

USB to RS-422/485 CONVERTER

The model USB-422/485 Converter is an intelligent module which connects to a PC Universal Serial Bus port providing a high-speed asynchronous RS-422/485 serial port. The USB-422/485 Converter provides easy connectivity between the PC and standard serial communication ports, not requiring PC reconfiguration, assignment of IRQs or jumper settings.

SYSTEM REQUIREMENTS

- A PC with a minimum of a 75MHz Pentium, or equivalent
- A minimum of 16M bytes of RAM
- One available USB type port compliant with USB1.1
- Drivers are included on our software master CD that normally ships with ACCES hardware.
- Supported Operating Systems: Windows 98/SE, 2000, Me, XP, Linux - built-in to kernel 2.4.0+, MAC OS/8.2 and higher (including X). Driver information is subject to change. Check with ACCES for updated driver information.

CONNECTIONS TO SYSTEM

The USB-422/485 Converter is equipped with a USB cable and a USB type A connector for connection to a PC USB port and a male DB-9 for connection to an RS-422/485 equipped data or communication terminal.

Each mode of operation will require a different cable.

For RS-422 mode, a shielded cable with two twisted pair are required for optimal operation. Bias is provided on RX+ and RX- lines. External Bias is required on TX- and TX+ lines. Normally this Bias is provided by the connecting device receiver.

For the RS-485 mode, a shielded cable with a twisted pair is required for optimal operation. Connections are required between +TX and +RX pins 2 and 9, and between -TX and -RX pins 3 and 1. This two wire HALF DUPLEX mode will give a local echo. Bias is provided on RX+ and RX- lines.

INDICATOR

A green LED illuminates to indicate transmission or reception of data over the serial port.

INSTALLING THE USB-422/485 CONVERTER

Note: The RS-422/485 terminal should not be connected to the converter before the drivers are installed.

1. Power on your computer. Verify the USB port is enabled. Insert the floppy disc or CD containing the software for the USB-422/485 Converter.
2. Connect the cable of the converter to the USB port of the PC. (USB-422/485 is hot-pluggable.)
3. Windows will detect the USB device. Install the driver as described in the next section.

DRIVER INSTALLATION

1. The "Add New Hardware Wizard" will display. Click "Next". Click: "Search for the best driver..."
2. Select: "Specify a location" and specify the drive letter for the CDROM or floppy drive where you have inserted the software. Click: "Next" to start search.
3. Click "Next" to continue.
4. Click "Finish". At this point Windows has finished installing the USB-422/485 Converter driver.
5. The USB-422/485 is detected. Click "Next" to continue.
6. Connect the RS-422/485 communication terminal to the USB-422/485 converter.
7. Click on **Start, Settings, and Control Panel**. Double click **System** and click on **Device Manager**. Verify the USB-422/485 Converter is in the list of COM PORTS as "USB to Serial Adapter".
8. Installation is complete. The PORTS section of Device Manager mentioned in step 7 shows the new COM port number, following the "USB to Serial Adapter:"

SPECIFICATIONS

Communication speed	300 to 920K baud
Power consumption	50mA @5volt (power provided by the PC's USB port.)
Temperature Range	0°C to 50°C.
Humidity Range	10 to 90% R.H. Non-condensing.
Modes of Operation	RS-422/485 Full Duplex (4-wire). May need external bias on +Tx and -Tx if this is not provided by another device. or RS-485 Half Duplex (2-wire) with local echo. Connections between +Tx and +Rx pins 2 & 9 and between -Tx and -Rx pins 3 & 1 have to be made in the external cable.
Termination	None
Bias	4.7K resistors as pull-up/pull-down Rx+ and Rx- respectively.

INTERFACE CONNECTOR: DB-9, Male

PIN ASSIGNMENTS:

PIN#	SIGNAL
1	-Rx
2	+Tx
3	-Tx
4	NC
5	GND
6	NC
7	NC
8	NC
9	+Rx

UNINSTALLING THE USB-422/485 CONVERTER

1. Unplug the USB-422/485 Converter.
2. Insert the converter software diskette or CD.
3. Run the FTDIUNIN.EXE program from the diskette and reboot the PC.