

## Installation Instructions

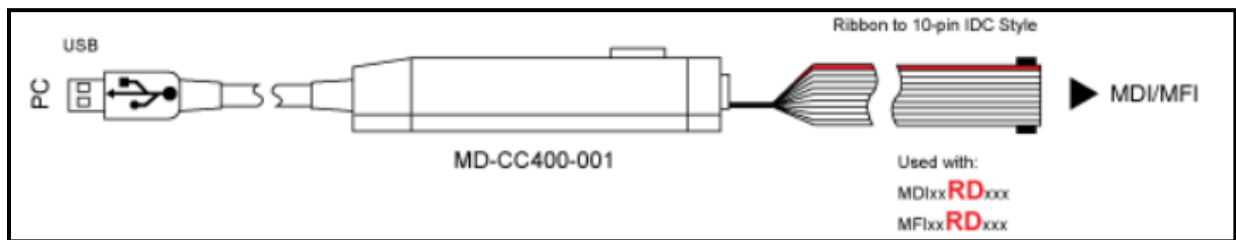
### Single Stepper Motor

Mount the motor and limit switches.

Connect the power supply cable to the motor.

DO NOT TURN ON THE POWER SUPPLY AT THIS TIME.

Connect the Host PC to the MDrivePlus Motion Control motor using the SEM Communications Converter Cable (RS232 / 485 Ribbon to 10-pin IDC Style cable).



<https://novantaims.com/application-note/installing-rs-422485-communication-converters/>

Select MDrive/MForce

Home > Resources > Application Notes > Installing RS-422/485 communication converters

## Description

Covers installation of the USB to serial communication converters offered by IMS, as well as tips for using third-party communications converters.

### Applicable

- Liberty\* MDrive
- MDrive Linear Actuator
- MDrive Plus
- MForce

## Details

Liberty\* MDrive **MDrive/MForce** Third Party

### Hardware Installation

Connect the device between the host and Liberty\* MDrive as shown below. The device is pre-wired and ready to use for a single host-to-motion controller connection.

The MD-CC40x-001 consists of three components:

1. Standard USB cable which plugs directly into your host computer USB port.
2. USB to RS422/485 inline converter body.
3. Interface cable which will interface to the P2 connector of the MDrive/MForce product.

## [Download and install MDrive/MForce SEM Terminal 5.2.0.0.](#)

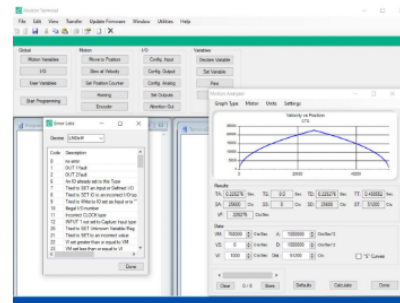
### MDrive and MForce products

### Programmable Motion Control

Integrated ASCII program editor and ANSI Terminal emulator. For use with MDrive and MForce Motion Control products. Motion Terminal is the next generation of the Motion Terminal program enhanced with advanced features and functionality.


#### Applicability:

- MDrive Motion Control
- MForce Motion Control
- MDrive Ethernet



  **Motion Terminal** 5.2.0.0  
1.43 MB

**IMS Terminal:** deprecated version for use with older Windows 32 Operating Systems

  **IMS Terminal** 4.4.6  
8.12 MB

Turn on the motor supply.

You should now see a sign-on message

"Copyright © 2010 Schneider Electric Motion USA"

appear within the Terminal window, along with the ">" prompt. This signifies that the computer and motor are communicating.

### Terminal Window

All MCode Instructions, Variables, and Flags, as listed in Section 3 of the [“Mcode Programming & Software Reference”](#) manual may be entered directly into the Terminal Window at any time.

Follow Link or see MCode.pdf on provided thumb drive.

\*\*\*\*\*

Load optional MTS Function Key Buttons

Click Edit>Save Preferences

Click Edit>Save Preferences As...

Note the location of the SEM Terminal folder.

Close (Exit) the SEM Terminal program.



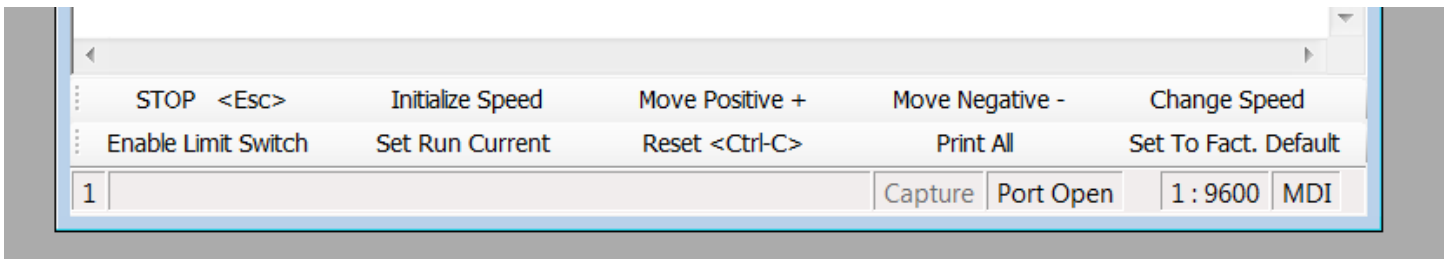
Open the SEM Terminal folder.

Rename the SEMTerminal.Itmx file to SEMBackup.Itmx.

Place a copy of the preferences file "**SEMTerminal.Itmx**" from the MTS Thumb Drive included with this package in the SEM Terminal folder.

Restart SEM Terminal.

Note the MTS Function Key buttons at the bottom of the terminal window. Group 1 shown (see lower left corner).



**Motors are preprogrammed by MTS for limit switches, run current and device name as appropriate.**

Click **<Initialize Speed>**

Click **<Move Positive +>** or **<Move Negative ->**

Motor will move in the chosen direction until the appropriate limit switch (if installed) is actuated or you click **<Stop>** or hit the **<ESC>** key.

Click **<Change Speed>**

Enter new speed in  $\mu$ Steps/sec to change the initial 50000 ( $\mu$ Steps/second) parameter with the desired speed.

Typical speeds for 256  $\mu$ Step/Step default resolution.

$\mu$ Steps/ second	RPM	BLT27S in./min.	Z axis In./min.
16667	20	1	.4
33333	40	2	.8
50000	60	3	1.2
66667	80	4	1.6
83333	100	5	2.0
10000	120	6	2.4
20000	240	12	4.8

Speeds higher than ~6-10 inches per minute are not recommended on MTS products without special conditions.

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## Multiple Stepper Motors

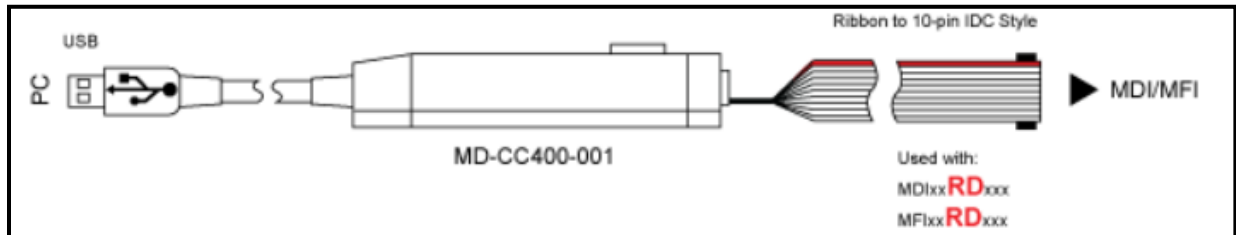
Mount the motors and limit switches.

Connect a power supply cable to just one motor.

**DO NOT TURN ON THE POWER SUPPLY AT THIS TIME.**

Connect the Host PC to the MDrivePlus Motion Control motor using the SEM Communications Converter Cable (RS232 / 485 Ribbon to 10-pin IDC Style cable).

Use the IDC ribbon connector closest to the MD-CC400-001 converter for single motor tests.



<https://novantaims.com/application-note/installing-rs-422485-communication-converters/>

Select MDrive/MForce

[Home](#) > [Resources](#) > [Application Notes](#) > Installing RS-422/485 communication converters

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### Applicable

- Liberty\* MDrive
- MDrive Linear Actuator
- MDrive Plus
- MForce

## Details

Liberty\* MDrive **MDrive/MForce** Third Party

### Hardware Installation

Connect the device between the host and Liberty\* MDrive as shown below. The device is pre-wired and ready to use for a single host-to-motion controller connection.

The MD-CC40x-001 consists of three components:

1. Standard USB cable which plugs directly into your host computer USB port.
2. USB to RS422/485 inline converter body.
3. Interface cable which will interface to the P2 connector of the MDrive/MForce product.

## [Download and install MDrive/MForce SEM Terminal 5.1.1.0.](#)

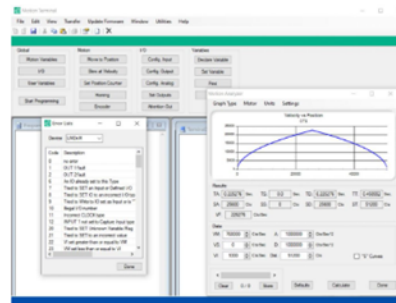
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Click Edit>Save Preferences

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Close (Exit) the SEM Terminal program.

Open the SEM Terminal folder.

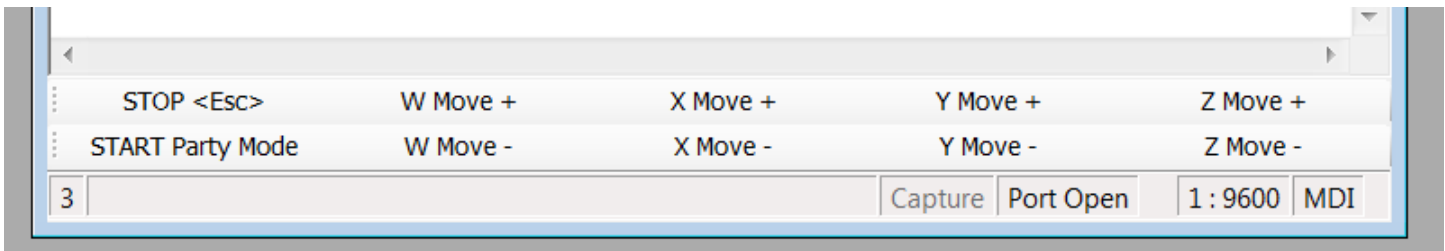
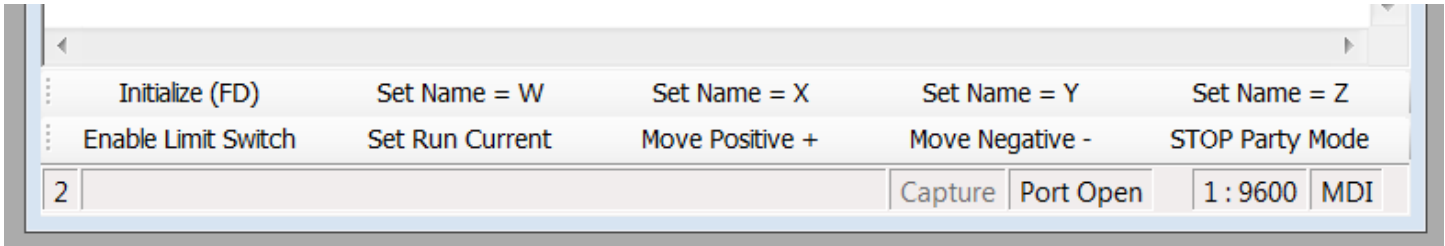
Rename the SEMTerminal.ltm file to SEMBackup.ltm.

Place a copy of the preferences file “**SEMTerminal.ltm**” from the MTS Thumb Drive included with this package in the SEM Terminal folder.

Restart SEM Terminal.



Note the MTS Function Key buttons at the bottom of the terminal window. Group 2&3 shown (see lower left corner).



**Motors are preprogrammed by MTS for limit switches, run current and device name as appropriate.**

Turn OFF motor power supply.

Connect all power cords and communication ribbon cable connectors to the appropriate motors.

Turn on power supply.

You should now see a garbled sign-on message "Copyright © 2010 Schneider Electric Motion USA" appear within the Terminal window, along with the ">" prompt. This signifies that multiple devices are communicating.

Click <Group 3> <START Party Mode>

You may now send commands to the specific named motor using Party Mode syntax.

[See MCode section 5, PY](#) Follow Link or see MCode.pdf on provided thumb drive.

Click < **W/X/Y/Z Move +>** or < **W/X/Y/Z Move ->**

Motor will move in the chosen direction at the programmed speed until the appropriate limit switch (if installed) is actuated or you click <**Stop**> or hit the <**ESC**> key.

Right click a function button to change its programmed speed. Enter new speed in  $\mu$ Steps/sec to change the default 50000 ( $\mu$  Steps/second) parameter with the desired speed.

Function Key Setup ✕

	Captions	Contents
F1	STOP <Esc>	^[
F2	W Move +	WSL 50000^J
F3	X Move +	XSL 50000^J
F4	Y Move +	YSL 50000^J
F5	Z Move +	ZSL 50000^J
F6	START Party Mode	^M PY=1^M^m^J
F7	W Move -	WSL -50000^J
F8	X Move -	XSL -50000^J
F9	Y Move -	YSL -50000^J
F10	Z Move -	ZSL -50000^J

MORE

Group 4

RUN MULTIPLE MOTORS WXYZ

Done

Cancel

- END -