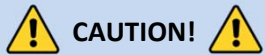


# H100

## Introduction

This quick start reference is meant to be a supplement to the User Manual included in the VFD packaging. This reference informs the installer of the proper steps for mounting, wiring, and basic programming/operation of the H100 VFD.



**Improper wiring and operation may result in serious personal injury or death.**

Follow the recommended wiring practices suggested in this document as well as the User Manual. The minimum size of the protective earth (ground) conductor shall comply with local safety regulations and applicable codes.

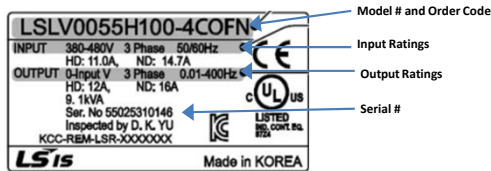
**Please review all H100 related documents included with the product before proceeding with any installation and wiring.**



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## Step 1 – H100 Model Number and Mounting

Verify that you have ordered and received the correct VFD by checking the nameplate information. Utilize the example name plate below to assist you with this.



### Important!

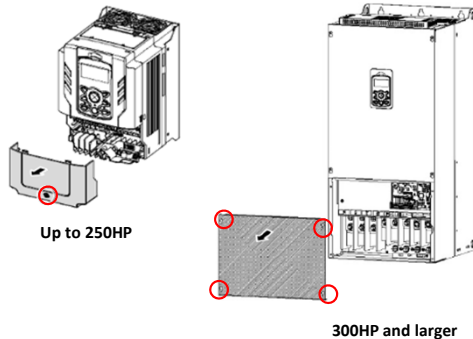
- Verify that the input voltage rating matches the voltage source which will be applied to the VFD.
- Confirm that the output power of the VFD is equal to or greater than the rating of the motor which will be connected.

### Mounting

In order to maximize the lifespan of your H100 VFD, follow the proper installation and environment recommendations. The User Manual contains further details on the exact dimensions and weights of each capacity H100.

### Cover Removal

After mounting, and in order to move onto the wiring step, loosen the captive screw on the terminal cover. Squeeze the tabs and “hinge off” the cover. Squeeze tabs and slide up the wire guide to expose the power terminals. This wire guide can be disposed of if you have purchased a NEMA 1 conduit kit. For the larger H100’s remove the screws securing the metal cover.



## Step 2 – Connect Line and Motor Power

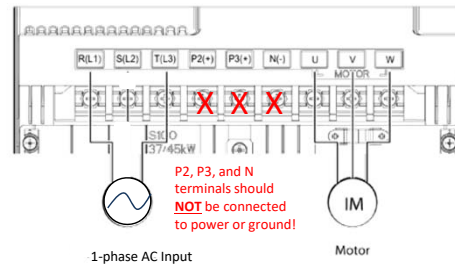
Utilize the below wiring diagrams to properly wire the main power connections to the VFD. **This step should be done with power OFF!** Refer to the User Manual for proper wire gauge recommendations. Be sure to follow good wiring and grounding practices. Follow applicable local codes if needed.



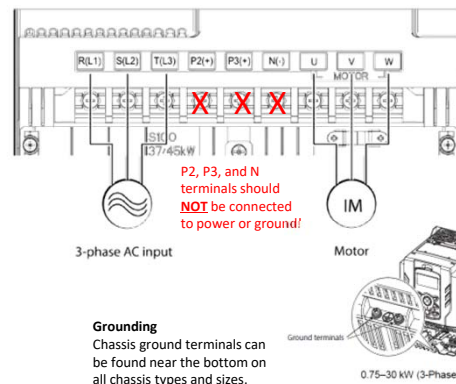
**Lethal voltages are present. Be sure that all power is turned OFF while performing the recommended power wiring. Reinstall all protective covers on the H100 before reapplying power**

Below is the proper wiring for both Single Phase and Three phase applications. The physical terminal layout will change across the different H100 capacities and enclosure types. Terminal names (e.g. R, S, T, etc) will remain consistent.

### Single Phase Input H100



### Three Phase Input H100



## Step 3 – Verify Motor Direction

This step explains how to check motor direction by running the motor at a low speed via the keypad in **HAND mode**. Verify that the power and motor wiring matches the previous step and covers are installed before applying power.

At first power up, the EZ Start Wizard prompt appears. If using the EZ Start, it is **not recommended to select an application macro**. Leave this setting at “Basic”. After the EZ Start, the display will look like below. “0.0 Hz” represents **Setting a HAND Speed**



- Press LEFT arrow 3 times so that the cursor is flashing to the left of “0.00”.
- Press UP arrow so that 10.00 is displayed.
- Press the **HAND** key to run the motor in the forward direction.

### Checking Direction

Use the above mentioned steps to run the motor in the forward direction in HAND mode. The display will briefly show the output frequency of the VFD until it reaches 10Hz.

Look at the motor shaft to verify rotation is correct. Press the **OFF** key to STOP.

If motor direction is **incorrect**, stop the motor with the **OFF** key, and power down the VFD.

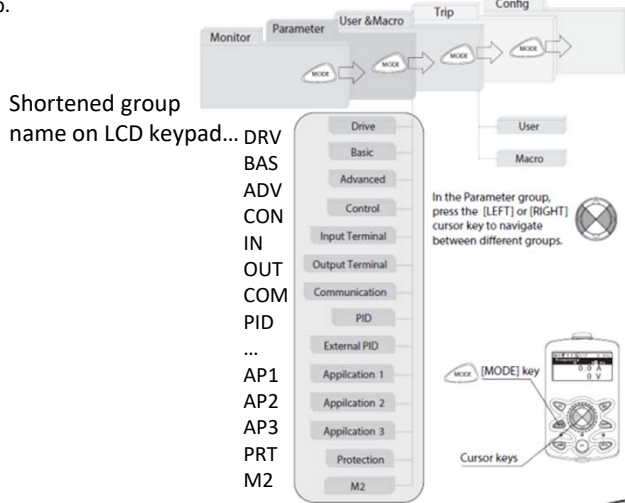
**Wait at least 5 minutes** to let the VFD capacitors discharge.

Swap any two **output** leads between the VFD and the motor. This will change motor direction. Verify correct rotation via the previous steps.

## Step 4 – Keypad Navigation and Parameter Changes

Navigate and select different parameters by using the directional arrows on the keypad while in the PAR Mode ( ).

From the main screen, the MODE key will change the keypad to display the Parameter (PAR) mode. The PAR mode contains all parameters and monitors. These parameters and monitors are divided into intuitive groups. Pressing the LEFT or RIGHT arrows will move through the different parameter groups. While the UP and DOWN arrows will navigate through the different parameter code #'s in the selected group.



Shortened group name on LCD keypad...

Any of the above parameters settings can be changed by pressing the **MODE** key, selecting the new setting with the arrows, and pressing **MODE** again to save.

### Changing Acceleration Time Example

1. Press the **MODE** key from the main display to access PAR Mode.
2. In the DRV group, press down to select DRV 03 (Acc Time).
3. Press the **MODE** key access the current setting.
4. Use the UP and DOWN arrows to increase and decrease the value.
5. Use the LEFT or RIGHT arrows to move the cursor over to select different digits.
6. Press the **MODE** key once the desired value is set. This saves the change.
7. DRV 03 will be displayed again indicating the parameter change has taken effect with the new value displayed.



## Step 5 – Control Wiring

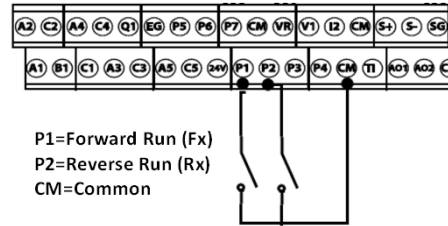
This step shows common wiring examples for both the run command and frequency reference when operating in **AUTO Mode**.

**Be sure to put the VFD in AUTO Mode by pressing the **AUTO** key to test or operate in AUTO.**

### AUTO Mode Run Command Wiring

#### 2-Wire Control

2-wire control consists of **maintained** run signals. This can be accomplished via toggle switches, relays, jumpers, etc. Default parameters support this operation.

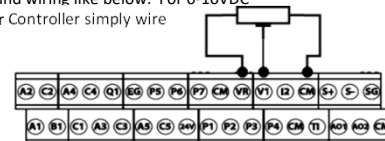


### AUTO Mode Frequency Reference Wiring

#### Speed POT Wiring (0-10VDC)

Controlling the VFD with an external speed POT can be accomplished by setting DRV7=2 V1 and wiring like below. For 0-10VDC signals from a BAS or Controller simply wire to V1 and CM.

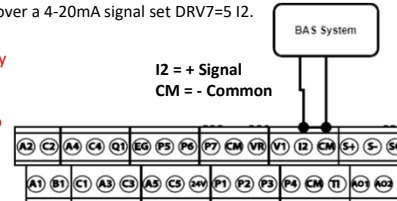
VR = 10VDC  
VI = Wiper  
CM = Common



#### BAS or Controller Wiring (4-20mA)

For speed control over a 4-20mA signal set DRV7=5 I2.

**Important:** Verify that SW4 dip switch on the terminal board to 'I2' (LEFT) for 4-20mA signal.



## Step 6 – Basic Setup Parameters

The basic drive and motor parameters are shown on the below table. Set the parameters according to your specific application.

### Required Motor Parameters

Set the below motor parameters based on the motor nameplate.

Group	No	Description	Default	Set Options
DRV	14	Motor Capacity	Depends on drive	Depends on drive
BAS	11	Poles	4	2 - 12
BAS	13	Motor Rated Current	Depends on drive	Depends on drive
BAS	15	Motor Voltage	Depends on drive	Depends on drive

### Motor RPM to Poles chart

RPM	3600	1800	1200
Poles	2	4	6

Example:

If actual motor RPM is 3450.

Set Motor Poles = 2. This is due to motor slip. In this example The motor has 150 RPM of slip. (Slip=Synchronous speed-Rated Speed)

### Commonly Set Parameters

Group	No	Description	Default	Set Options
DRV	1	Command Freq	0.00	0 - Max Freq
DRV	3	Acc Time	20	0 - 6000
DRV	4	Decel Time	30	1 - 6000
DRV	6	Run Command	1	0: Keypad 1: Fx/Rx-1 2: Fx/Rx-2 3: Comm RS485 4: Field Bus
DRV	7	Freq Command	0	0: Keypad-1 1: Keypad-2 2: V1 4: V2 5: I2 6: Comm RS485 8: Field Bus 12: Pulse
BAS	19	Input Voltage	220/380	170 - 480V

### Optional Parameters

- To automatically start after a power loss, set **ADV 10=Yes**.
- Enable phase loss protection by setting the dipswitches in **PRT 05** both up.
- Enable auto restart after a fault trip by setting the below...
  - **PRT 08= Both Switches Up**
  - **PRT 09= # of retry attempts**