

# GETTING STARTED

## MDrivePlus Speed Control

### Before You Begin

The Getting Started Section is designed to help quickly connect and begin using your MDrivePlus Speed. The following examples will help you get the motor turning for the first time and introduce you to the basic settings of the device.

### Tools and Equipment Required

- MDrivePlus Speed Control Unit (MDO)
- Parameter setup cable MD-CC300-000 or equivalent (USB to SPI)
- Product CD or Internet access to [www.imshome.com](http://www.imshome.com)
- Control device for Start/Stop and Direction (Switch, PLC etc.)
- 10 kΩ potentiometer, 0-20 mA or 4-20 mA current source
- An Unregulated Power Supply (See specifications for your exact MDrivePlus Speed Control and required voltage.)
- Basic Tools: Wire Cutters / Strippers / Screwdriver
- Wire for Power Supply (See specifications for your exact MDO.)
- A PC with Windows XP Service Pack 2 or greater.

### Connecting the Power Supply

Using the recommended wire (see the specifications for your MDrivePlus), connect the DC output of the power supply to the +V input of the connector appropriate for your MDrivePlus Speed Control model.

Connect the power supply ground to the Power Ground pin appropriate for your MDrivePlus Speed Control.

### Connect Speed Control and Logic Inputs

Using the recommended wire (see the specifications for your MDrivePlus), connect the Start/Stop input and CW/CCW direction Inputs to switches or controller I/O point (Inputs are of the Sinking Type) using Figure GS.1 as a guide.

Connect the speed control potentiometer in accordance with Figure GS.1

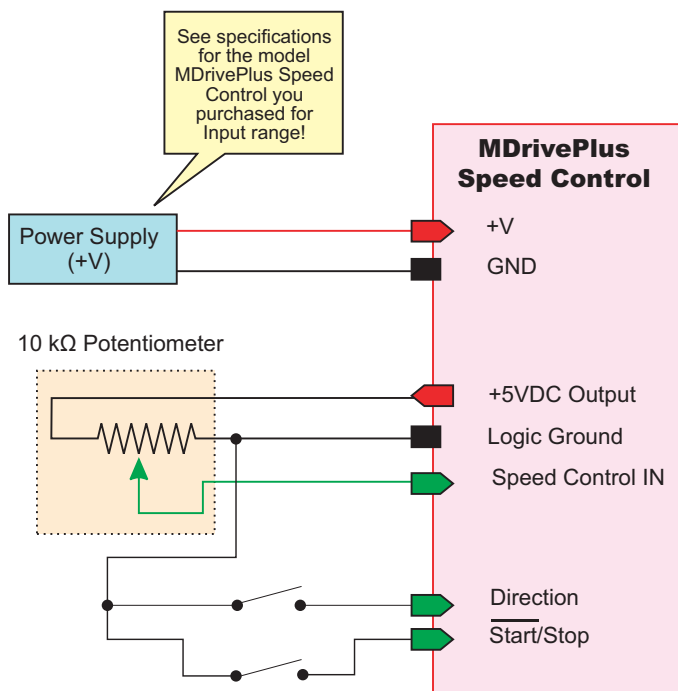


Figure GS.1: Minimum Logic and Power Connections



**WARNING!**  
The MDrive has components which are sensitive to Electrostatic Discharge (ESD). All handling should be done at an ESD protected workstation.



**WARNING!**  
Hazardous voltage levels may be present if using an open frame power supply to power your MDrivePlus product.



**WARNING!** Ensure that the power supply output voltage does not exceed the maximum input voltage of the MDrivePlus product that you are using!



**Note:** A characteristic of all motors is back EMF. Back EMF is a source of current that can push the output of a power supply beyond the maximum operating voltage of the driver. As a result, damage to the MdrivePlus could occur over a period of time. Care should be taken so that the back EMF does not exceed the maximum input voltage rating of the device:  
MDrive17Plus.....+48 VDC  
MDrive23Plus.....+75 VDC



**WARNING!**  
Because the MDrivePlus consists of

two core components, a drive and a motor, close attention must be paid to the thermal environment where the device is used. The operating range of the MDrivePlus Speed Control is -40 to +85°C.

## Connecting Parameter Setup Cable

Connect the Host PC to the MDrivePlus Speed Control using the IMS Parameter Setup Cable or equivalent.

## Install the IMS SPI Motor Interface (See Section 2.4 for Details)

The IMS SPI Motor Interface is a utility that easily allows you to set up the parameters of your MDrivePlus Speed Control. It is available both on the CD that came with your product and on the IMS web site at [http://www.imshome.com/software\\_interfaces.html](http://www.imshome.com/software_interfaces.html).

1. Download and install the SPI Motor Interface from [http://www.imshome.com/software\\_interfaces.html](http://www.imshome.com/software_interfaces.html).
2. Once IMS SPI Motor Interface is installed, the parameter settings can be checked and/or set.

Once installed you can change the configuration parameters of the MDrivePlus Speed Control. By default the speed control input is configured to run with a 0 - 5 V Input as shown in Figure GS.1.

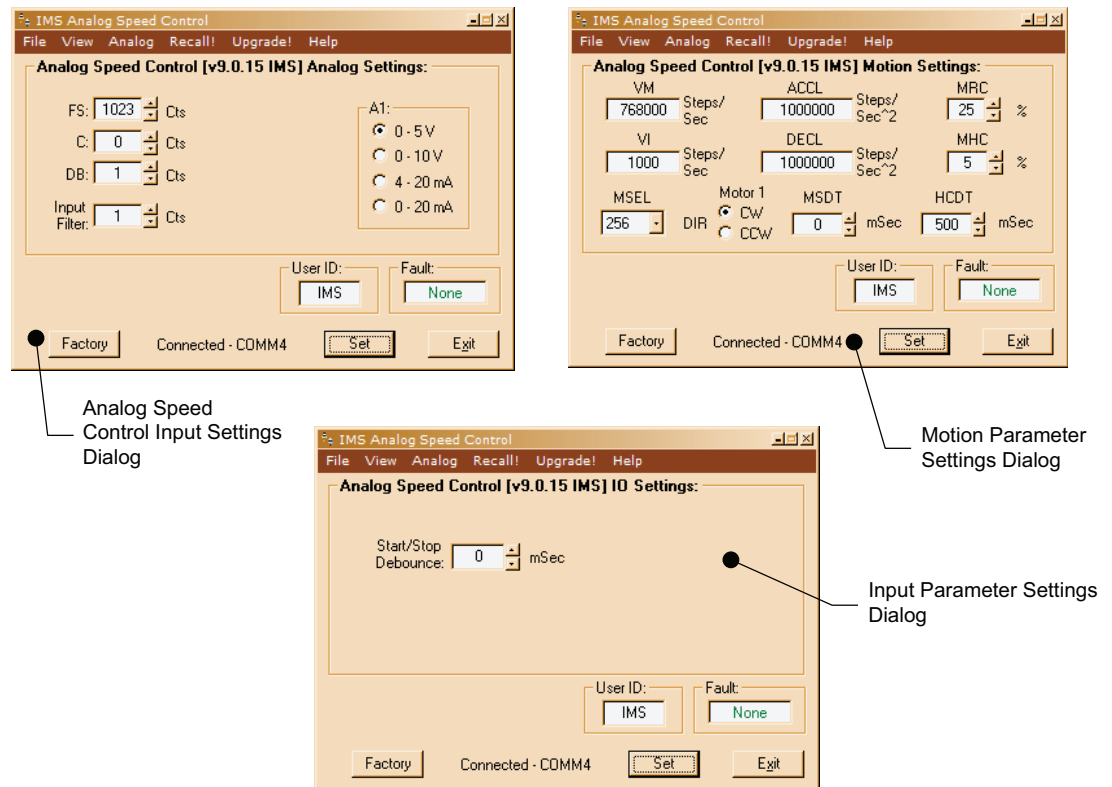


Figure GS.2: IMS SPI Motor Interface Showing Default Speed Control Settings