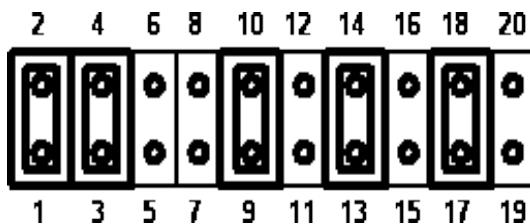


### Jumper Settings for RS-422 or RS-485

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.

Example jumper block setting ( RS-422 mode )



### 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.

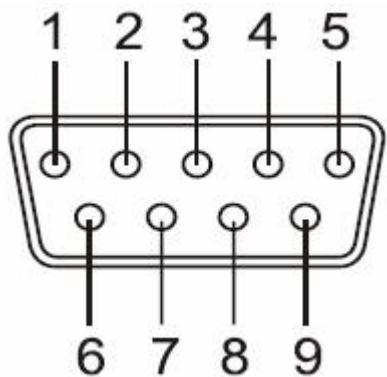
## RS-485 Mode Block Configuration

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 RS-485 as multiple devices can transmit over the same twisted pair. When a RS-485 is not transmitting, its 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.

## RS-422/485 Pin-outs & RS-422/485 Signal Wiring

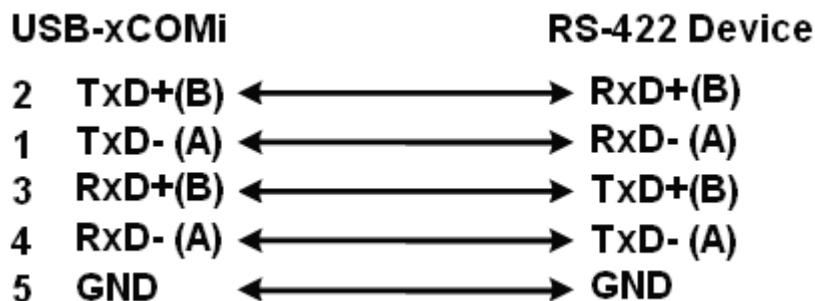


### RS-422 Signal Pin-outs of DB-9 Male

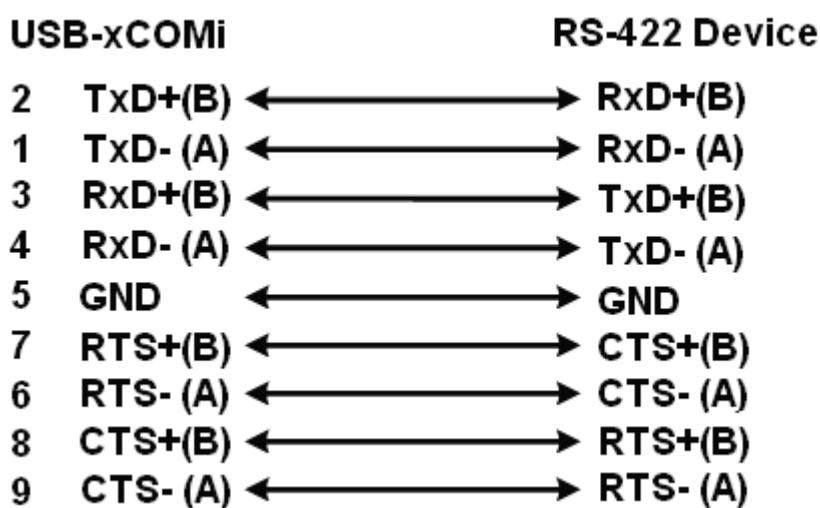
Pin 1	TxD- (A)
Pin 2	TxD+(B)
Pin 3	RxD+(B)
Pin 4	RxD-(A)
Pin 5	GND
Pin 6	RTS- (A)
Pin 7	RTS+(B)
Pin 8	CTS+(B)
Pin 9	CTS- (A)

## RS-422 Signal Wiring

### ● Point-to-Point 4 Wire Full Duplex



### ● RS-422 with Handshaking



## RS-485 2-Wire (Half duplex) Signal Pin-outs of DB-9 Male

Pin 1	Data- (A)
Pin 2	Data+(B)
Pin 5	GND

## RS-485 Signal Wiring

### ● Multidrop RS-485 2-Wire Half-duplex

