# Niobrara SC50I Smart Cable

The Niobrara SC50I Smart Cable is a six foot DB25 to Model 50 cable with a miniature isolated RS-232 converter built into the DB25 connector end. It can be used to connect the RS-232 communications port of a personal computer directly to the programmer port of a Square D Model 50 programmable controller without needing an RIU, NLU, or SFI card. The SC50I is superior to Niobrara's SC50D by virtue of optical isolation providing improved noise immunity and resistance to damage from ESD and ground current problems.

The converter is powered by the Model 50, so no external power is required. This makes the SC50I ideal for connecting a lap-top personal computer to the Model 50.
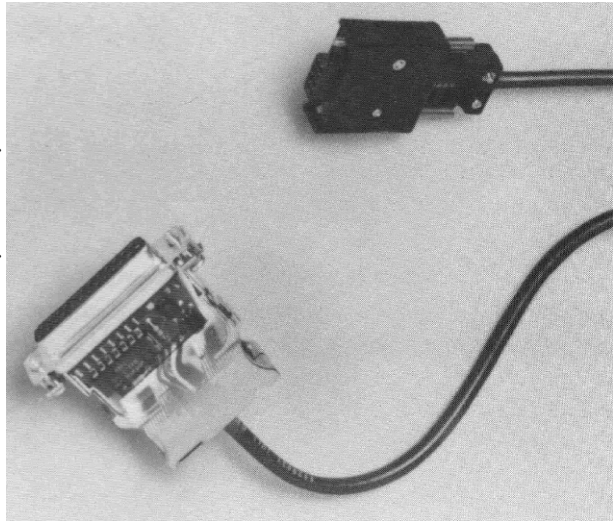
The SC50I can be used for communication between a personal computer and one Model 50 only. It cannot be used to communicate through the Model 50 network. However, it can of course be used to program individual Model 50's which will be interconnected in a network during operation. To connect a personal computer to a network of Model 50's, use the Square D NLU and Niobrara's **SC902** cable.

The SC50I is normally 6 feet long but other lengths. (up to 25 feet) are available. See price list for ordering information. For distances longer than 25 feet (up to 2,000 feet) use a Niobrara **ID422,** a Niobrara **SA9F** gender changer, and a Niobrara **SC902.**

Installation:

1. Connect the eight pin plug to the programmer port of the Model 50 and lightly tighten the jack screws.

2. Connect the DB25 end of the cable to COM I: or COM2: of the personal computer. An adapter to connect the cable to a nine pin port is available from Niobrara R & D Corporation use either an **SDO34** or an **SDO34B.** In rare situations, a null modem may be required to reverse pins 2 and 3 between the SC50I and the personal computer.

Warning! Never connect the SC50I cable to the parallel port of a personal computer. Doing so may damage the cable and/or the parallel port. The cable will not plug directly into a normal parallel printer port. If a gender changer is needed to plug the cable into the computer, you may be trying to use the wrong computer port.

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

Cable Pinouts:

The **DB25** end of the cable is an RS-232 DCE interface. The pin-out is as follows:

2 ———————	RXD (from computer)
3 ———————	TXD (to computer)
4 ———————	RTS
5 ———————	CTS
6 ———————	DSR
7 ———————	GND
8 ———————	DCD
20 ———————	DTR

The SC50I **requires +10** to +15 volts on pin 4 (RTS) for proper operation. Pins 5 (CTS), 6 (DSR), and 8 (DCD) are internally connected to pin 20 (DTR).

Common Problems:

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

- The baud rate must be set to 9600.

- The drop number being used in the software is not valid. Make sure the PLC drop number found in ASSIGN mode is the same as the Route selected in UTIL mode.

- The personal computer being used is faster than 16MHz. The communication software may not work with any cabling solution if the computer is faster than 16MHz. If the ASSIGN mode returns the processor state and current drop number but a communication error occurs when attempting to go ONLINE, set the personal computer to a slower clock speed (Press the turbo button). Running the software within a DOS window inside of MS® Windows® may help this problem.

- 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 of Windows® with improper COM port settings. Correct the COM port settings or try again outside of Windows®.

Notes:

For Local Support and Sales CALL: