

# Babel Buster SP Hardware Details

## LED Indicators

Power-up LED behavior for SP: The single power/status LED will light up red and remain on until server boot-up.



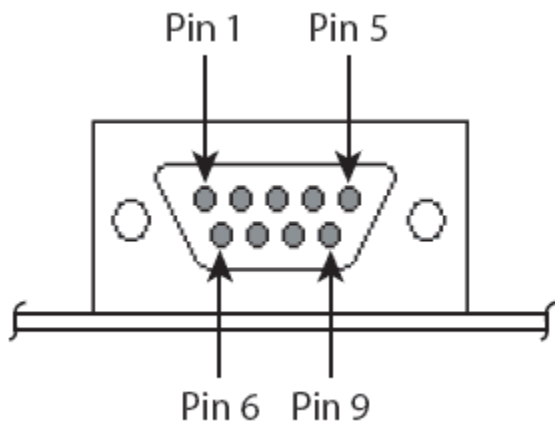
Normal LED activity: Remains on, flashing off once a second to indicate server is running.

Ethernet link LED is the green LED on the SP. Ethernet activity LED is the yellow LED on SP (SP colors are reverse of other Control Solutions gateways).

## Babel Buster SP DB-9 Connector & DIP Switch

Pin connections are shown below. RS-485 (EIA-485) is by definition 2-wire. Any reference to 4-wire RS-485 is really EIA-422. Babel Buster SP supports EIA-422, but also automatically supports EIA-485 with a simple wiring configuration. Simply connect all the pluses together, and all the minuses together. Connect RXD+ to TXD+ on Babel Buster SP, and that one connection to + on your Modbus device. Do the same with the minus side. Then set the DIP switches for EIA-485 half duplex, termination ON. Although called "2-wire" you really need 3 conductors, 2 wires for signal + and - with a third conductor for ground/common.

If your Modbus device has its RS-485 terminal marked A and B, be aware that about half of the equipment out there has A and B backwards. This is due to the fact that A and B as published by EIA-485 are the reverse of A and B as defined by the RS-485 chip makers. Somewhere along the line they didn't compare notes. There is no harm done in reversing the wires, it simply will not communicate. If you are having trouble communicating, especially if the device terminals are marked A and B, try reversing them.



The above view is the male DB9 as seen looking into the Babel Buster SP. Important: This is **NOT** a PC COM port. Study the wiring table below carefully. Also keep in mind that while Pin 1 is on the left on the male connector, Pin 1 will be on the right looking at the female connector.

DB-9 Pin Assignments			
Pin	EIA-232	EIA-422/485 Full-Duplex	EIA-485 Half-Duplex
1	DCD	CTS-	Not used
2	RXD	RXD+	RXD+
3	TXD	TXD+	TXD+
4	DTR	RTS-	Not used
5	GND	GND	GND
6	DSR	RXD-	RXD-
7	RTS	RTS+	Not used
8	CTS	CTS+	Not used
9	NA	TXD-	TXD-

In addition to connecting wiring as indicated above, you need to change the DIP switch settings to select what type of port you are configuring.

