not check parts and signals on circuit boards during the inverter operation.
- Do not disassemble the inverter or modify any internal wires, circuits, or parts.
- Ensure that the inverter ground terminal is connected correctly.

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 in Fig. 1a and the speed reference **5.00 Hz** should be flashing.

Important: Motor rotation and direction only applies to standard AC motors with a base frequency of 50 Hz. For 60 Hz or other frequency AC motors please set V/F pattern in parameter F_5 before running the motor.

- Set digital input I1D
- Turn potentiometer for frequency setpoint value

If the motor rotation is incorrect, power down the inverter. After the power has been turned OFF, wait at least five 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 (U, V and W). After the wiring change, repeat this step and recheck motor direction.

Step 7 – Frequently used parameters in the simplified parameter set

Motor Nameplate Data (Parameter F_18)

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 F_18. **Setting range:** Varies by model.

Using Keypad Potentiometer as Main Frequency Source Selection (Parameter F_11)

To use the potentiometer on the keypad set parameter F_11 to operation mode 1.

Using RUN/STOP Buttons as Main Run Source Selection (Parameter F_10)

To use RUN/STOP Buttons on keypad control panel set parameter F_10 to operation mode 0.

Frequency Upper and Lower Limit [Hz] (Parameter F_6, F_7)

The output frequency of the frequency inverter and thus the speed setting range is defined by the parameters Frequency Upper Limit F_6 and Frequency Lower Limit F_7.

Acceleration time 1 and Deceleration time 1 [s] (Parameter F_1, F_2)

Parameters F_1 sets the acceleration time from 0 Hz to maximum frequency and parameter F_2 sets the deceleration time from maximum frequency to 0 Hz.

Factory Reset (Parameter F_25)

To reset all parameters back to factory default, set parameter F_25 depending on your mains system.

Example: F_25 = 1250: Reset to Factory Setting (50 Hz, 230 V/400 V System)

For the complete S2UIP66 Operating Instructions refer to our website:

<https://www.bonfiglioli.com/en/industrial/products/inverters-energy-recovery/frequency-inverters/>