



Niobrara SB902 Converter

The Niobrara SB902 Converter is a miniature RS-232/RS-422 converter. It is intended to be used to connect RS-232 equipment to RS-422 equipment

The SB902 consists of a small box enclosure with a DE92 (female with 4-40 jack screws) connector on the RS-232 end and a DE9S (female with slide posts) connector on the RS-422 end. The RS-232 end is configured to plug directly into a common personal computer 9-pin RS-232 port. The RS-422 end is configured to match the pinout of a standard SY/MAX 9-pin RS-422 port. The unit is powered by an AC adapter (included). The SB902 is capable of driving a four-wire RS-422 line up to 2,000 feet. The RS-232 end should be connected as close as possible to the RS-232 device..

The SB902 may also be used to drive a four-wire RS-485 multidrop network with the RS-232 device being the master. Simply connect the transmit pair from the RS-485 devices to the receive pair of the RS-422 connector, and the receive pairs to the transmit pair (observing proper polarity). The SB902 contains an internal biasing network on its receive lines; thus external biasing networks, such as the PowerLogic MCA-485 unit, is not required.

Installation:

1. Connect the female (with slide lock posts) connector to an RS-422 device. The transmit pair of the SB902 should be connected to the receive pair of the external device, and conversely. Since this connector is wired as a SY/MAX port, a standard CC-100 type cable may be used to connect the SB902 converter to a Square D processor. Also, Square D PowerLogic equipment may be easily connected to the RS-422 port of the SB902 using a standard CAB-107 type cable.
2. Connect the female (with 4-40 jack screws) end of the SB902 to the RS-232 device. If the computer is equipped with a 25-pin RS-232 port, use an **SD016** 9- to 25-pin adapter with the SB902.
3. Plug the AC adapter body into a 120VAC 50/60 Hz outlet.
4. Refer to the instructions for the attached devices for proper communication.

Pinouts:

The DE9S (female with slide lock posts) end of the cable is compatible with Square D SY/MAX RS-422 ports. The pinout is as follows:

1	_____	TXD- (data out of SB902)
2	_____	TXD+
3	_____	RXD- (data into SB902)
4	_____	RXD+

The DE9S (female with 4-40 jack screws) end of the converter is an RS-232 DCE interface. The pinout is as follows:

1	_____	DCD
2	_____	TXD (to computer)
3	_____	RXD (from computer)
5	_____	SG
6	_____	DSR
7	_____	RTS
8	_____	CTS

DSR and DCD are driven high by the SC902. The state of pins 4 (DTR) and 9 (RI) is ignored.

Common Problems:

The baud rate of the COM: port of the personal computer is not the same as the baud rate of the SY/MAX port.

The cable is not connected to the correct COM: port of the personal computer.

The route being used in the software is not valid.

The output voltage of the RS-232 signals on some laptop personal computers is well below RS-232 standard levels. Charging the batteries or connecting the personal computer to AC power will sometimes help.

Attempting to use software inside the Windows® environment with improper COM: port settings. Correct the COM: port settings or try again outside windows.

Notes:

Connection to PowerLogic Circuit Monitors:

SB422	Circuit Monitor
1	_____ IN-
2	_____ IN+
3	_____ OUT-
4	_____ OUT+

Additional Circuit Monitors may be added to form a network. Simply connect all of the IN-connections together to Pin 1, the IN+ connections to PIN 2, the OUT- connections to PIN 3, and the OUT+ connections to Pin 4. The last Circuit Monitor on the network should have a terminator attached.

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