Yaskawa
J1000/V1000/GA500
Basic User Guide

Tech Guide

Document Revision: v1.0.9

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WASHLINK SYSTEMS
Yaskawa V1000 Basic User Guide

This document provides basic information for navigating and adjusting your Washlink Systems supplied Yaskawa J1000/V1000/GA500 Variable Frequency Drive.

When emailing or calling for assistance, you must have the following information available:

Location Name: _____

Contact Person: _____

Contact Phone: _____

VFD Model: _____

Equipment connected: _____

Distributor Name: _____

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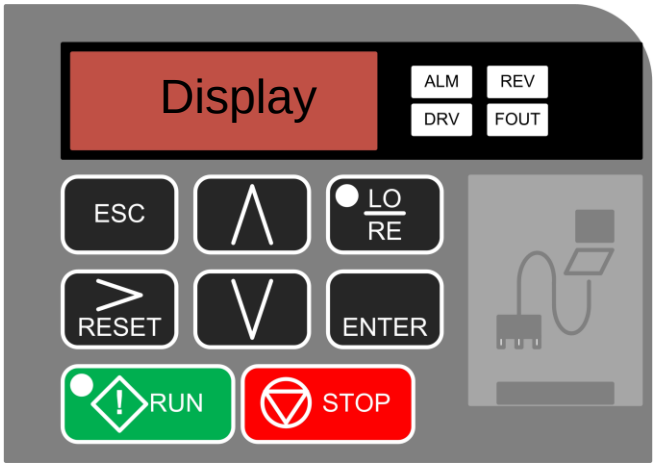
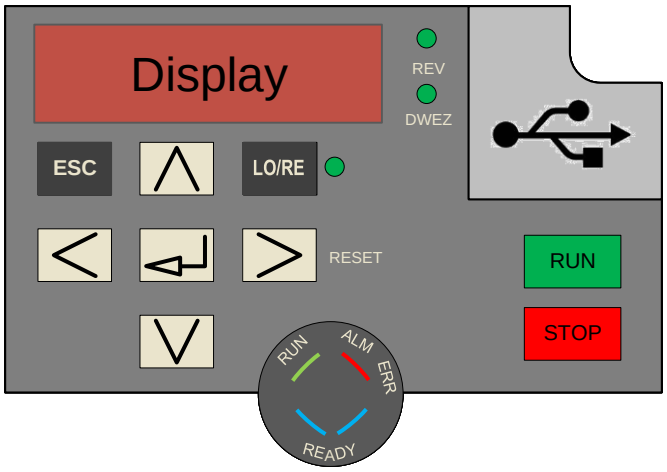


J1000 & V1000



GA500

To Change Display Data View

The standard screen after a power cycle is the actual output in Hz (xx.xx)

To change data being displayed, press the ∧ or ∨ to the desired view.

- 0.00 Output Frequency (Hz)
- 0.00A Output Current (Amps)
- 0.0v Output Voltage
- Mon Monitor Display (typically not used)
- vrFy Verify Menu (typically not used)
- SrUP Set Up Mode (typically not used)
- PAr Parameter Setting mode
- ArUn Auto-Tuning
- F 0.00 Hz drive set to run
- For Forward Selection/Reverse Selection (typically not used)

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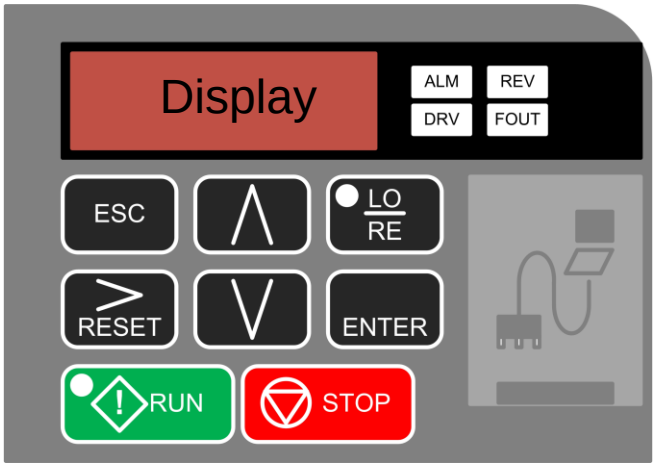
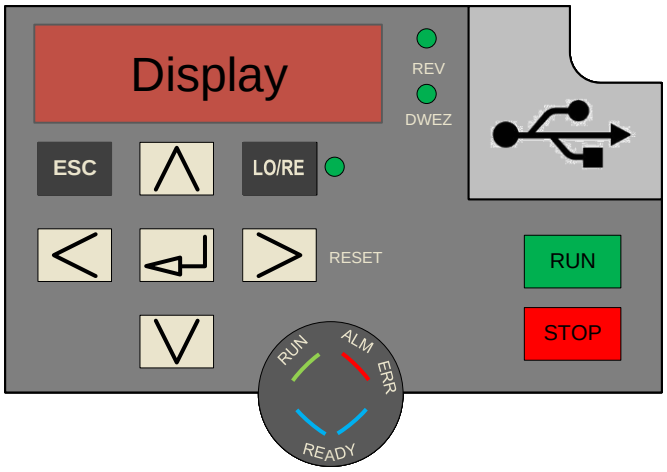


J1000 & V1000



GA500

To Access & Change Paramaters

With the VFD powered on and the motor not running:

1. Press the ∧ or ∨ button until the screen showes PAr- Parameter Setting mode.
2. Press the ENTER or ↵ button, display will now show Parameter A1-02 with the "A" flashing A1-01
3. Press the ∧ or ∨ or RESET to get to the parameter you want to adjust, then press ENTER or ↵
4. You will now see the current setting for the selected parameter, left digit will flashing 00.00
5. Press the ∧ or ∨ or RESET to change the parameter, then press ENTER or ↵
6. You will now see the next parameter with the left digit flashing A1-01
7. If you want to adjust more parameters, go to step 3.
8. If you are done, press ESC until you get back to the PAr- screen
9. Press the ∧ or ∨ button until the screen shows 0.00 (motor speed in Hz).

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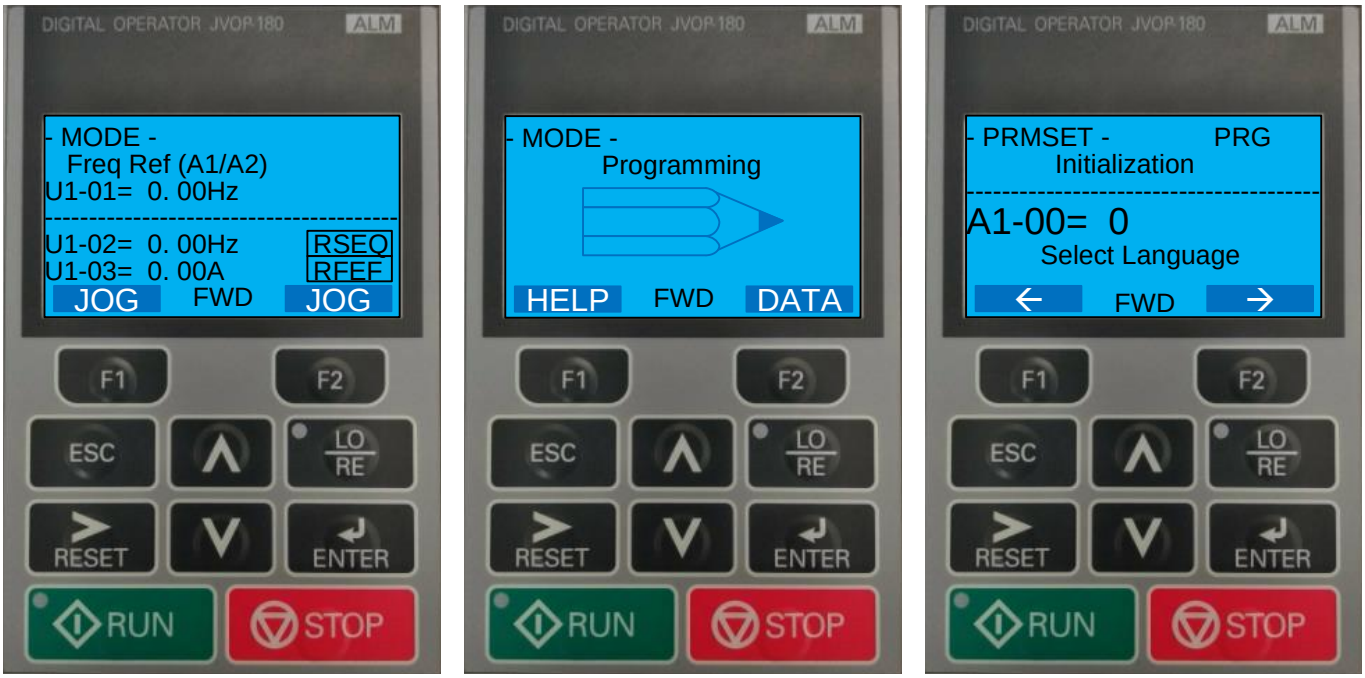
With Remote Display



Press Down Arrow until the Mode Screen comes up and press Enter.
You can now change the Parameter with Arrows and Enter.

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Common Drive Settings

b1-03 Stopping Method
0=Ramp Down, 1=Coast to Stop

b3-01 Speed Search Selection at Start (Flying Start)
0=Disabled, 1=Enabled

b5-03 PID Input Time Debounce (in seconds)
If used typically between 1.0-3.0
(note if more then one motor on same sensor, times must be different to prevent drive speed bouncing)

C1-01 Acceleration time 1 (in seconds)
Typically between 3.0-15.0

C1-02 Deceleration time 1 (in seconds)
Typically between 3.0-25.0

d1-01 Frequency Reference 1 (speed in Hz)
Typically between 35.0-60.0

d1-02 Frequency Reference 2 (speed in Hz)
Typically between 35.0-60.0

o1-02 Monitor selection after power up (what the display shows)
3=Output Frequency (what speed the motor is running in Hz.)
4=Output Current (how many amps the motor is using when running)

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Common Drive Monitors

Note: these are basic tips, refer to the technical manual for more information

U1-01 Frequency Reference Monitors the frequency

U1-02 Output Frequency Displays the output frequency. Display units are determined by o1-03.

U1-03 Output Current Displays the output current.

U1-04 Control Mode Control method set in A1-02.

U1-05 Motor Speed Displays the motor speed feedback. Display units are determined by o1-03.

U1-06 Output Voltage Reference Displays the output voltage.

U1-07 DC Bus Voltage Displays the DC bus voltage.

U1-08 Output Power Displays the output voltage (this value is determined internally).

U1-13 Terminal A1 Input Level Displays analog input A1 level: 100% when input is 10 V.

U1-14 Terminal A2 Input Level Displays analog input A1 level: 100% when input is 10 V.

U3-01 Most Recent Fault Displays the most recent fault.

U3-02 2nd Most Recent Fault Displays the second most recent fault.

U3-03 3rd Most Recent Fault Displays the third most recent fault.

U3-04 4th Most Recent Fault Displays the fourth most recent fault.

U3-05 5th Most Recent Fault Displays the fifth most recent fault.

U3-06 6th Most Recent Fault Displays the sixth most recent fault.

U3-07 7th Most Recent Fault Displays the seventh most recent fault.

U3-08 8th Most Recent Fault Displays the eighth most recent fault.

U3-09 9th Most Recent Fault Displays the ninth most recent fault.

U3-10 10th Most Recent Fault Displays the tenth most recent fault.

U4-01 Accumulated Operation Time Displays the cumulative operation time of the drive.

U4-02 Number of Run Commands Displays the number of times the run command is entered.

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Common Drive Faults

Note: these are basic tips, refer to the technical manual for more information

GF Ground Fault

Motor insulation is damaged.

- Check the insulation resistance of the motor.
- Replace the motor.

Hardware problem.

- Replace the drive.

LF Output Power Phase Loss

The output cable is disconnected.

- Check for wiring errors and ensure the output cable is connected properly.
- Correct the wiring.

The motor winding is damaged.

- Check the resistance between motor lines.
- Replace the motor if the winding is damaged.

The output terminal is loose.

- Apply the tightening torque specified in this manual to fasten the terminals.

An output transistor is damaged.

- Replace the drive.

oC Over Current

The motor has been damaged due to overheating or the motor insulation is damaged.

- Check the insulation resistance.
- Replace the motor.

One of the motor cables has shorted out or there is a grounding problem.

- Check the motor cables.
- Check the resistance between the motor cables and the ground terminal .
- Replace damaged cables.

The load is too heavy.

- Reduce the load to avoid sudden changes in the current level or switch to a larger drive.

The acceleration or deceleration times are too short.

- Increase the acceleration time
- Increase the deceleration time

oL1 Motor Overload

Load is too heavy.

- Reduce the load.

Cycle times are too short during acceleration and deceleration.

- Increase the acceleration and deceleration times (C1-01 through C1-08).

Multiple motors are running off the same drive.

- Disable the Motor Protection function (L1-01 = “0”) and install a thermal relay to each motor.

Output current fluctuation due to input phase loss

- Check the power supply for phase loss

oL2 Drive Overload

Load is too heavy.

- Reduce the load.

Cycle times are too short during acceleration and deceleration.

- Increase the acceleration and deceleration times (C1-01 through C1-08).

Output current fluctuation due to input phase loss

- Check the power supply for phase loss.

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Common Drive Faults

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oU Over Voltage

Deceleration time is too short and regenerative energy flows from the motor into the drive.

- Increase the deceleration time (C1-02, -04, -06, -08).

Drive input power voltage is too high.

- Check the voltage.

Surge voltage entering from the drive input power.

- Install a DC reactor.

Ground fault in the output circuit causing the DC bus capacitor to overcharge.

- Check the motor wiring for ground faults.

The dynamic braking transistor is damaged.

- Replace the drive.

PF Input Power Phase Loss

There is phase loss in the drive input power.

- Check for wiring errors in the main circuit drive input power.

There is loose wiring in the drive input power terminals.

- Ensure the terminals are tightened properly.

There is excessive fluctuation in the drive input voltage.

- Check the voltage from the drive input power.

There is poor balance between voltage phases.

- Stabilize drive input power or disable phase loss detection.

Uv1 DC Bus Under Voltage

Input power phase loss.

- The main circuit drive input power is wired incorrectly.

One of the drive input power wiring terminals is loose.

- Ensure there are no loose terminals.

There is a problem with the voltage from the drive input power.

- Check the voltage.

The power has been interrupted.

- Correct the drive input power.

Drive internal circuitry has become worn.

- Check the maintenance time for the capacitors (U4-05).
- Replace the drive if U4-05 exceeds 90%.

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Revision history

v1.0.1	Initial release
v1.0.3	Various typo's
v1.0.5	Fixed red display box images
v1.0.7	Added JVOP-180 Operator Screen Shots
v1.0.9	Added GA500 screen

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Notes:

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