



# Niobrara SC908 Smart Cable

The Niobrara SC908 Smart Cable is a miniature RS-232/RS-422 converter cable. It is intended to be used to connect RS-232 communication equipment to certain RS-422 equipment – specifically a network of POWERLOGIC® devices with a CAB-107 cable.

The RS-232 end of the SC908 cable consists of a 9-pin female D-subminiature connector with jackscrews (silver backshell). The RS-422 end of the cable terminates in a 9-pin female D-subminiature connector with slide lock posts (black backshell). The RS-232 end is configured to plug directly into a standard serial port of a personal computer. The RS-422 end is configured to match the pinout of a standard SY/MAX RS-422 port. The SC908 is powered by a 120 VAC adapter (included) that plugs in to the RS-232 backshell.

The SC908 is capable of driving a 4-wire RS-422 line up to 2,000 feet. The RS-232 end should be connected as closely as possible to the RS-232 device. The SC908 may also be used to drive a 4-wire RS-485 multidrop network with the RS-232 device acting as the master. Simply connect the transmit pairs 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 SC908 incorporates internal biasing on its receive lines; thus external biasing networks are not required.

## Installation:

1. Connect the RS-422 (black backshell) end of the SC908 to an RS-422 device. The transmit pair of the SC908 should be connected to the receive pair of the external device, and vice versa. Since this connector is wired as a SY/MAX port, a standard CC-100 type cable may be used to connect the SC908 to a SY/MAX processor. In addition, POWERLOGIC equipment can be easily connected to the RS-422 port of the SC908.

2. Connect the RS-232 (silver backshell) end of the SC908 to the RS-232 device. If the device is COM1: or COM2: of the personal computer, ensure that the port settings are correct.

3. Connect the cord from the AC adapter to the 3.5mm power jack on the back of the RS-232 backshell and plug the adapter body into a 120VAC 50/60 Hz outlet. **NOTE:** The AC adapter is required in all applications.

4. Refer to the instructions for the software package you are using.

## Cable Pinouts:

The RS-422 end of the cable (black backshell) is compatible with Square D SY/MAX RS-422 ports. The pinout is as follows:

1	_____	TX- (data from PLC)
2	_____	TX+
3	_____	RX- (data to PLC)
4	_____	RX+

No connection is made to pins 5-9.

The end of the cable with a silver backshell and transformer connector 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 SC908. The state of pins 4 (DTR) and 9 (RI) is ignored.

## Notes:

The SC908 is a versatile RS-232/RS-422 adapter which can be modified for special applications. Call the factory for more information.

## 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<sup>®</sup> environment with improper COM: port settings. Correct the COM: port settings or try again outside windows.