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Frequently Asked Questions about the 07523-80 and -90 Masterflex® L/S® Standard Digital drives

Remote Control Operation:

- ***How do I get my drive to operate with an analog remote signal?***
In the "REMOTE CONTROL MENU" Use "EXIT" to get back to the operating screen not the "LOCAL" field. The "LOCAL" field is for operating via the keypad. Also be sure that the drive doesn't have "START/STOP required unintentionally set to yes, without the START/STOP pin closed.

- ***How do I scale the analog inputs and outputs on my drive?***
1) Navigate to the Remote Menu via the "HOUSE" icon or the Main Menu; press ENTER key.
2) Navigate to the desired INPUT/OUTPUT; press ENTER key.
3) Screen will now display **MIN** settings.
    a. Value for mA or V will be highlighted.
    b. Press enter and this value can now be adjusted with the UP/DOWN/LEFT/RIGHT arrow keys.
    c. After setting value, press ENTER and use DOWN arrow key and navigate to the speed/flow setting.
    d. Value for speed/flow setting will be highlighted.
    e. Press enter and this value can now be adjusted with the UP/DOWN/LEFT/RIGHT arrow keys.
    f. After setting value, press ENTER key and then press the DOWN arrow key one time.
4) Screen will now display **MAX** settings.
    a. Value for mA or V will be highlighted.
    b. Press enter and this value can now be adjusted with the UP/DOWN/LEFT/RIGHT arrow keys.
    c. After setting value, press ENTER and use DOWN arrow key and navigate to the speed/flow setting.
    d. Value for speed/flow setting will be highlighted.
    e. Press enter and this value can now be adjusted with the UP/DOWN/LEFT/RIGHT arrow keys.
    f. After setting value, press ENTER key and then press the DOWN arrow key one time.
5) Screen will now display **MID** settings.
    a. Value for mA or V will be highlighted.
    b. Press enter and this value can now be adjusted with the UP/DOWN/LEFT/RIGHT arrow keys.
    c. After setting value, press ENTER and use DOWN arrow key and navigate to the speed/flow setting.
    d. Value for speed/flow setting will be highlighted.
    e. Press enter and this value can now be adjusted with the UP/DOWN/LEFT/RIGHT arrow keys.
    f. After setting value, press ENTER key and then press the DOWN arrow key one time.
6) EXIT will now be highlighted – Press ENTER and screen will return to REMOTE CONTROL menu.
7) Use DOWN arrow key to navigate to EXIT at the bottom of the menu.

If CURRENT or VOLTAGE inputs were accessed, the "HOUSE" icon will now be empty (no box inside).
If CURRENT or VOLTAGE outputs were accessed, the "HOUSE" icon will be filled (box inside) unless inputs were previously accessed and drive not returned to LOCAL mode.

- ***I am having trouble inverting the scaling of the analog inputs and outputs.***
The analog inputs are capable of being scaled with 0 VDC or 4 mA = full speed, and 10 VDC or 20 mA = 0 speed. In the CURRENT or VOLTAGE input screens (See "REMOTE CONTROL" in your Operator's Manual) the MIN value refers to the analog signal and not to the value of the lowest RPM. Change the RPM in the CURRENT or VOLTAGE input screen, not the mA or voltage.
For the CURRENT or VOLTAGE output screens change the analog voltage or current to invert the scaling value. Note: Selecting Current Output will not put the user into REMOTE CONTROL MODE. Only selecting VOLTAGE INPUT or CURRENT INPUT before EXITing will put the user in the analog input mode. Exit to the CONTINUOUS run screen.

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- ***What is the difference with the outputs between the older models and the newer models? Is the output a true "open collector" with no pull-up resistor?***

The outputs are now Open Collector outputs. They need a load (typically a resistor) across the terminals to output some voltage. They are rated up to 28 V at 1amp.

The term open-collector refers to a transistor output where the collector (output) of the transistor is not connected to a positive voltage. Since a transistor used in outputs is a saturated switch, the collector needs to be connected to a positive voltage to complete the transistor circuit. This positive voltage need not be any specific value as long as it is above the transistor saturation level. Because of this, an open collector output can be connected to a range of voltages using a pullup resistor. This resistor is required for the output to function as it completes the transistor's circuit.

- ***Can you send a Start/Stop Input before the pump has been powered up?***

Regarding the Start/Stop input, the drive will look for an "edge" of a signal to see the transition from open to closed. If the contacts are closed before the drive has been powered up - it won't see the "edge".

- ***The pump isn't responding to my input signals!***

If you changed anything in the remote control menu, please select Local before exiting the remote control menu. Otherwise you may have accidentally selected the 4-20 mA input which would require a signal on the line and the start/stop closed to run.

- ***Do the new drives have relays for equipment?***

Normally-open (N.O.) contacts (pins 6 & 7) and normally-closed (N.C.) contacts (pins 8 & 7) are continuity contacts only, not relays. No power should be applied to the contacts (damage could result).

They are designed to indicate whether the motor is running or not. When the motor is running, pins 6 & 7 close. A circuit on a PLC or multimeter can sense a complete circuit (continuity) and can be used to trigger a different event such as a light indicating the pump is running. The contact closure can not be used to power the light or anything else.

The N.C. contact works in the exact opposite way, when the motor is running the contact opens breaking the continuity. You can pick which contact works best with your application.

Volume Dispense Function:

- ***What if I need to dispense a volume that is larger than recommended in the manual?***

If the required volume per dispense exceeds 5461 revolutions on the 600 rpm drives or 985 revolutions when using the 100 rpm drive; This will take more revolutions than the drive can safely store. When this occurs we recommend switching from Volume dispense to Time Dispense.