This document pertains to the Unidrive

Problem: The drive will not run when the command to do so is given

DIGITAL INPUTS

The Unidrive can be enabled to run in several ways. They can use digital inputs, keypad, or a field buss network to give the OK to run. The drive will display inh, rdy, or run depending on the command applied. The drive can be configured to use positive or negative logic. The logic type is set up at #8.27. The Unidrive defaults to negative logic. When the drive is in terminal mode the following sequence occurs under default conditions.

Unidrive Classic:

Inh = Drive disabled = Connect pins 30-31 drive should go to rdy

Rdy = Drive enabled = Connect pins 27-31 drive should go to run

Run = Drive is enabled and ready to run when a speed reference is applied

Parameter #0.05 sets up the Reference Select. This will tell the drive where to look for run commands and speed references. If it is set to Pad you will only need to close the enable signal. You can then use the keypad to control the drive and set the speed reference. If you choose a terminal mode the speed reference will come in on an analog input. The enable, run, and preset selections will be selected by the digital inputs. If the digital inputs are activated correctly the drive should operate as seen above.

DRIVE SEQUENCER

There are some additional parameters in menu 6 that can be assessed to see why the drive is not running. If the parameters on the next page are not going to a 1 with the corresponding commands then the digital inputs (Menu 8) could be configured wrong or inactive. Check the following parameters:
DRIVE SEQUENCER CONTINUED

#6.15 = 1 = Drive enabled
#6.34 = 1 = Run Permit or Not Stop
#6.29 = 1 = Hardware Enable (Pin 30 is activated)

Sequencing mode 0 (#6.04)
Run permit or/Stop -Run permit or Not Stop input (#6.34 = 1)
Sequencing bit 0 -Run (Latching) (#6.30 = 1)
Sequencing bit 1 -Jog (#6.31 = 1)
Sequencing bit 2 -Reverse (#6.32 = 1)
Sequencing bit 3 -Not used (#6.33 = 1)

Sequencing mode 1 (#6.04)
Run permit or/Stop -Run permit not stop input (#6.34 = 1)
Sequencing bit 0 -Run Forward (Latching) (#6.30 = 1)
Sequencing bit 1 -Jog Forward (#6.31 = 1)
Sequencing bit 2 -Run Reverse (Latching) (#6.32 = 1)
Sequencing bit 3 -Jog reverse (#6.33 = 1)

Sequencing mode 2 (#6.04)
Run permit or/Stop -Run permit not stop input (#6.34 = 1)
Sequencing bit 0 -Run Forward (#6.30 = 1)
Sequencing bit 1 -Jog (#6.31 = 1)
Sequencing bit 2 -Run Reverse (#6.32 = 1)
Sequencing bit 3 -Not used (#6.33 = 1)

Sequencing mode 3 (#6.04)
Sequencing bit 0 -Run (#6.30 = 1)
Sequencing bit 1 -Jog (#6.31 = 1)
Sequencing bit 2 -Forward/Reverse (#6.32 = 1)
Sequencing bit 3 -Not used (#6.33 = 1)

Sequencing mode 4 (#6.04)
Sequencing bit 0 -Run Forward (#6.30 = 1)
Sequencing bit 1 -Jog (#6.31 = 1)
Sequencing bit 2 -Run Reverse (#6.32 = 1)
Sequencing bit 3 -Not used (#6.33 = 1)

If the parameters in menu 6 are not changing state accordingly then measure the voltage on the corresponding digital inputs. When a command is given the DC voltage should change between 0VDC and 24VDC. If menu 6 is not changing and the voltage is changing than check the digital input configuration in menu 8.

A field buss network could also be used to enable the drive. The controller (PLC, CTIU, CTKP, LOM, etc …) can write to the drives sequencing bits to perform the start/stop commands. Monitor menu 6 to see if the sequencing parameters are changing to a 1 when the command is sent to the drive. The network could be out or the communications configuration could be set up improperly.
Speed Reference

The digital inputs and the drive sequencer could be working correctly and the drive still may not run. If the display shows Run but the motor is not turning there could be a problem with the speed reference to the drive. The speed reference can be applied in different methods. You can use an analog input (voltage or current), preset speeds, or a field buss reference. The example we will use is the most common and is a 0-10VDC signal on analog input #1.

The analog inputs come into the drive on the control terminal strip. They enter the drive in menu 7. The first step is to measure the signal on the terminal strip of the drive to ensure the reference is getting applied. On a Unidrive Classic analog#1 can be measures from pin 5 to pin 3. If the signal is single ended pin 3 needs to be connected to pin 6. Apply the reference and confirm the signal changes at the drive accordingly.

Once the signal has been confirmed at the terminal you should look at #7.01 to see if it changes with the change in reference. #7.01 goes from 0%-100%. If it looks good check the destination of the speed reference at #7.10. Follow it to the destination and confirm the speed reference value is getting there and then through to #3.01.
Once the Drive Sequencer, Digital Inputs, and Speed Reference have all been confirmed and the drive will still not run contact the Americas’ Service Center.

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