

7 | Loopback Test

You can perform a loopback test on the converter by connecting a PC's COM port, or a USB to RS-232 COM port, to the BB-4WSD9R (BB-4WSD9TB).

Set the DIP switch on the converter to RS-485, Echo ON, 2-wire, 2-wire.

Use HyperTerminal or a similar terminal program to open the appropriate COM port on the PC.

Set the Baud Rate to 9600 and turn off HyperTerminal Local Echo. Start typing.

If you see the characters that you are typing, the Loopback is successful.

8 | Biasing

Bias is provided by 4.7k Ω pull-up/down resistors on the Data-In lines. This value is adequate for most applications without termination.

Recommended Accessories

12VDC, 6W Power Supply, 2.5mm Plug,
International AC Input
BB-SMI6-12-P230C1



DB9 Male to DB9 Female Cable,
1.8 m (6 ft) length
BB-9PAMF6



B+B SMARTWORX

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+ QUICK START GUIDE



Models BB-4WSD9R, BB-4WSD9TB

Port-Powered RS-232 to RS-485 Converter

Before you begin, be
sure you have the following:

- + RS-232/485 Isolated Converter
(#BB-4WSD9R or #BB-4WSD9TB)
- + DB9 to DB9 Adapter Cable (not included)
- + 12VDC, 6W Power Supply (not included)

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Product Overview



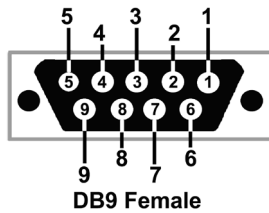
1 Getting Started

Models BB-4WSD9R & BB-4WSD9TB convert RS-232 signals to RS-422/RS-485 and vice versa. RS-232 TD signals are converted to balanced RS-422 or RS-485 signals. RD RS-422/485 signals are converted to RS-232.

2 RS-232 Pinouts

Table 1. RS-232 PINOUT

PIN #	SIGNAL
1	DCD
2	RD
3	TD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS

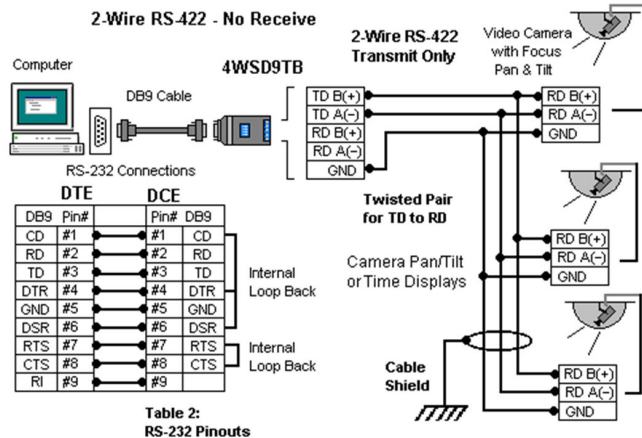
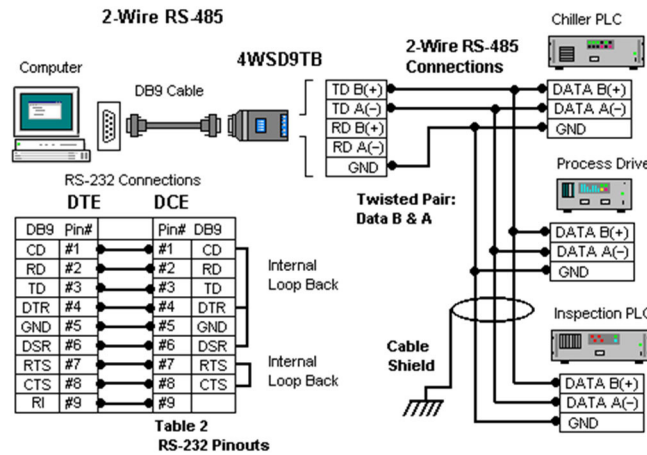


3 RS-422-RS-485

Table 2. RS-422/485 PINOUT

PIN #	SIGNAL
2	RD (A)-
3	TD (B) +
4	GND
6	GND
7	RD (B)+
8	TD (A)-

4 Mode Wiring Examples



5 Automatic Send Data Control

Unlike converters that require programming the hardware handshake signals to control RS-422/RS-422 operation, Models BB-4WSD9TB or BB-4WSD9R provide Automatic Send Data Control, enabling the driver only when transmitting:

In RS-485 Modes, the RS-485 driver is enabled by circuitry which senses the RS-232 TD Input.

In RS-485 Half-Duplex Mode, the receiver is enabled when not transmitting (Echo Off).

In RS-485 Full-Duplex Mode, the receiver is always enabled.

In RS-422 Full-Duplex Mode, the transmitter and receiver are always enabled.

6 DIP Switch Settings

Table 3. SWITCH SETTINGS RS-485 2-Wire Half-Duplex

SWITCH #	POSITION
1	RS-485
2	Echo Off
3	2-wire
4	2-wire

Table 4. SWITCH SETTINGS RS-485 4-Wire Full-Duplex

SWITCH #	POSITION
1	RS-485
2	Echo On
3	4-wire
4	4-wire

Table 5. SWITCH SETTINGS RS-422 4-Wire Full-Duplex

SWITCH #	POSITION
1	RS-422
2	Echo On
3	4-wire
4	4-wire