

## Product Overview

RS-232 Port



LEDs



USB Port



1

### Install the Drivers

To prevent installation errors, do not plug in the hardware until you have already installed the drivers.

INSERT THE DRIVER CD INTO YOUR CD-ROM AND INSTALL THE DRIVERS BEFORE PLUGGING THE HARDWARE INTO THE PC.

If you have inserted the hardware first and the Found New Hardware Wizard launched, click cancel to exit the wizard.

2

### Connect the Converter

Connect the converter's USB Port to a USB port on your computer or USB hub.

When the installation is complete the converter will appear in Windows Device Manager as an additional COM port.

Most of the time a DB9 male will be a DTE. A DB9 female will usually be a DCE.

A DTE device is "Data Terminal Equipment." This includes computers, PLCs, and most devices that are not used to extend communications. (Think COMPUTER for DTE.)

A DCE device is "Data Communications Equipment." This includes modems and other devices that extend communications like RS-422/485, fiber optic converters or radio modems. (Think "MODEM" for DCE.)

If both devices have a DB9 male connection you will need a crossover cable. If both devices have a DB9 female connection you will need a cross-over cable.

When one device is male and one device is female, use a straight-through cable.

3

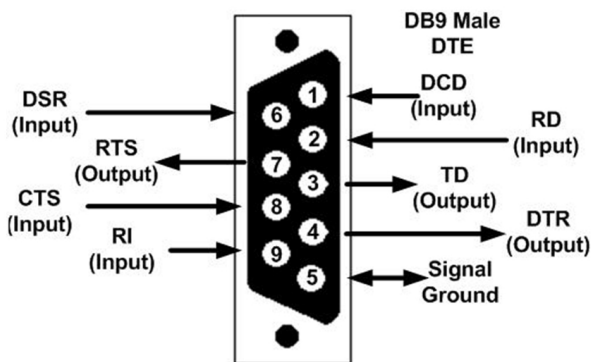
### Check LEDs

When everything is installed and connected the LED will blink to let you know that data traffic is passing through the converter.

4

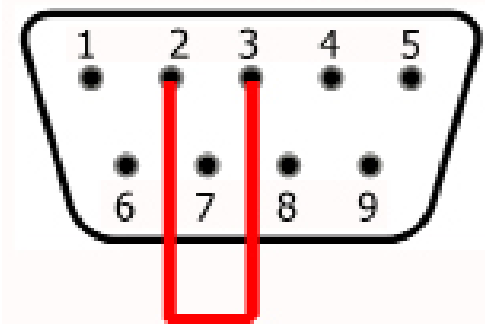
### Loopback Test

Loopback pins 2 and 3. Using Hyper Terminal or a similar program, connect to the COM port. Set the desired baud rate. Ensure that Hyper Terminal local echo is OFF. Transmit data. If the same data is returned the test is successful.



DB9 Pinout

DB9 Male Outside



## Troubleshooting

### Are My Devices Wired As DTE or DCE? (How to Check)

#### 1. Use Rule of Thumb

If the device plugs into the computer serial port and works normally, the device is wired as DCE (or the connection cable is a crossover type that makes it work as a DCE). If the device connects to the computer port using a "null modem" crossover cable, it is wired as DTE.

#### 2. Use an RS-232 Line Tester

A quick and easy way to determine the DTE/DCE port type is to use a RS-232 line tester such as the 9PMTT. The tester can show the signal state of any active RS-232 data lines using LEDs. Active data lines are output from a device. They may be either High or Low.

## Model Numbers

The converter comes in two formats: "Standard" and "Locked Serial Number." With the standard format, each unit has a unique USB serial number. In the locked serial number format all units with the same model number use the same USB serial number. The version you select depends on your application.

Standard - Every unit is assigned a unique COM port and a driver must be installed for each unit. Ideal application: fixed locations.

Locked Serial Number - Units with the same model number share the same COM port. The driver only needs to be installed once for each model number. Ideal application: field service.

Note: The locked serial versions, USO9ML2-LS, share a common serial number and will install using the same COM port each time. The standard versions, USO9ML2, have unique serial numbers. Drivers must be installed for each unit, and a unique COM port will be assigned each time.

## Recommended Accessories

9PAMF6  
6ft DB9 to DB9 Cable  
Male to Female



USBAMB-6F  
6 ft. USB Cable



# QUICK START GUIDE



## USO9ML2 Isolated USB to RS-232 Converter

Before you begin, be sure you have the following:

- + USO9ML2
- + One Meter USB Cable
- + CD-ROM with Drivers

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