

GC-ATC-850

Isolated USB to RS-232/422/485 Interface Converter

User's Manual



Introduction

The GC-ATC-850 module is a cost-effective way to convert RS485 industrial buses to a USB interface. When connected to a PC USB port the GC-ATC-850 module is automatically detected and is installed as a native COM port which is compatible with any existing serial communication application. The GC-ATC-850 has a 384 byte receive buffer with an adjustable timeout and a 128 byte transmit buffer with auto-transmit control. The GC-ATC-850 makes it easier to add RS485 devices to your system with easy plug-and-play.

Features

- Computer interface: USB 1.1 2.0 Plug and Play.
- Operational system virtual serial port driver.
- Supports Windows 98/ME/XP/2000/CE/Vista, MAC & Linux 2.4.20 or superior.
- Field Interfaces:RS-232,RS-422,RS-485 Half Duplex ,
- Automatic flow control for RS485 Half Duplex.
- Transmission rate:
RS232 from 300 bps to 460.8Kbps.
RS485 from 300 bps to 921.6Kbps.
- Maximum RS-485 cable length : 1200 m
- Maximum number of devices in the RS485 network: Half Duplex to 32 devices
- Power: from the USB port.
- Consumption: <200 mA.
- Isolation: Isolation voltage 3500VRMS 500VDC sequence
- USB connection: USB -B female connector. 1m USB-A to USB-B cable.
- RS-232 connector:DB9 male
- RS-422/485 connector: 6-pos terminal socket
- Metal case size: 105x85 x27 mm
- Operating environment: -25 to 70°C, 10 to 90% relative humidity, non-condensing.

Wiring configuration

The RS-232 termination of the Interface is implemented as a DB9 plug. RS-422/485 termination of the Interface is implemented as a six position terminal. The pin assignments for the connector can be found in the following table as well as on a sticker applied to the unit.

RS-232 Pinout at DB9 Male

PIN#	RS-232
2	RXD
3	TXD
5	GND
7	RTS
8	CTS

RS-422/485 Pinout at 6-bit terminal

PIN#	RS-422	RS-485
1	T+	485+
2	T-	485-
3	R+	-
4	R-	-
5	GND	GND

LED indication

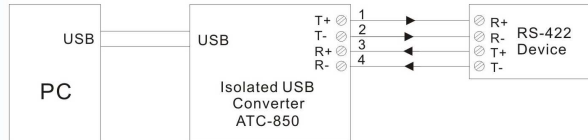
- Yellow LED Data Sending from USB port to RS-485 Serial Port side
- Green LED Data Receiving from RS-485 Serial port side to USB port
- Red LED Indication power

Wiring examples

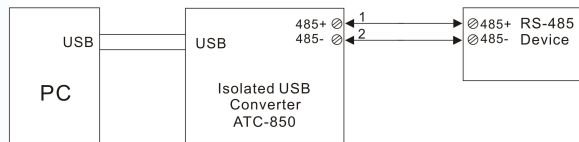
RS-232 Wiring



RS-422 Wiring

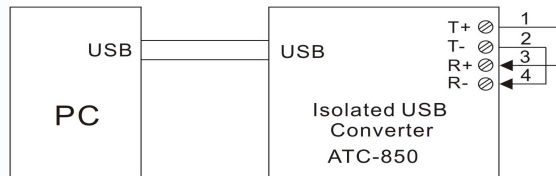


RS-485 Wiring



Check the GC-ATC-850 (Loop Back)

1. Cross connect the transmit and receive lines for RS-422. For RS-232 only connect TXD and RXD together.
2. Connect a PC to the USB Port.
3. Using Hyper Terminal or similar program, connect to the appropriate COM port. Ensure Hyper Terminal local echo is OFF.
4. Transmit data. If the same character string is returned, the test is good.



Driver Installation

Follow the steps below to install driver of USB-High Speed Serial Converter:

(drivers located in ATC850 folder)

1. Power on your computer and make sure that the USB port is enabled and working properly.
2. Plug in the USB-High Speed Serial Converter into the USB port and run the **Add New Hardware Wizard** to assist you in setting up the new device. Click **Next** to continue.
3. Insert the USB-HS Serial Converter software driver into the CD-ROM drive and click Next to continue.
4. Windows will detect the driver (**FTDIBUS.INF**) and shows the **USB HS SERIAL CONVERTER**. Click Next to continue installation.
5. Click Next to continue and let Windows copy the needed files to your hard disk.
6. When Windows finished installing the software required for the new **USB to Serial Cable**, click Finish.

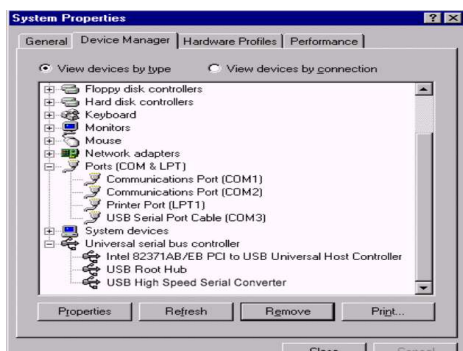


(Drivers are located in ATC850 folder)

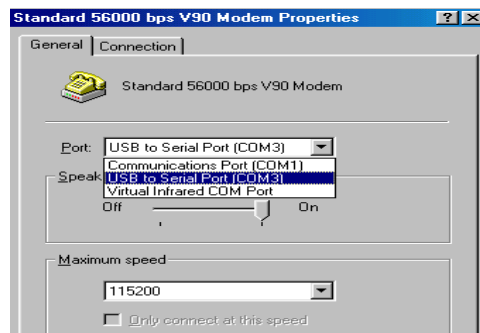


Setting Up the RS232 Serial Device

Follow the steps below to connect your RS232 Serial Device (ie: Modem) to the USB port of your PC:



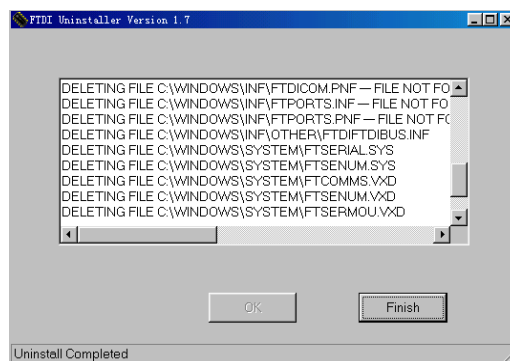
1. Turn off your Modem. Plug the DB 9 (or DB 25) connector of the USB-HS Serial Converter into your Modem. Connect the other end of the USB-HS Serial Converter to an USB type A to type B cable. Turn on the Modem afterwards.
2. Turn on your computer and plug in the USB connector of the USB-HS Serial Converter into the USB port.
3. If you have already installed a Modem device before, click Start, Settings, and Modems. Open Modems Properties, select the Modem, and click Properties. In General tab, please change the **Port** value to **USB Serial Port (COM3)**.
4. After finishing these processes, you can use USB to Serial Bridge Cable to connect RS232 Serial 56K FAX Modem and execute the Dial-up function to connect Internet, and send the FAX with the FAX software(ie: Microsoft FAX) properly.



Uninstalling the Driver Program

If you want to remove the USB-HS Serial Converter driver program, you can uninstall it by following the steps below:

1. Unplug the USB-HS Serial Converter from your PC.
2. Run the **FTDIUNIN.EXE** program from the software CD-ROM, Click finish then reboot the PC.



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