



INTELLIGENT MOTION SYSTEMS, INC.
Excellence in Motion™

MD-CC400-000

USB to RS-422 Communications Converter Cable



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Description

The MD-CC400-000 is an in-line USB to RS-422 converter with integrated 10 pin IDC cable. This product is used to communicate to a single MDrive Motion Control Device. The included components will allow you to connect the USB port of a PC* directly to the MDrive Motion Control.

The MD-CC400-000 communications converter cable is designed to be used with all MDrive, MDrivePlus and MDrivePlus² Motion Control devices that utilize an RS-422 10 pin connector interface.

Supplied Components: MD-CC400-000 Communications Converter Cable, USB Cable, USB Drivers, IMS Terminal Interface Software.

* If your PC is already equipped with RS-422, the MD-CC400-000 cable is not required.

Electrical Specifications

MD-CC400-000 Specifications	
BAUD Rate	Up to 115 kbps
Connectors:	
USB	
RS-422 Side	10 Pin 2mm IDC
Ribbon Cable Length	6 feet (1.8 meters)
Power Requirement	Power from USB

Option- 10 Pin Locking Wire Crimp Adapter

An optional pin adapter is available to convert the 10 pin IDC connector on the Communications Converter Cable to a 10 pin friction lock wire crimp interface.

10 Pin IDC to Wire Crimp Adapter.....MD-ADP-H

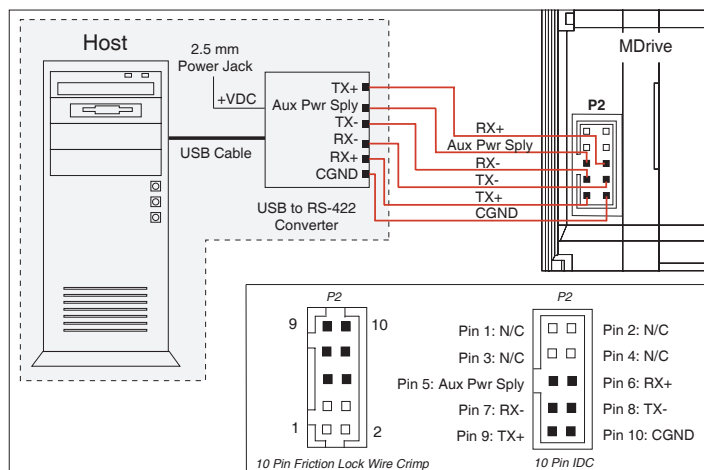
MD-CC400-000 Power Jack

The 2.5mm power jack located on top of the converter housing can be used to maintain logic power for MDrives that have an Aux-Power-Supply connection.

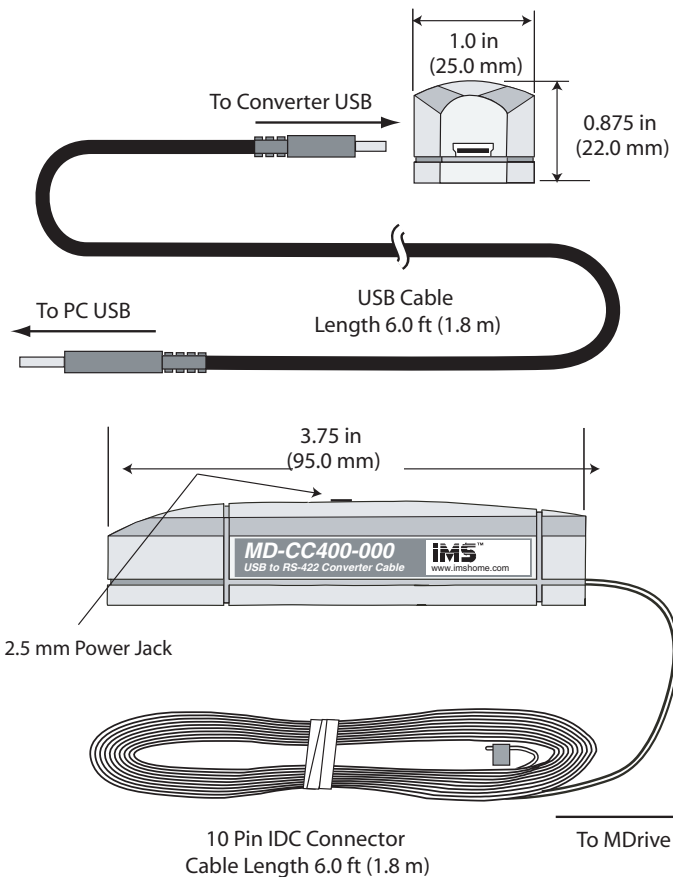
Center Pin..... +12 to 24 VDC unregulated

Outer Contact..... Ground

Typical MD-CC400-000 Interface



Details



WARNING! DO NOT connect or disconnect the MD-CC400-000 Communications Converter Cable from MDrive while power is applied!

Installation Procedure for the MD-CC400-000

These Installation procedures are written for Microsoft Windows XP Service Pack 2. Users with earlier versions of Windows please see the alternate installation instructions at the IMS web site (<http://www.imshome.com>).

The installation of the MD-CC400-000 requires the installation of two sets of drivers:

- Drivers for the IMS USB to RS-422 Converter Hardware.
- Drivers for the Virtual Communications Port (VCP) used to communicate to your IMS Product.

Therefore the Hardware Update wizard will run twice during the installation process.

The full installation procedure will be a two-part process: Installing the Cable/VCP drivers and Determining the Virtual COM Port used.

Installing the Cable/VCP Drivers

- 1) Plug the USB Converter Cable into the USB port of the MD-CC400-000.
- 2) Plug the other end of the USB cable into an open USB port on your PC.
- 3) Your PC will recognize the new hardware and open the Hardware Update dialog.
- 4) Select "No, not this time" on the radio buttons in answer to the query "Can Windows Connect to Windows Update to search for software?" Click "Next" (Figure 1).



Figure 1: Hardware Update Wizard

- 5) Select "Install from a list or specific location (Advanced)" on the radio buttons in answer to the query "What do you want the wizard to do?" Click "Next" (Figure 2).

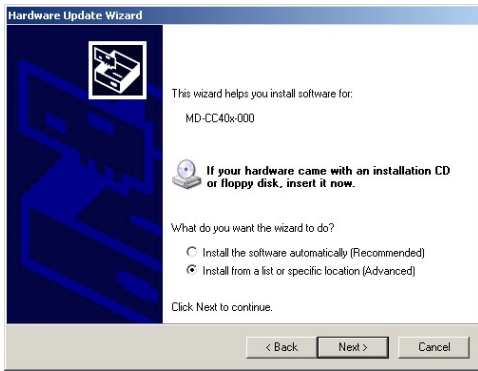


Figure 2: Hardware Update Wizard Screen 2

- 6) Select "Search for the best driver in these locations."
 - (a) Check "Include this location in the search."
 - (b) Browse to the MDrive CD [Drive Letter]:\ Cable_Drivers\MD CC40x000_DRIVERS.
 - (c) Click Next (Figure 3).

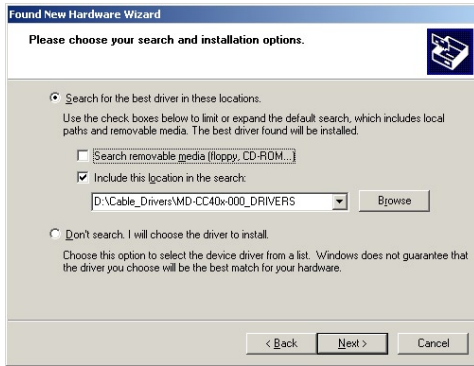


Figure 3: Hardware Update Wizard Screen 3

- 7) The drivers will begin to copy.
- 8) On the Dialog for Windows Logo Compatibility Testing, click "Continue Anyway" (Figure 4).



Figure 4: Windows Logo Compatibility Testing

- 9) The Driver Installation will proceed. When the Completing the Found New Hardware Wizard dialog appears, Click "Finish" (Figure 5).
- 10) Upon finish, the Welcome to the Hardware Update



Figure 5: Hardware Update Wizard Finish Installation

Wizard will reappear to guide you through the second part of the install process. Repeat steps 1 through 9 above to complete the cable installation.

- 11) Your IMS MD-CC400-000 is now ready to use.

Determining the Virtual COM Port (VCP)

The MD-CC400-000 uses a Virtual COM Port to communicate through the USB port to the MDrive. A VCP is a software driven serial port which emulates a hardware port in Windows.

The drivers for the MD-CC400-000 will automatically assign a VCP to the device during installation. The VCP port number will be needed when IMS Terminal is set up in order that IMS Terminal will know where to find and communicate with your IMS Product.

To locate the Virtual COM Port.

- 1) Right-Click the "My Computer" Icon and select "Properties".
- 2) Browse to the Hardware Tab (Figure 6), Click the Button labeled "Device Manager".

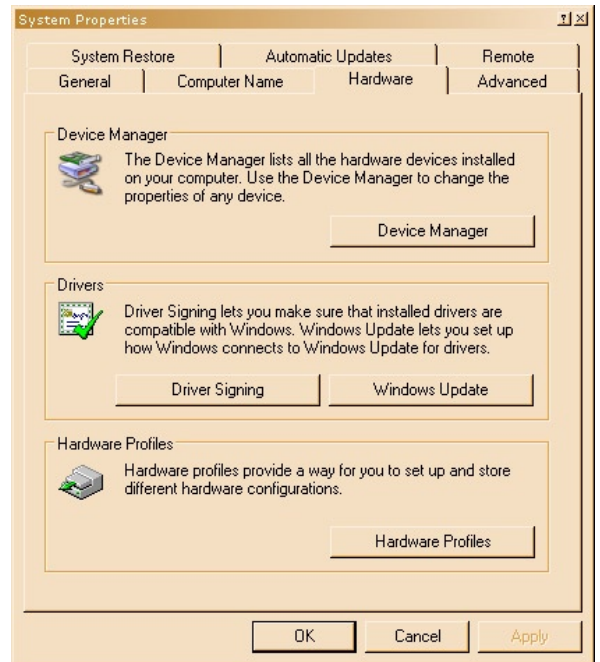


Figure 6: Hardware Properties

- 3) Look in the heading "Ports (COM & LPT)" IMS USB to RS422 Converter Cable (COMx) will be listed. The COM # will be the Virtual COM Port connected. You will enter this number into your IMS Terminal Configuration.

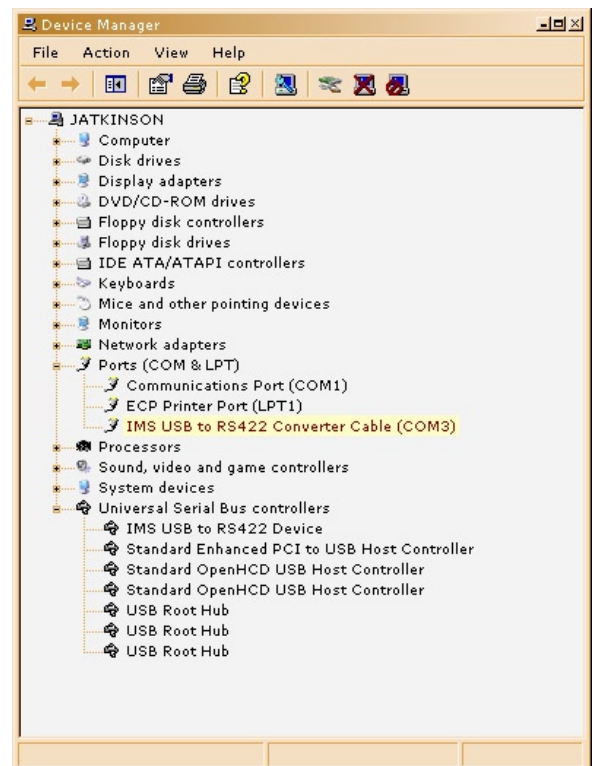


Figure 7: Windows Device Manager