

Hardware Setting & Mode Configuration

Inside the unit, there are four 4-pin DIP switch which is set to select the mode of operation. You can set the switch settings to RS-232 mode, RS-422 mode, or RS-485 mode, as per the requirements of your application.

The RS-232 & RS-422 & RS-485 Mode Block Configuration Settings are listed as follows.

RS-232 & RS-422 & RS-485 Mode Block Configuration

SW1~SW4 (DIP Switch) for Mode Setting

Operation Mode		S1	S2	S3	S4
RS-232	Standard RS-232 Mode	OFF	ON	ON	ON
RS-422	4 wire with Handshaking	ON	ON	ON	ON
RS-485	Full Duplex (4 wire)	ON	OFF	ON	ON
	Half Duplex (2 wire) - with Echo	ON	OFF	OFF	ON
	Half Duplex (2 wire) - without Echo	ON	OFF	OFF	OFF

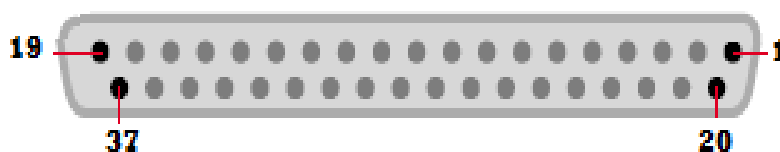
Inside the unit, there are four 3 x 7 (JP1~JP4) header blocks which are jumpered Tx, Rx, CTS 120 Ohm termination resistors and Tx, Rx 750 Ohm BIASing resistor.

You will need to open up the metal case and set the jumper setting for RS-422 mode or RS-485 mode as per the requirements of your application.

JP1~JP4 settings are listed as follows:

Jumper	Function
1-2 enable	Tx Termination of 120 Ohm. This jumper should always be populated for RS-485 mode.
2-3 disable	
4-5 enable	Pull-up Tx+ to VCC by 750 Ohm Bias resistor. This jumper should be populated for pull-up Tx+.
5-6 disable	
7-8 enable	Pull-down Tx- to GND by 750 Ohm Bias resistor. This jumper should be populated for pull-down Tx-.
8-9 disable	
10-11 enable	Rx Termination of 120 Ohm. This jumper should always be populated for RS-422 mode.
11-12 disable	
13-14 enable	Pull-up Rx+ to VCC by 750 Ohm Bias resistor. This jumper should be populated for pull-up Rx+.
14-15 disable	
16-17 enable	Pull-down Rx- to GND by 750 Ohm Bias resistor. This jumper should be populated for pull-down Rx-.
17-18 disable	
19-20 enable	CTS Termination of 120 Ohm. This jumper should always be populated for RS-422 mode.
20-21 disable	

DB-37 Female Connector Pin-outs



RS-232 Signal Pin-outs of DB-37 Female

Pin 1	.nc.	Pin 20	.nc.
Pin 2	DCD(3)	Pin 21	DTR(3)
Pin 3	GND	Pin 22	DSR(3)
Pin 4	CTS(3)	Pin 23	RTS(3)
Pin 5	RxD(3)	Pin 24	TxD(3)
Pin 6	.nc.	Pin 25	DCD(4)
Pin 7	DTR(4)	Pin 26	GND
Pin 8	DSR(4)	Pin 27	CTS(4)
Pin 9	RTS(4)	Pin 28	RxD(4)
Pin 10	TxD(4)	Pin 29	.nc.
Pin 11	DCD(2)	Pin 30	DTR(2)
Pin 12	GND	Pin 31	DSR(2)
Pin 13	CTS(2)	Pin 32	RTS(2)
Pin 14	RxD(2)	Pin 33	TxD(2)
Pin 15	.nc.	Pin 34	DCD(1)
Pin 16	DTR(1)	Pin 35	GND
Pin 17	DSR(1)	Pin 36	CTS(1)
Pin 18	RTS(1)	Pin 37	RxD(1)
Pin 19	TxD(1)		

RS-422 Signal Pin-outs of DB-37 Female

Pin 1		Pin 20	CTS- (3)
Pin 2	TxD- (3)	Pin 21	RxD- (3)
Pin 3	GND	Pin 22	RTS- (3)
Pin 4	CTS+(3)	Pin 23	RTS+(3)
Pin 5	TxD+(3)	Pin 24	RxD+(3)
Pin 6	CTS- (4)	Pin 25	TxD- (4)
Pin 7	RxD- (4)	Pin 26	GND
Pin 8	RTS- (4)	Pin 27	CTS+(4)
Pin 9	RTS+(4)	Pin 28	TxD+(4)
Pin 10	RxD+(4)	Pin 29	CTS- (2)
Pin 11	TxD- (2)	Pin 30	RxD- (2)
Pin 12	GND	Pin 31	RTS- (2)
Pin 13	CTS+(2)	Pin 32	RTS+(2)
Pin 14	TxD+(2)	Pin 33	RxD+ (2)
Pin 15	CTS- (1)	Pin 34	TxD- (1)
Pin 16	RxD- (1)	Pin 35	GND
Pin 17	RTS- (1)	Pin 36	CTS+(1)
Pin 18	RTS+(1)	Pin 37	TxD+(1)
Pin 19	RxD+(1)		

RS-485 4-Wire (Full duplex) Signal Pin-outs of DB-37 Female

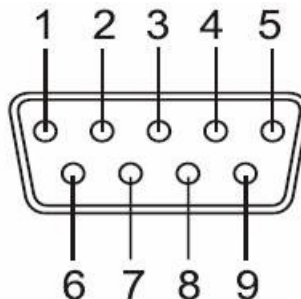
Pin 1		Pin 20	
Pin 2	TxD- (3)	Pin 21	RxD- (3)
Pin 3	GND	Pin 22	
Pin 4		Pin 23	
Pin 5	TxD+(3)	Pin 24	RxD+(3)
Pin 6		Pin 25	TxD- (4)
Pin 7	RxD- (4)	Pin 26	GND

Pin 8		Pin 27	
Pin 9		Pin 28	TxD+(4)
Pin 10	RxD+(4)	Pin 29	
Pin 11	TxD- (2)	Pin 30	RxD- (2)
Pin 12	GND	Pin 31	
Pin 13		Pin 32	
Pin 14	TxD+(2)	Pin 33	RxD+ (2)
Pin 15		Pin 34	TxD- (1)
Pin 16	RxD- (1)	Pin 35	GND
Pin 17		Pin 36	
Pin 18		Pin 37	TxD+(1)
Pin 19	RxD+(1)		

RS-485 2-Wire (Half duplex) Signal Pin-outs of DB-37 Female

Pin 1		Pin 20	
Pin 2	Data- (3)	Pin 21	
Pin 3	GND	Pin 22	
Pin 4		Pin 23	
Pin 5	Data+(3)	Pin 24	
Pin 6		Pin 25	Data- (4)
Pin 7		Pin 26	GND
Pin 8		Pin 27	
Pin 9		Pin 28	Data+(4)
Pin 10		Pin 29	
Pin 11	Data- (2)	Pin 30	
Pin 12	GND	Pin 31	
Pin 13		Pin 32	
Pin 14	Data+(2)	Pin 33	
Pin 15		Pin 34	Data- (1)
Pin 16		Pin 35	GND
Pin 17		Pin 36	
Pin 18		Pin 37	Data+(1)
Pin 19			

RS-232 DB9 Male Connector Pin-outs



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

Pin 1	DCD
Pin 2	RxD
Pin 3	TxD
Pin 4	DTR
Pin 5	GND

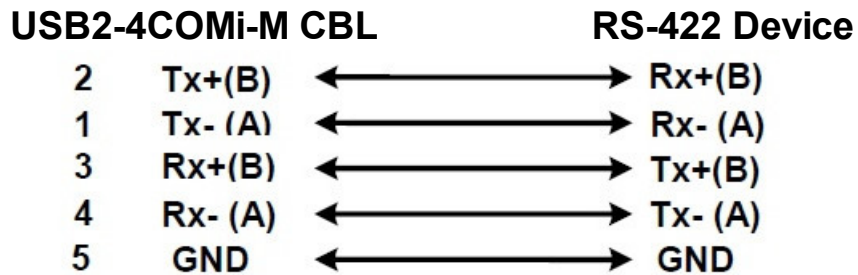
Pin 6	DSR
Pin 7	RTS
Pin 8	CTS
Pin 9	.nc.

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

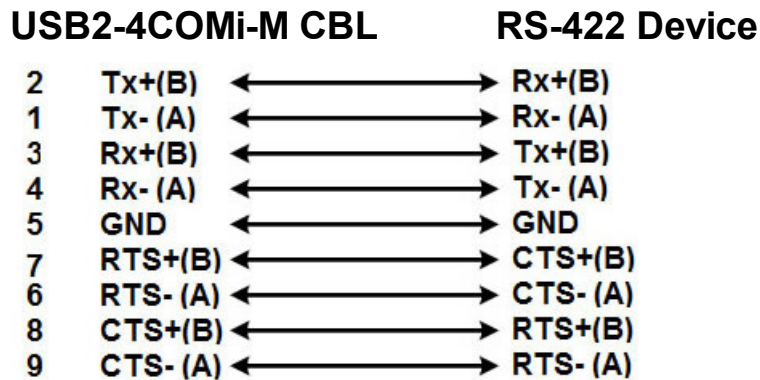
Pin 1	TxD- (A)
Pin 2	TxD+(B)
Pin 3	RxD+(B)
Pin 4	RxD- (A)
Pin 5	GND
Pin 6	RTS- (A)
Pin 7	RTS+(B)
Pin 8	CTS+(B)
Pin 9	CTS- (A)

RS-422 Signal Wiring

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



● **RS-422 with Handshaking**



RS-485 4-Wire (Full duplex) Signal Pin-outs of DB-9 Male

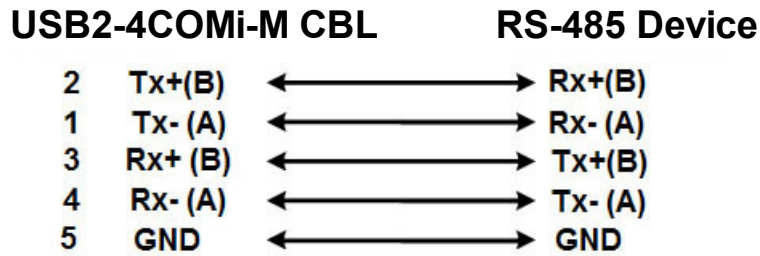
Pin 1	TxD- (A)
Pin 2	TxD+(B)
Pin 3	RxD+(B)
Pin 4	RxD-(A)
Pin 5	GND

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

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



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

