

**CRDISKIT002A00
Multi-Speed VFD Display Kit
For Danfoss Controller
For Use with 48/50LC 07-26 Units**




Installation Instructions

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloths for brazing operations and have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and appropriate national electrical codes (in USA, ANSI/NFPA70, National Electrical Code (NEC); in Canada, CSA C22.1) for special requirements.


It is important to recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. These words are used with the safety-alert symbol.

DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death.

CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage.


NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

 WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could cause personal injury or death.

Before performing service or maintenance operations on unit, always turn off main power switch to unit and install lock(s) and lockout tag(s). Unit may have more than one power switch. Ensure electrical service to rooftop unit agrees with voltage and amperage listed on the unit rating plate.

 CAUTION

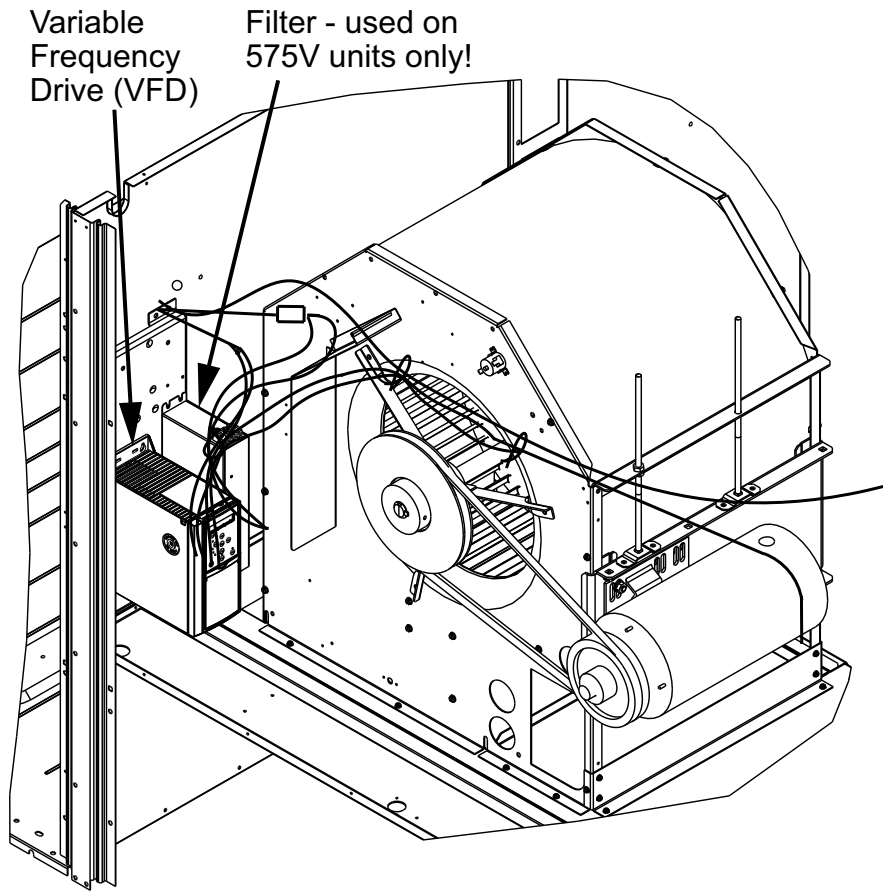
CUT HAZARD

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing, safety glasses and gloves when handling parts and servicing air conditioning equipment.

Table 1 – VFD Remote Keypad Kit Contents

| COMPONENT NAME | QTY |
|-------------------------------|-----|
| Hand Held VFD Key Pad/Display | 1 |
| Cable, 10 ft. (3 meter) | 1 |
| Screws | 4 |
| Instructions VFD Display | 1 |

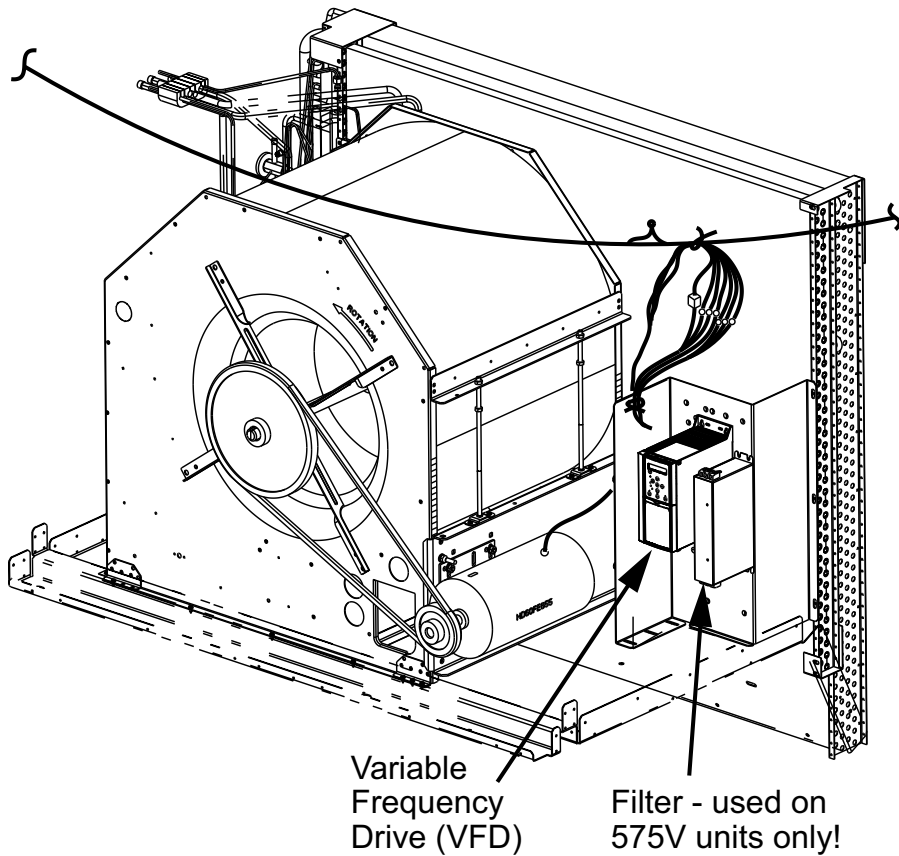


Variable Frequency Drive (VFD)

Filter - used on 575V units only!

Fig. 1 - VFD Location in 48/50LC Size 07 Units

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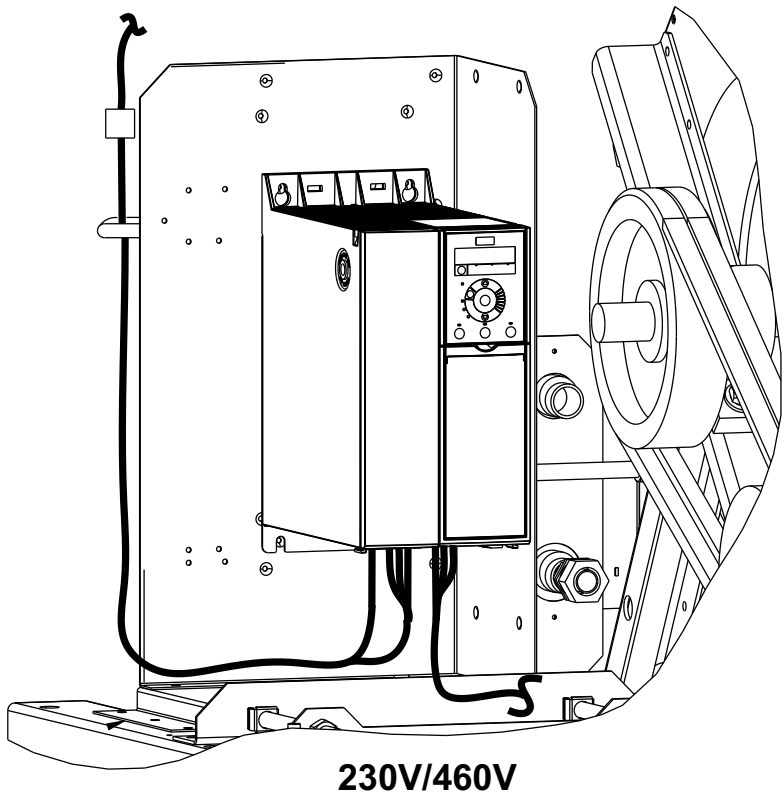


Variable Frequency Drive (VFD)

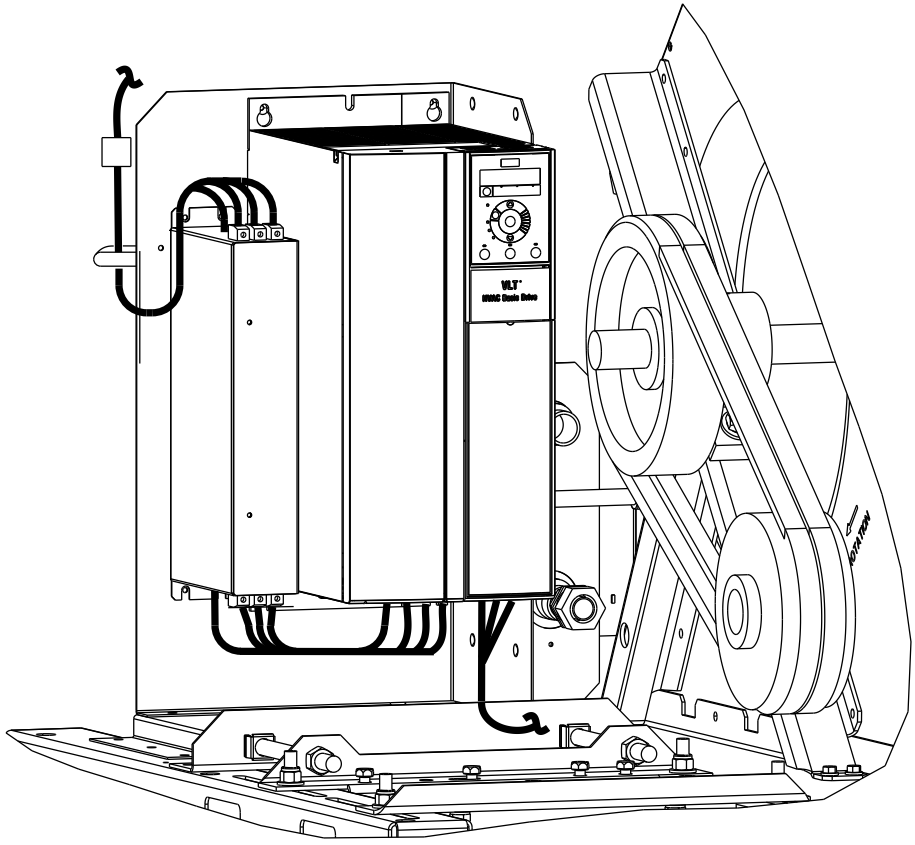
Filter - used on 575V units only!

Fig. 2 - VFD Location in 48/50LC Size 08-12 Units

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230V/460V



575V ONLY

Fig. 3 - VFD Location in 48/50LC Size 14-26 Units

Multi-Speed VFD Display Kit (Field-Installed Option)

The VFD Display Kit (CRDISKIT002A00) consists of two main components; the VFD remote keypad and the VFD remote keypad cable (see Fig. 7). The VFD keypad as shown in Fig. 4 consists of the following sections:

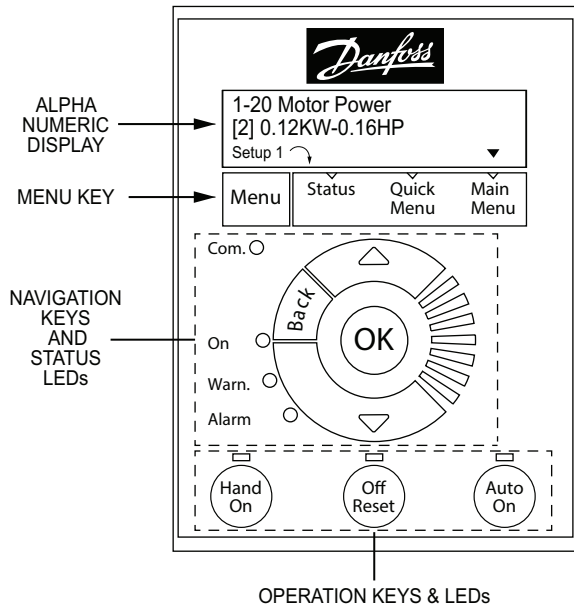
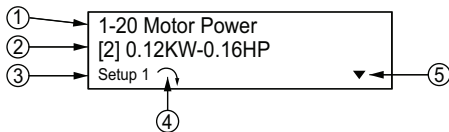


Fig. 4 - VFD Keypad

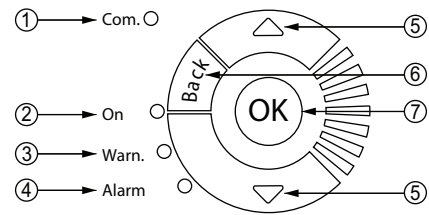
Alpha Numeric Display: The LCD display is back lit with 2 alpha-numeric lines. All data is displayed on the LCD.



| | |
|---|---|
| 1 | Parameter number and name. |
| 2 | Parameter value. |
| 3 | Setup number shows the active setup and the edit setup. If the same set-up acts as both the active and edit set-up, only that setup number is shown (factory setting). When the active and edit setup differ, both numbers are shown in the display (SETUP 12). The flashing number indicates the edit setup. |
| 4 | The symbol in the number 4 position in the figure above indicates motor direction. The arrow point either clockwise or counter-clockwise to show the motor's current direction. |
| 5 | The position of the triangle indicates the currently selected menu: Status, Quick Menu or Main Menu. |

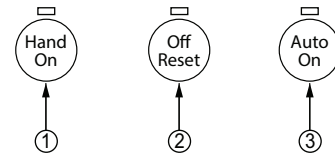
Menu Key: Use the Menu key to select between Status, Quick Menu or Main Menu. The triangle icon at the bottom of the LCD display indicates the currently selected mode. (See number 5 in the table above.)

Navigation Keys and Status LEDs: The Navigation keys and Status LEDs are detailed in the following table.



| | |
|---|---|
| 1 | Com. LED: Flashes when bus communications is communicating. |
| 2 | Green LED/On: Control selection is working. |
| 3 | Yellow LED/Warn.: Indicates a warning. |
| 4 | Flashing Red LED/Alarm: Indicates an alarm. |
| 5 | Arrows ▲▼: Use the Up and Down arrow keys to navigate between parameter groups, parameters and within parameters. Also used for setting local reference. |
| 6 | Back key: Press to move to the previous step or layer in the navigation structure. |
| 7 | OK key: Press to select the currently displayed parameter and for accepting changes to parameter settings. |

Operation Keys and LEDs: The following table details the functions of the Operating keys. An illuminated yellow LED above the key indicates the active key.



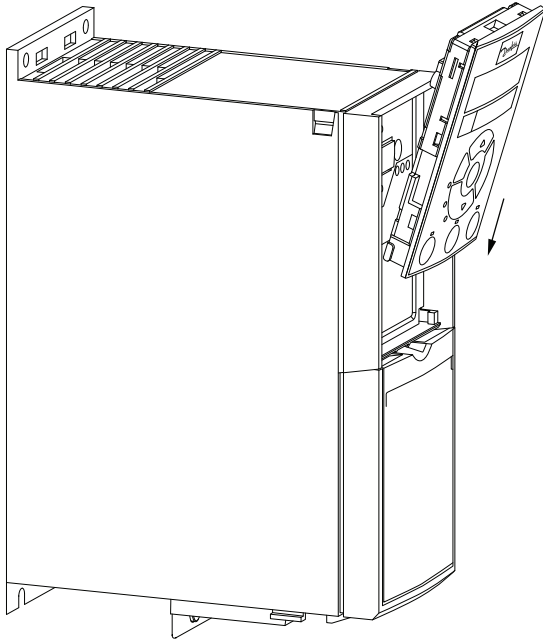
| | |
|---|---|
| 1 | Hand On key: Starts the motor and enables control of the variable frequency drive (VFD) via the VFD Keypad option. NOTE: Please note that terminal 27 Digital Input (5-12 Terminal 27 Digital Input) has coast inverse as default setting. This means that the Hand On key will not start the motor if there is no 24V to terminal 27, so be sure to connect terminal 12 to terminal 27. |
| 2 | Off/Reset key: Stops the motor (off). If in alarm mode the alarm will be reset. |
| 3 | Auto On key: The variable frequency drive is controlled either via control terminals or serial communication. |

Connecting the Keypad to the VFD

The VFD keypad can be mounted directly to the variable frequency drive, provided you can easily access the front panel of the VFD. If you don't have easy access to the VFD front panel, use the cable included with the kit to connect the keypad to the VFD.

Connecting the Keypad Directly to the VFD —

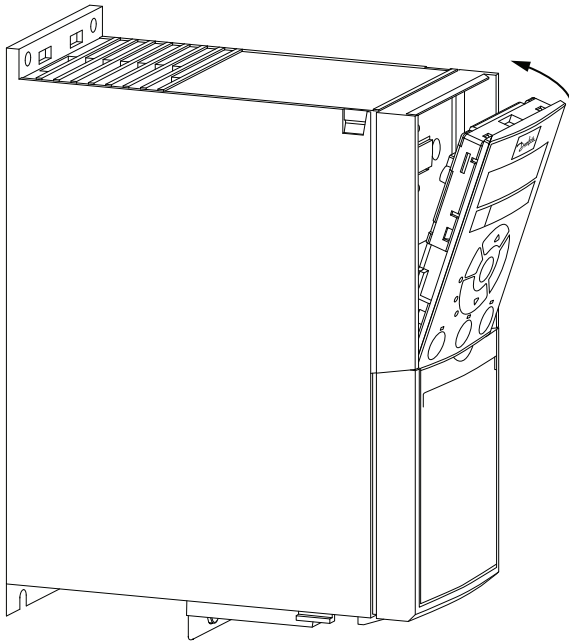
1. Place the bottom of the VFD keypad into the variable frequency drive as shown in Fig. 5.



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Fig. 5 - Align Bottom of VFD Keypad with Opening in VFD Front Panel

2. Push the top of the VFD keypad into the variable frequency drive as shown in Fig. 6.

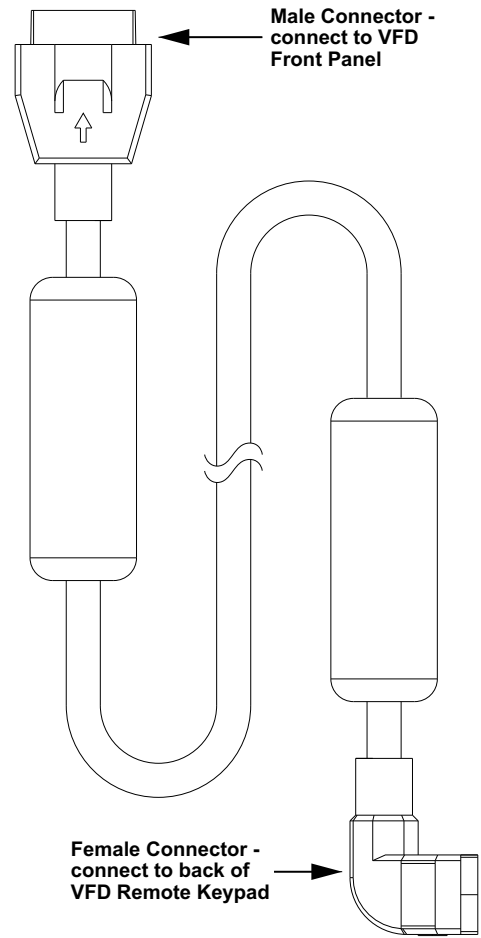


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Fig. 6 - Secure Keypad in Place

Using the Cable to Connect the Keypad to the VFD —

The VFD keypad can be connected to the variable frequency drive via the cable included with the Multi-Speed VFD display kit (PN: CRDISKIT002A00).



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Fig. 7 - VFD Remote Keypad Cable

1. Connect the male end of the cable to the front panel of the variable frequency drive. Use 2 of the screws included with the kit to secure the cable to the VFD.
2. Connect the female end of the cable to the back panel of the VFD Remote keypad. Secure the cable to the remote keypad using the 2 remaining screws from the kit.

Program the VFD for 3 Discrete Indoor Fan Speeds

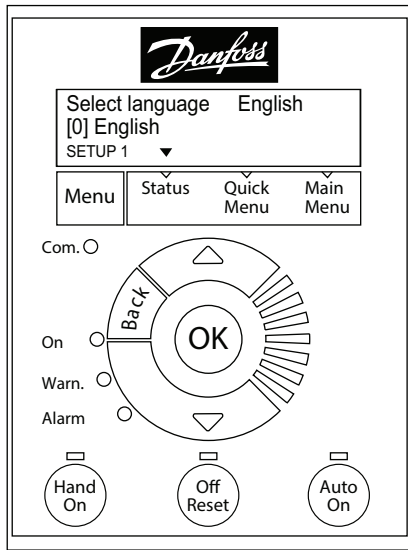
IMPORTANT: 48/50LC 07-26 units are programmed at the Factory for 3 discrete indoor fan speeds. The following procedure is only to be used to recover this function after an event such as a system crash.

NOTE: This procedure requires use of the VFD Keypad. If the VFD keypad is not already installed, install it. See “Connecting the Keypad to the VFD” for details.

To program the VFD for 3 discrete indoor fan motor speeds:

1. At Power-Up:
At the first power up the LCD displays the Select Language screen. The default setting is English. To change the language, press the **OK** key and use the ▲ and ▼ keys to scroll to the desired language and then press **OK**.

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Fig. 8 - Keypad with Power Up Screen Displayed

2. Selecting Regional Settings:

- Press the **Off Reset** key.
- Press the **Menu** key to move the ▼(triangle icon) so it is positioned over Main Menu. The display show the following -

| |
|---------------------------|
| 0- ** Operation / Display |
| 1- ** Load and Motor |

- Press the **OK** key, the display changes to -

| |
|-------------------------|
| 0- 0* Basic Settings |
| 0- 1* Set-up Operations |

- With the top row highlighted, press **OK**. The display changes to -

| |
|---------------|
| 0-01 Language |
| [0] English |

NOTE: If English is not the desired language press **OK**, select the desired language and press **OK** again.

- Press ▼(Down Arrow key) once; the display changes to -

| |
|------------------------|
| 0-03 Regional Settings |
| [0] International |

- Press **OK**; the [0] is now highlighted.

- Press ▼(Down Arrow) key once; the display changes to -

| |
|------------------------|
| 0-03 Regional Settings |
| [1] North America |

- Press **OK**

NOTE: If the Alarm 060 appears, follow Step 3 to clear the alarm. Make sure to press **Off Reset** when done. If there is no alarm, continue at Step 4.

3. Clearing Alarm 060: External Interlock:

- Press the **Menu** key twice to position the ▼(triangle icon) over Main Menu; the display changes to -

| |
|---------------------------|
| 0- ** Operation / Display |
| 1- ** Load and Motor |

- Press the ▼(Down Arrow) key until the following display appears -

| |
|-------------------------|
| 4- ** Limits / Warnings |
| 5- ** Digital In/Out |

- Press **OK**. The display changes to -

| |
|------------------------|
| 5- 0* Digital I/O mode |
| 5- 1* Digital Inputs |

- Press ▼(Down Arrow) once to highlight the bottom row and press **OK**. The display changes to -

| |
|--------------------------------|
| 5-10 Terminal 18 Digital In... |
| [8] Start |

- Press ▼(Down Arrow) twice; the following display appears-

| |
|--------------------------------|
| 5-12 Terminal 27 Digital In... |
| [7] External Interlock |

- Press **OK** to highlight the number in the bracket.

- Press ▼(Down Arrow) until the following display appears -

| |
|--------------------------------|
| 5-12 Terminal 27 Digital In... |
| [0] No operation |

- Press **OK**.

- Press **Off Reset**. The Alarm indicator disappears.

4. Entering Grid Type:

- Press the **Menu** key to move the ▼(triangle icon) so it is positioned over Main Menu. The display show the following -

| |
|-------------------------|
| 0- 0* Basic Settings |
| 0- 1* Set-up Operations |

- Press **OK** twice: the display changes to -

| |
|---------------|
| 0-01 Language |
| [0] English |

- Press ▼(Down Arrow) three times, to reach the following display -

| |
|---------------------|
| 0-06 Grid Type |
| [102] 200-240V/60Hz |

- Press **OK** to highlight the number in the bracket and then use the ▲ and ▼ (Up and Down Arrow) keys to select the desired voltage and Hertz for the unit.

- Press **OK** to accept the selection and continue.

5. Entering Motor Data:

- a. Press the **Menu** key to move the ▼(triangle icon) so it is positioned over Main Menu. The display show the following -

| |
|----------------------------|
| 0 - ** Operation / Display |
| 1 - ** Load and Motor |

- b. Press ▼(Down Arrow) once to highlight the bottom row.
 c. Press **OK**, the display changes to -

| |
|-------------------------|
| 1 - 0* General Settings |
| 1 - 1* Motor Selection |

- d. Press ▼(Down Arrow) twice to reach the following display -

| |
|------------------------|
| 1 - 1* Motor Selection |
| 1 - 2* Motor Data |

- e. Press **OK**, the following display appears -

| |
|------------------|
| 1-20 Motor Power |
| [9] 1.5kW - 2 hp |

NOTE: The number in the bracket may be different from what is shown above.

- f. Press **OK** and then use the ▲ and ▼ (Up and Down Arrow) keys to scroll to the proper motor horsepower. Press **OK** again to set the selected hp.
 g. Press ▼(Down Arrow) once, the following display appears -

| |
|--------------------|
| 1-22 Motor Voltage |
| 230V |

- h. Press **OK** to highlight the voltage value. Use the ▲ and ▼ (Up and Down Arrow) keys to select the nameplate voltage. Press **OK** again to set the selected voltage.
 i. Press ▼(Down Arrow) once to display the following -

| |
|----------------------|
| 1-23 Motor Frequency |
| 60Hz |

- j. Press **OK** to highlight the Frequency value and then use the ▲ and ▼ (Up and Down Arrow) keys to select the nameplate Hz. Press **OK** again to set the selected Hz.
 k. Press ▼(Down Arrow) once to display the following -

| |
|--------------------|
| 1-24 Motor Current |
| 6.61A |

- l. Press **OK** to highlight the Current value and then use the ▲ and ▼ (Up and Down Arrow) keys to select the Max Amps value provided. Press **OK** again to set the selected Max Amps.

NOTE: The Max Amps is greater than the nameplate value. Check the VFD Unit Parameters (see Tables 3 - 20 on pages 13 - 30) and use the value listed for the given unit in the column labeled “Motor Current Must-Hold Amps”.

- m. Press ▼(Down Arrow) once to display the following -

| |
|--------------------------|
| 1-25 Motor Nominal Speed |
| 1740rpm |

- n. Press **OK** to highlight the rpm value and then use the ▲ and ▼ (Up and Down Arrow) keys to select the nameplate rpm. Press **OK** again to set the selected rpm.

6. Entering Parameters for 1-71, 1-73, 1-82, and 1-90:

- a. Press the **Menu** key to move the ▼(triangle icon) so it is positioned over Main Menu. The display show the following -

| |
|----------------------------|
| 0 - ** Operation / Display |
| 1 - ** Load and Motor |

- b. Press ▼(Down Arrow) once to highlight the bottom row.
 c. Press **OK**, the display changes to -

| |
|-------------------------|
| 1 - 0* General Settings |
| 1 - 1* Motor Selection |

- d. Press ▼(Down Arrow) until the following display appears -

| |
|----------------------------|
| 1 - 6* Load Depen. Setting |
| 1 - 7* Start Adjustments |

- e. Press **OK**, the following display appears -

| |
|------------------|
| 1-71 Start Delay |
| 2.0s |

- f. Press **OK** to highlight the number and then use the ▲ and ▼ (Up and Down Arrow) keys to select the number provided in Tables 3 - 20. Press **OK** again to set the selected value.
 g. Press ▼(Down Arrow) twice, the following display appears -

| |
|-------------------|
| 1-73 Flying Start |
| [1] Enabled |

- h. Press **OK** to highlight the number in the bracket and then use the ▲ and ▼ (Up and Down Arrow) keys to select the number provided in Tables 3 - 20. Press **OK** again to set the selected value.

- i. Press the **Back** key once, the following display appears -

| |
|----------------------------|
| 1 - 6* Load Depen. Setting |
| 1 - 7* Start Adjustments |

- j. Press ▼(Down Arrow) once, the following display appears -

| |
|--------------------------|
| 1 - 7* Start Adjustments |
| 1 - 8* Stop Adjustments |

- k. Press **OK**, the following display appears -

| |
|-----------------------|
| 1-80 Function at Stop |
| [0] Coast |

- l. Press **▼(Down Arrow)** once, the following display appears -

| |
|-------------------------------|
| 1-82 Min Speed for Functio... |
| 1.0 Hz |

- m. Press **OK** to highlight the number and then use the **▲** and **▼ (Up and Down Arrow)** keys to select the number provided in Tables 3 - 20. Press **OK** again to set the selected value.

- n. Press the **Back** key once, the following display appears -

| |
|------------------------|
| 1-7* Start Adjustments |
| 1-8* Stop Adjustments |

- o. Press **▼(Down Arrow)** once, the following display appears -

| |
|------------------------|
| 1-8* Stop Adjustments |
| 1-9* Motor Temperature |

- p. Press **OK**, the following display appears -

| |
|-----------------------------|
| 1-90 Motor Thermal Prote... |
| [4] ETR trip 1 |

- q. Press **OK** to highlight the number in the bracket then use the **▲** and **▼ (Up and Down Arrow)** keys to select the number provided in Tables 3 - 20. Press **OK** again to set the selected value.

7. Setting References:

- a. Press the **Menu** key to move the **▼(triangle icon)** so it is positioned over Main Menu. The display show the following -

| |
|---------------------------|
| 0- ** Operation / Display |
| 1- ** Load and Motor |

- b. Press **▼(Down Arrow)** three times, the following display appears -

| |
|-------------------------|
| 2- ** Brakes |
| 3- ** Reference / Ramps |

- c. Press **OK**, the following display appears -

| |
|-----------------------|
| 3-0* Reference Limits |
| 3-1* References |

- d. Press **OK** again, the following display appears -

| |
|------------------------|
| 3-02 Minimum Reference |
| 0.000 |

NOTE: If the bottom row displays a number other than 0.000, press **OK** and use the **▲** and **▼ (Up and Down Arrow)** key to select 0.000.

- e. Press **▼(Down Arrow)** once, the following display appears -

| |
|------------------------|
| 3-03 Maximum Reference |
| 60.000 |

NOTE: If the bottom row displays a number other than 60.000, press **OK** and use the **▲** and **▼ (Up and Down Arrow)** key to select 60.000.

- f. Press the **Back** key until the following display appears -

| |
|-----------------------|
| 3-0* Reference Limits |
| 3-1* References |

- g. Press **▼(Down Arrow)** once to move the highlight to the bottom row and then press **OK**. The following display appears -

| |
|-----------------------|
| 3-10 Preset Reference |
| [0]0.00% |

- h. Press **OK** once to highlight the number in the bracket. Press **OK** again; the highlight moves to the current percent value.

Use the **▲** and **▼ (Up and Down Arrow)** keys and the following table to enter the required Preset Reference values.

| | |
|-----------|--|
| [0]0.00% | Stop |
| [1]LL.LL% | Low Speed (see Tables 3 - 20, column labeled "Preset References 3-10[1] for the proper % for each unit) |
| [2]MM.MM% | Medium Speed (see Tables 3 - 20, column labeled "Preset References 3-10[2] for the proper % for each unit) |
| [3]100% | Override (High Speed) |
| [4]100% | High Speed (100% or close to 100% to achieve the required CFM at high speed) |
| [5]0.00% | Stop |
| [6]0.00% | Stop |
| [7]0.00% | Stop |

8. Setting the Ramp Time:

- a. Press the **Back** key until the following display appears -

| |
|-----------------------|
| 3-0* Reference Limits |
| 3-1* References |

- b. Press **▼(Down Arrow)** twice, the following display appears -

| |
|-----------------|
| 3-1* References |
| 3-4* Ramp 1 |

- c. Press **OK**, the following display appears -

| |
|--------------------------|
| 3-41 Ramp 1 Ramp up Time |
| 3.00s |

- d. Press **OK** again to highlight the bottom row and use the **▲** and **▼ (Up and Down Arrow)** keys to select 10.00s. Press **OK** again to set the selected Ramp up Time.

- e. Press **▼(Down Arrow)** once, the following display appears -

| |
|----------------------------|
| 3-42 Ramp 1 Ramp Down Time |
| 3.00s |

- f. Press **OK** again to highlight the bottom row and use the **▲** and **▼** (**Up** and **Down Arrow**) keys to select 10.00s. Press **OK** again to set the selected Ramp Down Time.

9. Setting Limits:

- a. Press the **Back** key until the following display appears -

| |
|-------------------------|
| 2- ** Brakes |
| 3- ** Reference / Ramps |

- b. Press **▼**(**Down Arrow**) once, the following display appears -

| |
|-------------------------|
| 3- ** Reference / Ramps |
| 4- ** Limits / Warnings |

- c. Press **OK**, the following display appears -

| |
|----------------------|
| 4- 1* Motor Limits |
| 4- 4* Adj. Warning 2 |

- d. Press **OK** again, the following display appears -

| |
|----------------------------|
| 4-10 Motor Speed Direction |
| [2] Both Directions |

- e. Press **▼**(**Down Arrow**) once, the following display appears -

| |
|------------------------------|
| 4-12 Motor Speed Low Limi... |
| 0.0Hz |

- f. Press **▼**(**Down Arrow**) again, the following display appears -

| |
|-------------------------------|
| 4-14 Motor Speed High Limi... |
| 65.0Hz |

NOTE: Press **OK** to highlight the Hz value and then use the **▲** and **▼** (**Up** and **Down Arrow**) keys to enter the required values.

- g. Press **▼**(**Down Arrow**) once, the following display appears -

| |
|--------------------|
| 4-18 Current Limit |
| 110% |

NOTE: Press **OK** to highlight the % value and then use the **▲** and **▼** (**Up** and **Down Arrow**) keys to enter the required value. See Tables 3 - 20 for proper selection of the value for this parameter then press **OK** to set the selected value.

- h. Press **▼**(**Down Arrow**) once, the following display appears -

| |
|---------------------------|
| 4-19 Max Output Frequency |
| 65.0Hz |

NOTE: Press **OK** to highlight the Hz value and then use the **▲** and **▼** (**Up** and **Down Arrow**) keys to enter the required values.

10. Setting Digital Inputs:

- a. Press the **Back** key until the following display appears -

| |
|-------------------------|
| 3- ** Reference / Ramps |
| 4- ** Limits / Warnings |

- b. Press **▼**(**Down Arrow**) once, the following display appears -

| |
|-------------------------|
| 4- ** Limits / Warnings |
| 5- ** Digital In/Out |

- c. Press **OK**, the following display appears -

| |
|------------------------|
| 5- 0* Digital I/O mode |
| 5- 1* Digital Inputs |

- d. Press **▼**(**Down Arrow**) once to move the highlight to the bottom row and then press **OK**. The following display appears -

| |
|--------------------------------|
| 5-10 Terminal 18 Digital In... |
| [8] Start |

- e. Press **▼**(**Down Arrow**) again. The following display appears -

| |
|--------------------------------|
| 5-11 Terminal 19 Digital In... |
| [16] Preset ref bit 0 |

- f. Press **▼**(**Down Arrow**) again. The following display appears -

| |
|--------------------------------|
| 5-12 Terminal 27 Digital In... |
| [17] Preset ref bit 1 |

- g. Press **▼**(**Down Arrow**) again. The following display appears -

| |
|--------------------------------|
| 5-13 Terminal 29 Digital In... |
| [18] Preset ref bit 2 |

NOTE: By pressing **OK** the number in the bracket can be changed until the desired number appears. Press **OK** again to set the selected value.

11. Setting Reset Mode and RFI Filter:

- a. Press the **Back** key until the following display appears -

| |
|---------------------------|
| 0- ** Operation / Display |
| 1- ** Load and Motor |

- b. Press **▼**(**Down Arrow**) until the following display appears -

| |
|--------------------------|
| 13- ** Smart Logic |
| 14- ** Special Functions |

- c. Press **OK**, the following display appears -

| |
|---------------------------|
| 14- 0* Inverter Switching |
| 14- 1* Mains On/Off |

- d. Press **▼(Down Arrow)** twice. The following display appears -

| |
|-----------------------|
| 14-1* Mains On/Off |
| 14-2* Reset Functions |

- e. Press **OK**, the following display appears -

| |
|------------------|
| 14-20 Reset Mode |
| [0] Manual reset |

- f. Press **OK** to highlight the number in the bracket.
g. Use the **▲** and **▼(Up and Down Arrow)** keys to change the number to 3 for 3 automatic resets and then press **OK**. The display changes to -

| |
|-------------------------|
| 14-20 Reset Mode |
| [3] Automatic reset x 3 |

- h. Press **▼(Down Arrow)** once, the following display appears -

| |
|------------------------------|
| 14-21 Automatic Restart T... |
| 10s |

- i. Press **OK** to highlight the number of seconds and use the **▲** and **▼(Up and Down Arrow)** keys to select 600 seconds. Press **OK** again to set the selected value.
j. Press the **Back** key once, the following display appears -

| |
|-----------------------|
| 14-1* Mains On/Off |
| 14-2* Reset Functions |

- k. Press **▼(Down Arrow)** twice, the following display appears -

| |
|-------------------------|
| 14-4* Energy Optimising |
| 14-5* Environment |

- l. Press **OK**, the following display appears -

| |
|------------------|
| 14-50 RFI Filter |
| [1] On |

- m. Press **OK** to highlight the number in the bracket and use the **▲** and **▼(Up and Down Arrow)** keys to select [0]. Press **OK** again to set the selected value.

12. To Complete Reprogramming:

- a. Press the **Auto On** key before disconnecting the VFD Remote Keypad from the variable frequency drive.

Troubleshooting

Alarms and Warnings

A warning or an alarm is signalled by the relevant LED on the front of the variable frequency drive and indicated by a code on the display.

A warning remains active until its cause is no longer present. Under certain circumstances operation of the motor may still be continued. Warning messages may be critical, but are not necessarily so.

In the event of an alarm, the variable frequency drive will have tripped. Alarms must be reset to restart operation once their cause has been rectified.

This may be done in two ways:

- Press the **Off/Reset** key for a manual reset
- By resetting automatically using the Auto Reset function (parameter 14-20 Reset Mode), the default setting of which is 3 times (3 automatic resets).

NOTE: After a manual reset (pressing the **Off/Reset** key), the **Hand On** or **Auto On** key must be pressed to restart the motor.

If an alarm cannot be reset, the reason may be that its cause has not been rectified, or the alarm is trip-locked.

⚠ CAUTION

PERSONAL INJURY – EQUIPMENT DAMAGE HAZARD

Failure to follow this caution may result in personal injury and/or equipment damage.

Alarms that are trip-locked offer additional protection, requiring the mains supply to be switched off before the alarm can be reset. After being switched back on, the VFD is no longer blocked and by be reset as described above on the cause has been rectified. Alarms that are not trip-locked can also be reset using the automatic reset function in *14-20 Reset Mode* (**Warning:** automatic wake-up is possible!).

If a warning and alarm is marked against a code in Table 2 this means that either a warning occurs before an alarm, or it can be specified whether it is a warning or an alarm this is to be displayed for a given fault.

This is possible, for instance, in *1-90 Motor Thermal Protection*. After an alarm or trip, the motor carrier on coasting, and the alarm and warning flash on the VFD. Once the problem has been rectified, only the alarm continues flashing.

Table 2 – Alarm/Warning Code List

| Fault No. | Alarm/Warning Bit Number | Fault Text | Warning | Alarm | Trip Lock | Cause of Problem |
|-----------|--------------------------|---------------------------|---------|-------|-----------|--|
| 2 | 16 | Live zero error | X | X | | Signal on terminal 53 or 54 is less than 50% of value set in par. 6–10, 6–12, 6–20 or 6–22. |
| 4 | 14 | Mains ph. loss | X | X | X | Missing phase on supply side or too high voltage imbalance. Check supply voltage. See parameter 14–12 |
| 7 | 11 | DC over volt | X | X | | Intermediate circuit voltage exceeds limit. |
| 8 | 10 | DC under volt | X | X | | Intermediate circuit voltage drops below “voltage warning low” limit. |
| 9 | 9 | Invert overloaded | X | X | | More than 100% load for too long. |
| 10 | 8 | Motor ETR over | X | X | | Motor is too hot due to more than 100% load for too long. See parameter 1–90. |
| 11 | 7 | Motor th over | X | X | | Thermistor or thermistor connection is disconnected. See parameter 1–90. |
| 13 | 5 | Over Current | X | X | X | Inverter peak current limit is exceeded. |
| 14 | 2 | Earth fault | | X | X | Discharge from output phases to ground. |
| 16 | 12 | Short Circuit | | X | X | Short–circuit in motor or on motor terminals. |
| 17 | 4 | Ctrl. word TO | X | X | | No communication to variable frequency drive. |
| 24 | 50 | Fan Fault | X | X | | The fan is not working (Only on 400 V 30–90 kW units). |
| 30 | 19 | U phase loss | | X | X | Motor phase U is missing. Check the phase. |
| 31 | 20 | V phase loss | | X | X | Motor phase V is missing. Check the phase. |
| 32 | 21 | W phase loss | | X | X | Motor phase W is missing. Check the phase. |
| 38 | 17 | Internal fault | | X | X | Contact your local Carrier representative. |
| 44 | 28 | Earth Fault | | X | X | Discharge from output phases to ground. |
| 47 | 23 | Control Voltage Fault | X | X | X | 24 V DC may be overloaded. |
| 48 | 25 | VDD1 Supply Low | | X | X | Control voltage low. Please contact your local Carrier representative. |
| 50 | | AMA Calibration failed | | X | | Contact your local Carrier representative. |
| 51 | 15 | AMA Unom,Inom | | X | | The setting of motor voltage, motor current and motor power is presumably wrong. Check the settings. |
| 52 | | AMA low Inom | | X | | The motor current is too low. Check the settings. |
| 53 | | AMA big motor | | X | | The motor is too big for the AMA to be carried out. |
| 54 | | AMA small motor | | X | | The motor is too small for the AMA to be carried out. |
| 55 | | AMA par. range | | X | | The parameter values found from the motor are outside acceptable range. |
| 56 | | AMA user interrupt | | X | | The AMA has been interrupted by the user. |
| 57 | | AMA timeout | | X | | Try to start the AMA again a number of times, until the AMA is carried out. Please note that repeated runs may heat the motor to a level where the resistance Rs and Rr are increased. In most cases, however, this is not critical. |
| 58 | | AMA internal fault | X | X | | Contact your local Carrier representative. |
| 59 | 25 | Current limit | X | | | The current is higher than the value in par. 4–18 Current Limit. |
| 60 | 44 | External Interlock | | X | | External interlock has been activated. To resume normal operation, apply 24 V DC to the terminal programmed for external interlock and reset the variable frequency drive by pressing the Off/Reset button on the keypad. |
| 66 | 26 | Heat sink Temperature Low | X | | | This warning is based on the temperature sensor in the IGBT Module (Only on 400 V 30–90 kW units). |

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Table 2 - Alarm/Warning Code List (cont.)

| Fault No. | Alarm/Warning Bit Number | Fault Text | Warning | Alarm | Trip Lock | Cause of Problem |
|------------------|---------------------------------|---------------------------------------|----------------|--------------|------------------|--|
| 69 | 1 | Pwr Card Temp | X | X | X | The temperature sensor on the power card is either too hot or too cold. |
| 79 | | Illegal power selection configuration | X | X | | Internal fault. Contact your local Carrier representative. |
| 80 | 29 | Drive initialized | | X | | All parameter setting are initialized to default settings. |
| 87 | 47 | Auto DC Braking | X | | | The drive is auto DC braking. |
| 95 | 40 | Broken Belt | X | X | | Torque is below the torque level set for no load, indicating a broken belt. |
| 200 | | Fire Mode | X | | | Fire mode has been activated. |
| 202 | | Fire Mode Limits Exceeded | X | | | Fire Mode has suppressed on or more warranty voiding alarms. |
| 250 | | New sparepart | | X | X | The power or switch mode power supply has been exchanged. (Only on 400 V 30–90 kW units). Contact your local Carrier representative. |
| 251 | | New Typecode | | X | X | The variable frequency drive has a new type of code (Only on 400 V 30–90 kW units). Contact your local Carrier representative. |

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Table 3 – VFD Unit Parameters – 48HC 07

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Regional Settings | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | | | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 07 | STD | HD56FR233 | HK30WA370 | 131L9795 | [1] | [102] | [9] | 230 | 60 | 5.8 | 1695 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 07 | STD | HD56FR463 | HK30WA376 | 131L9863 | [1] | [122] | [9] | 460 | 60 | 2.9 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 07 | STD | HD56FR579 | HK30WA382 | 131N0225 | [1] | [132] | [9] | 575 | 60 | 3.1 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 07 | MID | HD56FR233 | HK30WA370 | 131L9795 | [1] | [102] | [9] | 230 | 60 | 5.8 | 1695 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 07 | MID | HD56FR463 | HK30WA376 | 131L9863 | [1] | [122] | [9] | 460 | 60 | 2.9 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 07 | MID | HD56FR579 | HK30WA382 | 131N0225 | [1] | [132] | [9] | 575 | 60 | 3.1 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 07 | HIGH | HD58FE654 | HK30WA371 | 131L9796 | [1] | [102] | [10] | 230 | 60 | 9.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 07 | HIGH | HD58FE654 | HK30WA377 | 131L9864 | [1] | [122] | [10] | 460 | 60 | 4.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 07 | HIGH | HD58FE577 | HK30WA383 | 131N0227 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter | |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|---------------------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | | | | | | Terminal 17 Digital Input |
| 208/230V | 07 | STD | HD56FR233 | HK30WA370 | 131L9795 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | 14-21 | 14-50 |
| 460V | 07 | STD | HD56FR463 | HK30WA376 | 131L9863 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 575V | 07 | STD | HD56FR579 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 208/230V | 07 | MID | HD56FR233 | HK30WA370 | 131L9795 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 460V | 07 | MID | HD56FR463 | HK30WA376 | 131L9863 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 575V | 07 | MID | HD56FR579 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 208/230V | 07 | HIGH | HD58FE654 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 460V | 07 | HIGH | HD58FE654 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 575V | 07 | HIGH | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | 600 | [0] |

Table 5 – VFD Unit Parameters – 48LC 08 Units

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Regional Settings | | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|--------|------|
| | | | | | | 0-03 | 0-06 | | | | | | | | | | | 1-20 | 1-22 | 1-23 |
| 208/230V | 08 | STD | HD56FR233 | HK30WA370 | 131L9795 | [1] | [102] | [9] | 230 | 60 | 5.8 | 1695 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 460V | 08 | STD | HD56FR463 | HK30WA376 | 131L9863 | [1] | [122] | [9] | 460 | 60 | 2.9 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 575V | 08 | STD | HD56FR579 | HK30WA382 | 131N0225 | [1] | [132] | [9] | 575 | 60 | 3.1 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 208/230V | 08 | MID | HD56FE653 | HK30WA371 | 131L9796 | [1] | [102] | [10] | 230 | 60 | 7.9 | 1680 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 460V | 08 | MID | HD56FE653 | HK30WA377 | 131L9864 | [1] | [122] | [10] | 460 | 60 | 3.6 | 1680 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 575V | 08 | MID | HD56FE577 | HK30WA382 | 131N0225 | [1] | [132] | [11] | 575 | 60 | 3.8 | 1680 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 208/230V | 08 | HIGH | HD60FE656 | HK30WA372 | 131L9797 | [1] | [102] | [11] | 230 | 60 | 11.7 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 460V | 08 | HIGH | HD60FE656 | HK30WA378 | 131L9865 | [1] | [122] | [11] | 460 | 60 | 5.4 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 575V | 08 | HIGH | HD58FE577 | HK30WA383 | 131N0227 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 208/230V | 08 | ULTRA | HD60FK658 | HK30WA372 | 131L9797 | [1] | [102] | [13] | 230 | 60 | 13.6 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 460V | 08 | ULTRA | HD60FK658 | HK30WA379 | 131L9866 | [1] | [122] | [13] | 460 | 60 | 6.8 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |
| 575V | 08 | ULTRA | HD60FE576 | HK30WA387 | 134F0217 | [1] | [132] | [13] | 575 | 60 | 6.0 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% | |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | | | | | |
| 208/230V | 08 | STD | HD56FR233 | HK30WA370 | 131L9795 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 08 | STD | HD56FR463 | HK30WA376 | 131L9863 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 08 | STD | HD56FR579 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 08 | MID | HD56FE653 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 08 | MID | HD56FE653 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 08 | MID | HD56FE577 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 08 | HIGH | HD60FE656 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 08 | HIGH | HD60FE656 | HK30WA378 | 131L9865 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 08 | HIGH | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 08 | ULTRA | HD60FK658 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 08 | ULTRA | HD60FK658 | HK30WA379 | 131L9866 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 08 | ULTRA | HD60FE576 | HK30WA387 | 134F0217 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |

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Table 6 – VFD Unit Parameters – 50LC 08 Units

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Regional Settings | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | | | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 08 | STD | HD56FR233 | HK30WA370 | 131L9795 | [1] | [102] | [9] | 230 | 60 | 5.8 | 1695 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 08 | STD | HD56FR463 | HK30WA376 | 131L9863 | [1] | [122] | [9] | 460 | 60 | 2.9 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 08 | STD | HD56FR579 | HK30WA382 | 131N0225 | [1] | [132] | [9] | 575 | 60 | 3.1 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 08 | MID | HD56FR233 | HK30WA370 | 131L9795 | [1] | [102] | [9] | 230 | 60 | 5.8 | 1695 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 08 | MID | HD56FR463 | HK30WA376 | 131L9863 | [1] | [122] | [9] | 460 | 60 | 2.9 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 08 | MID | HD56FR579 | HK30WA382 | 131N0225 | [1] | [132] | [9] | 575 | 60 | 3.1 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 08 | HIGH | HD56FE654 | HK30WA371 | 131L9796 | [1] | [102] | [10] | 230 | 60 | 9.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 08 | HIGH | HD56FE654 | HK30WA377 | 131L9864 | [1] | [122] | [10] | 460 | 60 | 4.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 08 | HIGH | HD56FE577 | HK30WA383 | 131N0227 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 08 | ULTRA | HD60FE656 | HK30WA372 | 131L9797 | [1] | [102] | [11] | 230 | 60 | 11.7 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 08 | ULTRA | HD60FE656 | HK30WA378 | 131L9865 | [1] | [122] | [11] | 460 | 60 | 5.4 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 08 | ULTRA | HD58FE577 | HK30WA383 | 131N0227 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | | | | | |
| 208/230V | 08 | STD | HD56FR233 | HK30WA370 | 131L9795 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 08 | STD | HD56FR463 | HK30WA376 | 131L9863 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 08 | STD | HD56FR579 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 08 | MID | HD56FR233 | HK30WA370 | 131L9795 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 08 | MID | HD56FR463 | HK30WA376 | 131L9863 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 08 | MID | HD56FR579 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 08 | HIGH | HD56FE654 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 08 | HIGH | HD56FE654 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 08 | HIGH | HD56FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 08 | ULTRA | HD60FE656 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 08 | ULTRA | HD60FE656 | HK30WA378 | 131L9865 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 08 | ULTRA | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |

Table 7 – VFD Unit Parameters – 48LC 09 Units

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | Regional Settings | | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------------|-------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | 0-03 | VFD Mfr P/N | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 09 | STD | HD56FR233 | HK30WA370 | [1] | [102] | [9] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 460V | 09 | STD | HD56FR463 | HK30WA376 | [1] | [122] | [9] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 575V | 09 | STD | HD56FR579 | HK30WA382 | [1] | [132] | [9] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 09 | MID | HD56FE653 | HK30WA371 | [1] | [102] | [10] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 460V | 09 | MID | HD56FE653 | HK30WA377 | [1] | [122] | [10] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 575V | 09 | MID | HD56FE577 | HK30WA382 | [1] | [132] | [11] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 09 | HIGH | HD60FE656 | HK30WA372 | [1] | [102] | [11] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 460V | 09 | HIGH | HD60FE656 | HK30WA378 | [1] | [122] | [11] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 575V | 09 | HIGH | HD58FE577 | HK30WA383 | [1] | [132] | [11] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 09 | ULTRA | HD60FK658 | HK30WA372 | [1] | [102] | [13] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 460V | 09 | ULTRA | HD60FK658 | HK30WA379 | [1] | [122] | [13] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 575V | 09 | ULTRA | HD60FE576 | HK30WA387 | [1] | [132] | [13] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 3-10 [0] | 3-10 [1] | 3-10 [2] |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter | |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|---------------------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | | | | | | Terminal 17 Digital Input |
| 208/230V | 09 | STD | HD56FR233 | HK30WA370 | 131L9795 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 460V | 09 | STD | HD56FR463 | HK30WA376 | 131L9863 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 575V | 09 | STD | HD56FR579 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 208/230V | 09 | MID | HD56FE653 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 460V | 09 | MID | HD56FE653 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 575V | 09 | MID | HD56FE577 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 208/230V | 09 | HIGH | HD60FE656 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 460V | 09 | HIGH | HD60FE656 | HK30WA378 | 131L9865 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 575V | 09 | HIGH | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 208/230V | 09 | ULTRA | HD60FK658 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 460V | 09 | ULTRA | HD60FK658 | HK30WA379 | 131L9866 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |
| 575V | 09 | ULTRA | HD60FE576 | HK30WA387 | 134F0217 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 600 | [0] |

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Table 8 – VFD Unit Parameters – 50LC 09 Units

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Regional Settings | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | | | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 09 | STD | HD56FR233 | HK30WA370 | 131L9795 | [1] | [102] | [9] | 230 | 60 | 5.8 | 1695 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 09 | STD | HD56FR463 | HK30WA376 | 131L9863 | [1] | [122] | [9] | 460 | 60 | 2.9 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 09 | STD | HD56FR579 | HK30WA382 | 131N0225 | [1] | [132] | [9] | 575 | 60 | 3.1 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 09 | MID | HD56FR233 | HK30WA370 | 131L9795 | [1] | [102] | [9] | 230 | 60 | 5.8 | 1695 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 09 | MID | HD56FR463 | HK30WA376 | 131L9863 | [1] | [122] | [9] | 460 | 60 | 2.9 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 09 | MID | HD56FR579 | HK30WA382 | 131N0225 | [1] | [132] | [9] | 575 | 60 | 3.1 | 1690 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 09 | HIGH | HD60FE656 | HK30WA372 | 131L9797 | [1] | [102] | [11] | 230 | 60 | 11.7 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 09 | HIGH | HD60FE656 | HK30WA378 | 131L9865 | [1] | [122] | [11] | 460 | 60 | 5.4 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 09 | HIGH | HD58FE577 | HK30WA383 | 131N0227 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 09 | ULTRA | HD60FK658 | HK30WA372 | 131L9797 | [1] | [102] | [13] | 230 | 60 | 13.6 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 09 | ULTRA | HD60FK658 | HK30WA379 | 131L9866 | [1] | [122] | [13] | 460 | 60 | 6.8 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 09 | ULTRA | HD60FE576 | HK30WA387 | 134F0217 | [1] | [132] | [13] | 575 | 60 | 6.0 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 29 Digital Input | Terminal 27 Digital Input | Terminal 19 Digital Input | Terminal 18 Digital Input | Current Limit | Ramp Down Time (Sec) | Ramp Up Time (Sec) | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------|----------------------|--------------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | 3-10 [8] | 3-10 [9] | 3-10 [10] | 3-10 [11] | 3-10 [12] | | | | | | | | | |
| 208/230V | 09 | STD | HD56FR233 | HK30WA370 | 131L9795 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | 5-11 | 5-12 | 5-13 | 5-10 | 4-18 | 3-42 | 3-41 | 600 | 14-21 | 14-50 |
| 460V | 09 | STD | HD56FR463 | HK30WA376 | 131L9863 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 575V | 09 | STD | HD56FR579 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 208/230V | 09 | MID | HD56FR233 | HK30WA370 | 131L9795 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 460V | 09 | MID | HD56FR463 | HK30WA376 | 131L9863 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 575V | 09 | MID | HD56FR579 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 208/230V | 09 | HIGH | HD60FE656 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 460V | 09 | HIGH | HD60FE656 | HK30WA378 | 131L9865 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 575V | 09 | HIGH | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 208/230V | 09 | ULTRA | HD60FK658 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 460V | 09 | ULTRA | HD60FK658 | HK30WA379 | 131L9866 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |
| 575V | 09 | ULTRA | HD60FE576 | HK30WA387 | 134F0217 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 100% | [16] | [17] | [18] | [8] | 100% | 10.00 | 10.00 | 600 | 600 | [0] |

Table 9 – VFD Unit Parameters – 48LC 12 Units

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mir P/N | Regional Settings | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | | | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 12 | STD | HD56FE653 | HK30WA371 | 131L9796 | [1] | [102] | [10] | 230 | 60 | 7.9 | 1680 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 12 | STD | HD56FE653 | HK30WA377 | 131L9864 | [1] | [122] | [10] | 460 | 60 | 3.6 | 1680 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 12 | STD | HD56FE577 | HK30WA382 | 131N0225 | [1] | [132] | [11] | 575 | 60 | 3.8 | 1680 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 12 | MID | HD60FE656 | HK30WA372 | 131L9797 | [1] | [102] | [11] | 230 | 60 | 11.7 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 12 | MID | HD60FE656 | HK30WA378 | 131L9865 | [1] | [122] | [11] | 460 | 60 | 5.4 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 12 | MID | HD58FE577 | HK30WA383 | 131N0227 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 12 | HIGH | HD60FK658 | HK30WA372 | 131L9797 | [1] | [102] | [13] | 230 | 60 | 13.6 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 12 | HIGH | HD60FK658 | HK30WA379 | 131L9866 | [1] | [122] | [13] | 460 | 60 | 6.8 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 12 | HIGH | HD60FE576 | HK30WA387 | 134F0217 | [1] | [132] | [13] | 575 | 60 | 6.0 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mir P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 19 Digital Input | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 16 Digital Input | | | | | | |
| 208/230V | 12 | STD | HD56FE653 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 460V | 12 | STD | HD56FE653 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 12 | STD | HD58FE577 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 208/230V | 12 | MID | HD60FE656 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 460V | 12 | MID | HD60FE656 | HK30WA378 | 131L9865 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 12 | MID | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 208/230V | 12 | HIGH | HD60FK658 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 460V | 12 | HIGH | HD60FK658 | HK30WA379 | 131L9866 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 12 | HIGH | HD60FE576 | HK30WA387 | 134F0217 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |

Table 10 – VFD Unit Parameters - 50LC 12 Units

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Regional Settings | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | | | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 12 | STD | HD58FE653 | HK30WA371 | 131L9796 | [1] | [102] | [10] | 230 | 60 | 7.9 | 1680 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 12 | STD | HD58FE653 | HK30WA377 | 131L9864 | [1] | [122] | [10] | 460 | 60 | 3.6 | 1680 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 12 | STD | HD58FE577 | HK30WA382 | 131N0225 | [1] | [132] | [11] | 575 | 60 | 3.8 | 1680 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 12 | MID | HD58FE654 | HK30WA371 | 131L9796 | [1] | [102] | [10] | 230 | 60 | 9.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 12 | MID | HD58FE654 | HK30WA377 | 131L9864 | [1] | [122] | [10] | 460 | 60 | 4.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 12 | MID | HD58FE577 | HK30WA383 | 131N0227 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 208/230V | 12 | HIGH | HD60FK658 | HK30WA372 | 131L9797 | [1] | [102] | [13] | 230 | 60 | 13.6 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 460V | 12 | HIGH | HD60FK658 | HK30WA379 | 131L9866 | [1] | [122] | [13] | 460 | 60 | 6.8 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |
| 575V | 12 | HIGH | HD60FE576 | HK30WA387 | 134F0217 | [1] | [132] | [13] | 575 | 60 | 6.0 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 66.50% | 66.50% |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Preset Reference (cont.) | | | | | | | | | | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | 3-10 [8] | 3-10 [9] | 3-10 [10] | 3-10 [11] | 3-10 [12] | | | | | | | | | | |
| 208/230V | 12 | STD | HD58FE653 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | [16] | [17] | [18] | 5-10 | 5-11 | 5-12 | 5-13 | 14-20 | 600 | 14-50 | [0] |
| 460V | 12 | STD | HD58FE653 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | [16] | [17] | [18] | 8 | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 575V | 12 | STD | HD58FE577 | HK30WA382 | 131N0225 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | [16] | [17] | [18] | 8 | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 208/230V | 12 | MID | HD58FE654 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | [16] | [17] | [18] | 8 | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 460V | 12 | MID | HD58FE654 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | [16] | [17] | [18] | 8 | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 575V | 12 | MID | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | [16] | [17] | [18] | 8 | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 208/230V | 12 | HIGH | HD60FK658 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | [16] | [17] | [18] | 8 | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 460V | 12 | HIGH | HD60FK658 | HK30WA379 | 131L9866 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | [16] | [17] | [18] | 8 | [16] | [17] | [18] | [3] | 600 | 600 | [0] |
| 575V | 12 | HIGH | HD60FE576 | HK30WA387 | 134F0217 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | [16] | [17] | [18] | 8 | [16] | [17] | [18] | [3] | 600 | 600 | [0] |

Table 11 – VFD Unit Parameters - 48LC Size 14

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | Regional Settings | | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | | |
|----------|-----------|--------------|-----------|-----------------|-------------------|-------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|----------|
| | | | | | 0-03 | VFD Mfr P/N | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] | |
| 208/230V | 14 | STD | HD58FE654 | HK30WA371 | [1] | [102] | [10] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 460V | 14 | STD | HD58FE654 | HK30WA377 | [1] | [122] | [10] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 575V | 14 | STD | HD58FE577 | HK30WA383 | [1] | [132] | [11] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 14 | MID | HD60FK658 | HK30WA372 | [1] | [102] | [13] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 460V | 14 | MID | HD60FK658 | HK30WA379 | [1] | [122] | [13] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 575V | 14 | MID | HD60FE576 | HK30WA387 | [1] | [132] | [13] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 14 | HIGH | HD60FK657 | HK30WA373 | [1] | [102] | [14] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 460V | 14 | HIGH | HD60FK657 | HK30WA380 | [1] | [122] | [14] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 575V | 14 | HIGH | HD60FL576 | HK30WA384 | [1] | [132] | [14] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 14 | ULTRA | HD62FK654 | HK30WA374 | [1] | [102] | [15] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 460V | 14 | ULTRA | HD62FK654 | HK30WA381 | [1] | [122] | [15] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 575V | 14 | ULTRA | HD62FL576 | HK30WA384 | [1] | [132] | [15] | 1-20 | 1-22 | 1-23 | 1-24 | 1-25 | 1-71 | 1-73 | 1-82 | 1-90 | 0% | 3-10 [0] | 3-10 [1] | 3-10 [2] |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 29 Digital Input | Terminal 27 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter | |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|---------------------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | | | | | | Terminal 17 Digital Input |
| 208/230V | 14 | STD | HD58FE654 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 460V | 14 | STD | HD58FE654 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 575V | 14 | STD | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 208/230V | 14 | MID | HD60FK658 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 460V | 14 | MID | HD60FK658 | HK30WA379 | 131L9866 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 575V | 14 | MID | HD60FE576 | HK30WA387 | 134F0217 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 208/230V | 14 | HIGH | HD60FK657 | HK30WA373 | 131L9798 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 460V | 14 | HIGH | HD60FK657 | HK30WA380 | 131L9867 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 575V | 14 | HIGH | HD60FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 208/230V | 14 | ULTRA | HD62FK654 | HK30WA374 | 131L9799 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 460V | 14 | ULTRA | HD62FK654 | HK30WA381 | 131L9868 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |
| 575V | 14 | ULTRA | HD62FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 8 | 16 | 17 | 18 | 3 | 600 | 14-21 | 14-50 |



Table 12 – VFD Unit Parameters - 50LC Size 14

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Regional Settings | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | | | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 14 | STD | HD58FE654 | HK30WA371 | 131L9796 | [1] | [102] | [10] | 230 | 60 | 9.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 460V | 14 | STD | HD58FE654 | HK30WA377 | 131L9864 | [1] | [122] | [10] | 460 | 60 | 4.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 575V | 14 | STD | HD58FE577 | HK30WA383 | 131N0227 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 208/230V | 14 | MID | HD60FK658 | HK30WA372 | 131L9797 | [1] | [102] | [13] | 230 | 60 | 13.6 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 460V | 14 | MID | HD60FK658 | HK30WA379 | 131L9866 | [1] | [122] | [13] | 460 | 60 | 6.8 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 575V | 14 | MID | HD60FE576 | HK30WA387 | 134F0217 | [1] | [132] | [13] | 575 | 60 | 6.0 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 208/230V | 14 | HIGH | HD60FK657 | HK30WA373 | 131L9798 | [1] | [102] | [14] | 230 | 60 | 21.2 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 460V | 14 | HIGH | HD60FK657 | HK30WA380 | 131L9867 | [1] | [122] | [14] | 460 | 60 | 9.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 575V | 14 | HIGH | HD60FL576 | HK30WA384 | 131N0229 | [1] | [132] | [14] | 575 | 60 | 7.2 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 208/230V | 14 | ULTRA | HD62FK654 | HK30WA374 | 131L9799 | [1] | [102] | [15] | 230 | 60 | 28.0 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 460V | 14 | ULTRA | HD62FK654 | HK30WA381 | 131L9868 | [1] | [122] | [15] | 460 | 60 | 13.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |
| 575V | 14 | ULTRA | HD62FL576 | HK30WA384 | 131N0229 | [1] | [132] | [15] | 575 | 60 | 8.9 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 53.43% | 79.57% |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Preset Reference (cont.) | | | | | | | Terminal 29 Digital Input | Terminal 27 Digital Input | Terminal 19 Digital Input | Terminal 18 Digital Input | Current Limit | Ramp Down Time (Sec) | Ramp Up Time (Sec) | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|----------|----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------|----------------------|--------------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | 3-10 [8] | 3-10 [9] | | | | | | | | | |
| 208/230V | 14 | STD | HD58FE654 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 5-11 | 5-12 | 5-13 | 14-20 | 14-21 | 600 | [0] |
| 460V | 14 | STD | HD58FE654 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 575V | 14 | STD | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 208/230V | 14 | MID | HD60FK658 | HK30WA372 | 131L9797 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 460V | 14 | MID | HD60FK658 | HK30WA379 | 131L9866 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 575V | 14 | MID | HD60FE576 | HK30WA387 | 134F0217 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 208/230V | 14 | HIGH | HD60FK657 | HK30WA373 | 131L9798 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 460V | 14 | HIGH | HD60FK657 | HK30WA380 | 131L9867 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 575V | 14 | HIGH | HD60FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 208/230V | 14 | ULTRA | HD62FK654 | HK30WA374 | 131L9799 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 460V | 14 | ULTRA | HD62FK654 | HK30WA381 | 131L9868 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |
| 575V | 14 | ULTRA | HD62FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | [16] | [17] | [18] | [3] | 600 | [0] | [0] |

Table 13 – VFD Unit Parameters - 48LC Size 17

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Regional Settings | | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|--------|------|
| | | | | | | 0-03 | 0-06 | | | | | | | | | | | 1-20 | 1-22 | 1-23 |
| 208/230V | 17 | STD | HD58FE654 | HK30WA371 | 131L9796 | [1] | [102] | [10] | 230 | 60 | 9.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 460V | 17 | STD | HD58FE654 | HK30WA377 | 131L9864 | [1] | [122] | [10] | 460 | 60 | 4.2 | 1735 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 575V | 17 | STD | HD58FE577 | HK30WA383 | 131N0227 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 208/230V | 17 | MID | HD60FK657 | HK30WA373 | 131L9798 | [1] | [102] | [14] | 230 | 60 | 21.2 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 460V | 17 | MID | HD60FK657 | HK30WA380 | 131L9867 | [1] | [122] | [14] | 460 | 60 | 9.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 575V | 17 | MID | HD60FL576 | HK30WA384 | 131N0229 | [1] | [132] | [14] | 575 | 60 | 7.2 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 208/230V | 17 | HIGH | HD62FK654 | HK30WA374 | 131L9799 | [1] | [102] | [15] | 230 | 60 | 28.0 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 460V | 17 | HIGH | HD62FK654 | HK30WA381 | 131L9868 | [1] | [122] | [15] | 460 | 60 | 13.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 575V | 17 | HIGH | HD62FL576 | HK30WA384 | 131N0229 | [1] | [132] | [15] | 575 | 60 | 8.9 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 208/230V | 17 | ULTRA | HD64FK654 | HK30WA375 | 131L9800 | [1] | [102] | [16] | 230 | 60 | 37.3 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 460V | 17 | ULTRA | HD64FK654 | HK30WA386 | 131L9869 | [1] | [122] | [16] | 460 | 60 | 16.9 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |
| 575V | 17 | ULTRA | HD64FL576 | HK30WA388 | 131N0233 | [1] | [132] | [16] | 575 | 60 | 12.6 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 56.64% | 82.40% | |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mfr P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | | | | | |
| 208/230V | 17 | STD | HD58FE654 | HK30WA371 | 131L9796 | 100% | 100% | 0% | 0% | 0% | 3-41 | 3-42 | 4-18 | 5-10 | 5-11 | 5-12 | 5-13 | 14-20 | 14-21 | 14-50 |
| 460V | 17 | STD | HD58FE654 | HK30WA377 | 131L9864 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 17 | STD | HD58FE577 | HK30WA383 | 131N0227 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 17 | MID | HD60FK657 | HK30WA373 | 131L9798 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 17 | MID | HD60FK657 | HK30WA380 | 131L9867 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 17 | MID | HD60FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 17 | HIGH | HD62FK654 | HK30WA374 | 131L9799 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 17 | HIGH | HD62FK654 | HK30WA381 | 131L9868 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 17 | HIGH | HD62FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 17 | ULTRA | HD64FK654 | HK30WA375 | 131L9800 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 17 | ULTRA | HD64FK654 | HK30WA386 | 131L9869 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 17 | ULTRA | HD64FL576 | HK30WA388 | 131N0233 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |

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Table 15 – VFD Unit Parameters - 48LC Size 20

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | Regional Settings | | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------------|-------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | 0-03 | VFD Mfr P/N | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 20 | STD | HD60FE656 | HK30WA372 | [1] | [102] | [11] | 230 | 60 | 11.7 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 460V | 20 | STD | HD60FE656 | HK30WA378 | [1] | [122] | [11] | 460 | 60 | 5.4 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 575V | 20 | STD | HD58FE577 | HK30WA383 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 208/230V | 20 | MID | HD60FK657 | HK30WA373 | [1] | [102] | [14] | 230 | 60 | 21.2 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 460V | 20 | MID | HD60FK657 | HK30WA380 | [1] | [122] | [14] | 460 | 60 | 9.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 575V | 20 | MID | HD60FL576 | HK30WA384 | [1] | [132] | [14] | 575 | 60 | 7.2 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 208/230V | 20 | HIGH | HD62FK654 | HK30WA374 | [1] | [102] | [15] | 230 | 60 | 28.0 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 460V | 20 | HIGH | HD62FK654 | HK30WA381 | [1] | [122] | [15] | 460 | 60 | 13.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 575V | 20 | HIGH | HD62FL576 | HK30WA384 | [1] | [132] | [15] | 575 | 60 | 8.9 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 208/230V | 20 | ULTRA | HD64FK654 | HK30WA375 | [1] | [102] | [16] | 230 | 60 | 37.3 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 460V | 20 | ULTRA | HD64FK654 | HK30WA386 | [1] | [122] | [16] | 460 | 60 | 16.9 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 575V | 20 | ULTRA | HD64FL576 | HK30WA388 | [1] | [132] | [16] | 575 | 60 | 12.6 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | | | | | |
| 208/230V | 20 | STD | HD60FE656 | HK30WA372 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 20 | STD | HD60FE656 | HK30WA378 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 20 | STD | HD58FE577 | HK30WA383 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 20 | MID | HD60FK657 | HK30WA373 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 20 | MID | HD60FK657 | HK30WA380 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 20 | MID | HD60FL576 | HK30WA384 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 20 | HIGH | HD62FK654 | HK30WA374 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 20 | HIGH | HD62FK654 | HK30WA381 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 20 | HIGH | HD62FL576 | HK30WA384 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 20 | ULTRA | HD64FK654 | HK30WA375 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 20 | ULTRA | HD64FK654 | HK30WA386 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 20 | ULTRA | HD64FL576 | HK30WA388 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |

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Table 16 – VFD Unit Parameters - 50LC Size 20

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | Regional Settings | | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------------|-------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | 0-03 | VFD Mfr P/N | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 20 | STD | HD60FE656 | HK30WA372 | [1] | [102] | [11] | 230 | 60 | 11.7 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 460V | 20 | STD | HD60FE656 | HK30WA378 | [1] | [122] | [11] | 460 | 60 | 5.4 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 575V | 20 | STD | HD58FE577 | HK30WA383 | [1] | [132] | [11] | 575 | 60 | 4.9 | 1710 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 208/230V | 20 | MID | HD60FK657 | HK30WA373 | [1] | [102] | [14] | 230 | 60 | 21.2 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 460V | 20 | MID | HD60FK657 | HK30WA380 | [1] | [122] | [14] | 460 | 60 | 9.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 575V | 20 | MID | HD60FL576 | HK30WA384 | [1] | [132] | [14] | 575 | 60 | 7.2 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 208/230V | 20 | HIGH | HD62FK654 | HK30WA374 | [1] | [102] | [15] | 230 | 60 | 28.0 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 460V | 20 | HIGH | HD62FK654 | HK30WA381 | [1] | [122] | [15] | 460 | 60 | 13.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 575V | 20 | HIGH | HD62FL576 | HK30WA384 | [1] | [132] | [15] | 575 | 60 | 8.9 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 208/230V | 20 | ULTRA | HD64FK654 | HK30WA375 | [1] | [102] | [16] | 230 | 60 | 37.3 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 460V | 20 | ULTRA | HD64FK654 | HK30WA386 | [1] | [122] | [16] | 460 | 60 | 16.9 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |
| 575V | 20 | ULTRA | HD64FL576 | HK30WA388 | [1] | [132] | [16] | 575 | 60 | 12.6 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.57% | 61.63% | |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | | | | | |
| 208/230V | 20 | STD | HD60FE656 | HK30WA372 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 20 | STD | HD60FE656 | HK30WA378 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 20 | STD | HD58FE577 | HK30WA383 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 20 | MID | HD60FK657 | HK30WA373 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 20 | MID | HD60FK657 | HK30WA380 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 20 | MID | HD60FL576 | HK30WA384 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 20 | HIGH | HD62FK654 | HK30WA374 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 20 | HIGH | HD62FK654 | HK30WA381 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 20 | HIGH | HD62FL576 | HK30WA384 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 20 | ULTRA | HD64FK654 | HK30WA375 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 20 | ULTRA | HD64FK654 | HK30WA386 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 20 | ULTRA | HD64FL576 | HK30WA388 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |

Table 17 – VFD Unit Parameters - 48 LC Size 24

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mir P/N | Regional Settings | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | | | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 24 | STD | HD60FK657 | HK30WA373 | 131L9798 | [1] | [102] | [14] | 230 | 60 | 21.2 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% |
| 460V | 24 | STD | HD60FK657 | HK30WA380 | 131L9867 | [1] | [122] | [14] | 460 | 60 | 9.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% |
| 575V | 24 | STD | HD60FL576 | HK30WA384 | 131N0229 | [1] | [132] | [14] | 575 | 60 | 7.2 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% |
| 208/230V | 24 | MID | HD62FK654 | HK30WA374 | 131L9799 | [1] | [102] | [15] | 230 | 60 | 28.0 | 1780 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% |
| 460V | 24 | MID | HD62FK654 | HK30WA381 | 131L9868 | [1] | [122] | [15] | 460 | 60 | 13.7 | 1780 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% |
| 575V | 24 | MID | HD62FL576 | HK30WA384 | 131N0229 | [1] | [132] | [15] | 575 | 60 | 8.9 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% |
| 208/230V | 24 | HIGH | HD64FK654 | HK30WA375 | 131L9800 | [1] | [102] | [16] | 230 | 60 | 37.3 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% |
| 460V | 24 | HIGH | HD64FK654 | HK30WA386 | 131L9869 | [1] | [122] | [16] | 460 | 60 | 16.9 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% |
| 575V | 24 | HIGH | HD64FL576 | HK30WA388 | 131N0233 | [1] | [132] | [16] | 575 | 60 | 12.6 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mir P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 19 Digital Input | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 16 Digital Input | | | | | | |
| 208/230V | 24 | STD | HD60FK657 | HK30WA373 | 131L9798 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 4-18 | 5-10 | 5-11 | 5-12 | 5-13 | 14-20 | 14-21 | 14-50 | |
| 460V | 24 | STD | HD60FK657 | HK30WA380 | 131L9867 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 24 | STD | HD60FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 208/230V | 24 | MID | HD62FK654 | HK30WA374 | 131L9799 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 460V | 24 | MID | HD62FK654 | HK30WA381 | 131L9868 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 24 | MID | HD62FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 208/230V | 24 | HIGH | HD64FK654 | HK30WA375 | 131L9800 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 460V | 24 | HIGH | HD64FK654 | HK30WA386 | 131L9869 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 24 | HIGH | HD64FL576 | HK30WA388 | 131N0233 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |

Table 18 – VFD Unit Parameters - 50LC Size 24

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | Regional Settings | | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------------|-------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | 0-03 | VFD Mfr P/N | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 24 | STD | HD60FK657 | HK30WA373 | [1] | [102] | [14] | 230 | 60 | 21.2 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 460V | 24 | STD | HD60FK657 | HK30WA380 | [1] | [122] | [14] | 460 | 60 | 9.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 575V | 24 | STD | HD60FL576 | HK30WA384 | [1] | [132] | [14] | 575 | 60 | 7.2 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 208/230V | 24 | MID | HD60FK657 | HK30WA373 | [1] | [102] | [14] | 230 | 60 | 21.2 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 460V | 24 | MID | HD60FK657 | HK30WA380 | [1] | [122] | [14] | 460 | 60 | 9.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 575V | 24 | MID | HD60FL576 | HK30WA384 | [1] | [132] | [14] | 575 | 60 | 7.2 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 208/230V | 24 | HIGH | HD62FK654 | HK30WA374 | [1] | [102] | [15] | 230 | 60 | 28.0 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 460V | 24 | HIGH | HD62FK654 | HK30WA381 | [1] | [122] | [15] | 460 | 60 | 13.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 575V | 24 | HIGH | HD62FL576 | HK30WA384 | [1] | [132] | [15] | 575 | 60 | 8.9 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 208/230V | 24 | ULTRA | HD64FK654 | HK30WA375 | [1] | [102] | [16] | 230 | 60 | 37.3 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 460V | 24 | ULTRA | HD64FK654 | HK30WA386 | [1] | [122] | [16] | 460 | 60 | 16.9 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |
| 575V | 24 | ULTRA | HD64FL576 | HK30WA388 | [1] | [132] | [16] | 575 | 60 | 12.6 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 52.33% | 64.48% | |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 19 Digital Input | | | | | |
| 208/230V | 24 | STD | HD60FK657 | HK30WA373 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 24 | STD | HD60FK657 | HK30WA380 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 24 | STD | HD60FL576 | HK30WA384 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 24 | MID | HD60FK657 | HK30WA373 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 24 | MID | HD60FK657 | HK30WA380 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 24 | MID | HD60FL576 | HK30WA384 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 24 | HIGH | HD62FK654 | HK30WA374 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 24 | HIGH | HD62FK654 | HK30WA381 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 24 | HIGH | HD62FL576 | HK30WA384 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 208/230V | 24 | ULTRA | HD64FK654 | HK30WA375 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 460V | 24 | ULTRA | HD64FK654 | HK30WA386 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |
| 575V | 24 | ULTRA | HD64FL576 | HK30WA388 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] |

Table 19 – VFD Unit Parameters - 48LC Size 26

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mir P/N | Regional Settings | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | | | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 26 | STD | HD60FK657 | HK30WA373 | 131L9798 | [1] | [102] | [14] | 230 | 60 | 21.2 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 460V | 26 | STD | HD60FK657 | HK30WA380 | 131L9867 | [1] | [122] | [14] | 460 | 60 | 9.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 575V | 26 | STD | HD60FL576 | HK30WA384 | 131N0229 | [1] | [132] | [14] | 575 | 60 | 7.2 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 208/230V | 26 | MID | HD62FK654 | HK30WA374 | 131L9799 | [1] | [102] | [15] | 230 | 60 | 28.0 | 1780 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 460V | 26 | MID | HD62FK654 | HK30WA381 | 131L9868 | [1] | [122] | [15] | 460 | 60 | 13.7 | 1780 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 575V | 26 | MID | HD62FL576 | HK30WA384 | 131N0229 | [1] | [132] | [15] | 575 | 60 | 8.9 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 208/230V | 26 | HIGH | HD64FK654 | HK30WA375 | 131L9800 | [1] | [102] | [16] | 230 | 60 | 37.3 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 460V | 26 | HIGH | HD64FK654 | HK30WA386 | 131L9869 | [1] | [122] | [16] | 460 | 60 | 16.9 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 575V | 26 | HIGH | HD64FL576 | HK30WA388 | 131N0233 | [1] | [132] | [16] | 575 | 60 | 12.6 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mir P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 19 Digital Input | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 16 Digital Input | | | | | | |
| 208/230V | 26 | STD | HD60FK657 | HK30WA373 | 131L9798 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 4-18 | 5-10 | 5-11 | 5-12 | 5-13 | 14-20 | 14-21 | 14-50 | |
| 460V | 26 | STD | HD60FK657 | HK30WA380 | 131L9867 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 26 | STD | HD60FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 208/230V | 26 | MID | HD62FK654 | HK30WA374 | 131L9799 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 460V | 26 | MID | HD62FK654 | HK30WA381 | 131L9868 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 26 | MID | HD62FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 208/230V | 26 | HIGH | HD64FK654 | HK30WA375 | 131L9800 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 460V | 26 | HIGH | HD64FK654 | HK30WA386 | 131L9869 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 26 | HIGH | HD64FL576 | HK30WA388 | 131N0233 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |

Table 20 – VFD Unit Parameters - 50LC Size 26

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mir P/N | Regional Settings | Grid Type | Motor Power | Motor Voltage | Motor Frequency (Hz) | Motor Current (Must-Hold Amps) | Motor Nominal Speed (rpm) | Star Delay (Sec) | Flying Start | Min Speed for Function (Hz) | Motor Thermal Protection | Preset Reference | | |
|----------|-----------|--------------|-----------|-----------------|-------------|-------------------|-----------|-------------|---------------|----------------------|--------------------------------|---------------------------|------------------|--------------|-----------------------------|--------------------------|------------------|----------|----------|
| | | | | | | | | | | | | | | | | | 3-10 [0] | 3-10 [1] | 3-10 [2] |
| 208/230V | 26 | STD | HD60FK657 | HK30WA373 | 131L9798 | [1] | [102] | [14] | 230 | 60 | 21.2 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 460V | 26 | STD | HD60FK657 | HK30WA380 | 131L9867 | [1] | [122] | [14] | 460 | 60 | 9.7 | 1760 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 575V | 26 | STD | HD60FL576 | HK30WA384 | 131N0229 | [1] | [132] | [14] | 575 | 60 | 7.2 | 1745 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 208/230V | 26 | MID | HD62FK654 | HK30WA374 | 131L9799 | [1] | [102] | [15] | 230 | 60 | 28.0 | 1780 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 460V | 26 | MID | HD62FK654 | HK30WA381 | 131L9868 | [1] | [122] | [15] | 460 | 60 | 13.7 | 1780 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 575V | 26 | MID | HD62FL576 | HK30WA384 | 131N0229 | [1] | [132] | [15] | 575 | 60 | 8.9 | 1750 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 208/230V | 26 | HIGH | HD64FK654 | HK30WA375 | 131L9800 | [1] | [102] | [16] | 230 | 60 | 37.3 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 460V | 26 | HIGH | HD64FK654 | HK30WA386 | 131L9869 | [1] | [122] | [16] | 460 | 60 | 16.9 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |
| 575V | 26 | HIGH | HD64FL576 | HK30WA388 | 131N0233 | [1] | [132] | [16] | 575 | 60 | 12.6 | 1755 | 2.0 | [1] | 1.0 | [4] | 0% | 60.00% | 72.00% |

| Voltage | Unit Size | Motor Option | Motor P/N | VFD Carrier P/N | VFD Mir P/N | Preset Reference (cont.) | | | | | | | | | | Terminal 19 Digital Input | Terminal 27 Digital Input | Terminal 29 Digital Input | Reset Mode | Auto. Restart Time (S) | RFI Filter |
|----------|-----------|--------------|-----------|-----------------|-------------|--------------------------|----------|----------|----------|----------|--------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------|------------------------|------------|
| | | | | | | 3-10 [3] | 3-10 [4] | 3-10 [5] | 3-10 [6] | 3-10 [7] | Ramp Up Time (Sec) | Ramp Down Time (Sec) | Current Limit | Terminal 18 Digital Input | Terminal 16 Digital Input | | | | | | |
| 208/230V | 26 | STD | HD60FK657 | HK30WA373 | 131L9798 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | 5-10 | [16] | [17] | [18] | 14-20 | 600 | 14-50 | |
| 460V | 26 | STD | HD60FK657 | HK30WA380 | 131L9867 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 26 | STD | HD60FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 208/230V | 26 | MID | HD62FK654 | HK30WA374 | 131L9799 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 460V | 26 | MID | HD62FK654 | HK30WA381 | 131L9868 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 26 | MID | HD62FL576 | HK30WA384 | 131N0229 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 208/230V | 26 | HIGH | HD64FK654 | HK30WA375 | 131L9800 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 460V | 26 | HIGH | HD64FK654 | HK30WA386 | 131L9869 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |
| 575V | 26 | HIGH | HD64FL576 | HK30WA388 | 131N0233 | 100% | 100% | 0% | 0% | 0% | 10.00 | 10.00 | 100% | [8] | [16] | [17] | [18] | [3] | 600 | [0] | |

