RS-485 Mode Block Configuration

Jumper	Function
1-2	TxD / RxD Termination of 120 Ohm. This jumper should only be populated at each end of the cable to meet RS-485 termination requirements.
5-6 7-8	TxD / RxD Single pair (half duplex for RS-485). Populate both these jumpers.
11-12	Enable TxD Driver only when transmitting. This is required by the RS-485 as multiple devices can transmit over the same twisted pair. When a RS-485 is not transmitting, it's transmitter must be turned off to allow other devices to communicate over the same wire.
13-14 (Echo) OR 15-16 (No Echo)	RxD Always Enabled. In this RS-485 mode characters transmitted by the RS-485 device will also be received by the same device. These echoed characters are usually stripped out by the application software. Transmit Data Echo Suppression Mode. In this mode characters transmitted by the RS-485 device will NOT be received by the same device. In this mode there is no need for the application software to strip out the transmitted data from the received data as it is handled by the hardware.
19-20	CTS Always Enabled. As there is no hardware handshaking in RS-485, CTS should be permanently enabled to allow unrestricted flow of data. If handshaking is required for RS-485 it can be done using X-On / X-Off handshaking protocol.

Note : all other positions = no jumper populated.

Sometimes, when operating in RS-422 or RS-485, it is necessary to configure 120 Ohm termination of the data transmission lines. Generally this must be done in the cabling, since this depends on the installation of connections. Before applying the option, check your cable specification for proper impedance matching.

Optical Isolation & Surge Protection

Optical isolation and surge protection are available to USB-xCOMi-SI.

Each RS-422/485 port is individually optically isolated with 2000 volt DC optical isolation. The optical isolation protects your PC or notebook from spikes and surges on the RS-422/485 network, by converting the electrical pulse into an optical signal and then changing it back into an electrical pulse. Your computer is well protected, since the surges and spikes cannot cross the optical link.

Each RS-422/485 port is individually protected by surge protector to withstand electrostatic discharge and power surges up to 25KV ESD. Surge suppression on all signals prevent from damages caused by lighting or high voltage.

RS-232 Signal Pin-outs of DB-9 Male

Pin 1	DCD
Pin 2	RxD
Pin 3	TxD
Pin 4	DTR
Pin 5	GND
Pin 6	DSR
Pin 7	RTS
Pin 8	CTS
Pin 9	RI

RS-422 Signal Pin-outs of DB-9 Male

Pin 1	TxD- (A)
Pin 2	TxD+(B)
Pin 3	RxD+(B)
Pin 4	RxD-(A)
Pin 5	GND
Pin 6	RTS- (A)
Pin 7	RTS+(B)
Pin 8	CTS+(B)
Pin 9	CTS- (A)

RS-422 Signal Wiring

- **Point-to-Point 4 Wire Full Duplex**

USB-xCOMi		RS-422 Device
2	TxD+(B) ⟷	RxD+ (B)
1	TxD- (A) ⟷	RxD- (A)
3	RxD+ (B) ⟷	TxD+(B)
4	RxD- (A) ⟷	TxD- (A)
5	GND ⟷	GND

Change COM Port Properties & COM Port Number

This feature is particularly useful for programs, such as HyperTerminal, which only work with COM1 through COM4. Please ensure that you do not change the COM Port Number already in use.

To change the virtual COM port properties:

- Select the "USB Serial Port"
- Click "Properties"
- Select "Port Setting"
- Select "Advanced"
- Click the drop down arrow on COM Port Number and scroll to the required COM port.
- Select "OK"
- Return to the Device Manager Screen. You will see that the USB Serial Port installation has been changed to the new COM Port Number.

Uninstalling Windows XP/2000/2003/9x/SE/ME Drivers

To uninstall the Windows XP/2000/2003/9x/SE/ME drivers :

- Remove the device from the USB Port or Hub
- Go to the Control Panel
- Open the Add or Remove program
- Select "FTDI USB Serial Converter Driver" or "FTDI FT2232 USB Driver"
- Click "Change/Remove"
- Select "Continue to delete the drivers"
- Select "Finish"
- Reboot the computer to complete the driver uninstall

Hardware Installation & RS-422/485 Mode Configuration of USB to RS-422/485 Adapter

Jumper Settings for RS-422 or RS-485

Inside the unit, there is a 10 x 2 (20 pin) header block which is jumpered to select the mode of operation. You will need to open up the plastics or metal covers and set the jumper setting to RS-422 mode or RS-485 mode as per the requirements of your application. After the setting of jumpers and connecting power supply to the adapter, you then plug the adapter to USB port to start driver installation. The RS-422 & RS-485 Mode Block Configuration Settings are listed as follows.

RS-422 Mode Block Configuration

Jumper	Function
1-2	TxD / RxD Termination of 120 Ohm. This jumper should be always populated for RS-422 mode.
3-4	CTS / RTS Termination of 120 Ohm. This jumper should be always populated for RS-422 mode.
9-10	TxD Driver Always ON. As RS-422 is full duplex point to point, the transmitter should always be enabled.
13-14	RxD Driver Always ON. As RS-422 is full duplex point to point, the receiver should always be enabled.
17-18	Enable CTS Handshaking. This setting allows the data flow to be controlled using CTS/RTS handshaking if required by the application.

Note : all other positions = no jumper populated.