The Application Note is pertinent to the Focus 3 Regenerative models

Reversing Focus 3 Regen w/UniPolar Command

The Focus 3 Regen (Regen model only) drive readily accepts a bi-polar analog inputs to determine the direction of motor rotation. The drive supplies both a +10 and -10v supply for application of a bi-polar wired potentiometer if desired. The drive can also reverse a motor using a simple Fwd/Rev toggle switch when using a potentiometer.

There are applications whereby a customer supplies a variable 0-10v speed command reference (unipolar) but desires directional control via a Fwd/Rev Toggle switch for example. This application note will illustrate how to achieve such functionality.

The diagram below shows a DPDT switch that is wired to accept a customer’s UniPolar reference from a PLC or controller … by flipping the F3TS DPDT switch the customer can reverse motor directions – even on-the-fly if desired.

It should be noted that if using this configuration either the Drive Common or the PLC/Controller common (0v) could be optionally Earth Grounded but not both!!!
"Reversing Switch" Connection for the Enclosure Model

1. The first step is to test the drive and make sure it works with the provided speed pot on the enclosure cover before any modifications are made to the drive.

2. The second step for an enclosed model is to remove the wires from the speed reference pot at terminals 9, 10, and 12 and tape off the wires to avoid any contact with the Control Board or any other components within the drive.

3. Finally, create a hole on the cover and install the F3TS DPDT Switch where the Fwd/Rev switch is vacant. Connect your wires to terminals 10 (speed command input) and 12 (drive signal common connection).

![Focus 3 enclosed model]

Note: The DPDT toggle switch could be replaced with a set of relay contacts wired to emulate the function of DPDT toggle switch. One would need a relay with 2 Form C contacts.
“Reversing Switch” Connection For the Chassis Model

For the chassis mount Focus 3, have your start/stop configured and make sure the drive runs with a speed pot reference before connecting the F3TS reversing switch.

Ensure the drive can operate for the proper setup before removing the reference speed pot.

Connect your wires to terminals 10 (speed command input) and 12 (drive signal common connection) as shown.

![Focus 3 chassis mount](image)

**Note:** The DPDT toggle switch could be replaced with a set of relay contacts wired to emulate the function of DPDT toggle switch. One would need a relay with 2 Form C contacts.

Control Techniques has a variety of application notes for the Focus 3 drive and can be seen by clicking [Focus Application Notes](#). The Focus 3 Regenerative manual can be downloaded directly by clicking [MANUAL](#).

Visit our website for Focus 3 and other drive information by going to: [http://www.emersonct.com](http://www.emersonct.com)

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