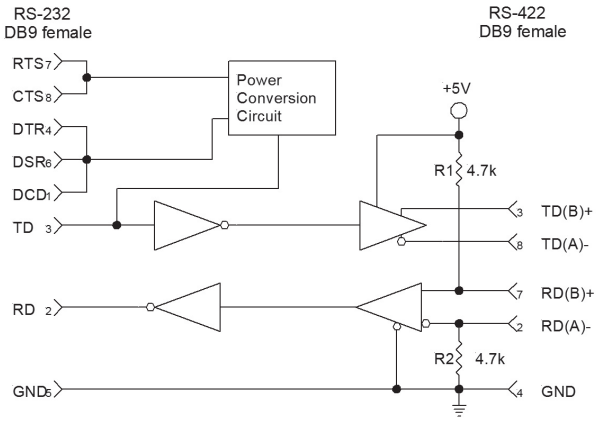
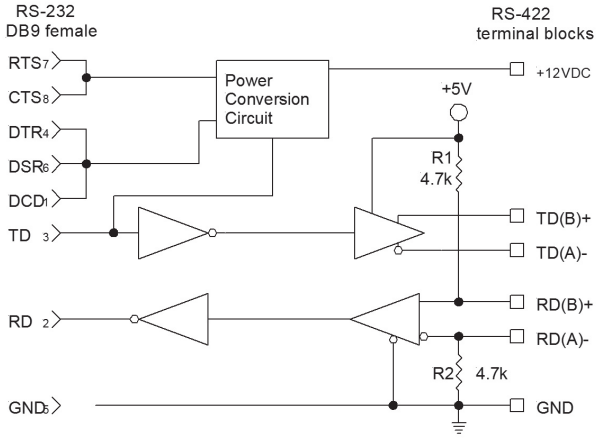
4 Biasing Resistors

The biasing resistors for the RS-422/RS-485 receiver are 4.7k Ohm resistors. These resistors are labeled R1 and R2 (See Figure 2). For further information on biasing, refer to the “RS-422/485 Application Note” on the website.

Model BB-422PP9R - RS-422/485 Biasing Resistors



Model BB-422PP9TB - RS-422/485 Biasing Resistors



5 External Power Supply Use (Model BB-422PP9TB only)

When using an external supply, the supply should be connected only to specifically labeled power inputs (power jack, terminal block, etc.).

Connecting an external power supply to the handshake lines may damage the unit. Contact Advantech B+B SmartWorx technical support for more information on connecting an external power supply to the handshake lines.

Recommended Accessories

DB9 Male to DB9 Female Cable, 1.8 m length
Model# BB-9PAMF6

Power Supply, 12VDC, 6W,Stripped/ Tinned, International AC Input
(optional for BB-422PP9TB only)
Model# BB-SMI6-12-V-ST

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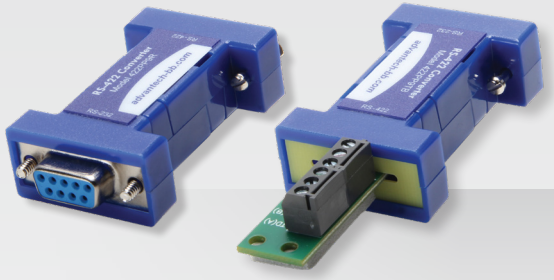
QUICK START GUIDE



BB-422PP9R
BB-422PP9TB

RS-422 Converter, Port-Powered

Before you begin, be sure you have the following:

+ RS-232/422 Port-Powered Converter
+ DB9M to DB9F Adapter Cable (not included)
+ 12VDC, 6W Power Supply (not included, optional for Model BB-422PP9TB only)

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Product Overview

RS-232 DB9 Female Connector

RS-422 DB9 Female Connector

Model BB-422PP9R

RS-232 DB9 Female Connector

RS-422 Terminal Block

Model BB-422PP9TB

SPECIFICATIONS	
Communication	RS-422
Data Rate	115.2 kbps, maximum
Power	Port-powered from RS-232 handshake lines. (Model BB-422PP9TB only: Optional external power via on terminal block, 12-16 VDC @ 40 mA)
Temperature	0 to +70 °C (operating)
Dimensions	BB-422PP9R: 6.1 x 3.3 x 1.7 cm BB-422PP9TB: 8.9 x 3.3 x 1.7 cm

1 Getting Started

Models BB-422PP9R and BB-422PP9TB are port-powered, two-channel RS-232 to RS-422 converters that convert TD and RD RS-232 lines to balanced RS-422 signals and are configured to transmit in both directions between an RS-232 and RS-422 system.

The converters are powered from the RS-232 handshake lines DTR and RTS. At least one of these lines must be present. The converter will work regardless of whether the lines are high or low. The RS-422 driver and receiver are always enabled.

Model BB-422PP9TB can also be powered externally via the terminal block. See Step #5.

2 RS-232 Pinout Connections

Connections to the RS-232 side are made through a DB9 female connector. The RS-232 side is pinned out to connect directly into the COM port on your PC/computer/laptop or any other DTE device (see Table 1).

To satisfy the requirements of some software, the RS-232 handshake lines are looped back (tied together). RTS is connected to CTS, and DTR is connected to DCD and DSR.

Table 1. RS-232 PINOUTS

SIGNAL	DB9 FEMALE PIN#
TD	3
RD	2
RTS	7
CTS	8
DTR	4
DSR	6
DCD	1
GND	5

3 RS-422 Pinout Connections

BB-422PP9R connections to the RS-422 side of the converter are made through a DB9 female connector (see Figure 1).

BB-422PP9TB connections to the RS-422 side of the converter are made through terminal blocks (see Figure 2).

The RS-422 side of the converter is pinned out as shown in Table 2:

Table 2. RS-422 PINOUTS (#BB-422PP9R)

SIGNAL	DB9 FEMALE PIN#
TD A (-)	8
TD B (+)	3
RD A (-)	2
RD B (+)	7
GND	4, 6

When connecting to an RS-422 system, the converter must be connected with proper polarity (see Figures 1 and 2). When no data is being sent and the driver is enabled, the RS-232 line is negative and the RS-422 line TD(A) is negative with respect to TD(B).

Figure 1. BB-422PP9R - Connection to an RS-422 System

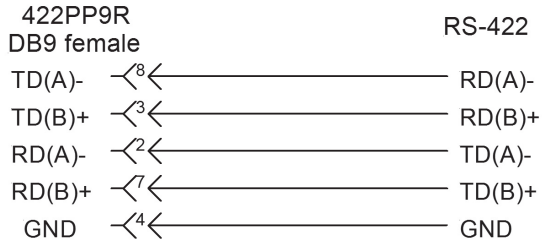

Figure 2. BB-422PP9TB - Connection to an RS-422 System