# NR&D

Niobrara AB500 Smart Cable

The Niobrara AB500 Smart Cable connects the Allen-Bradley' SLC'500 programmable controller to a personal computer 25 pin RS-232 COM port. The cable has a miniature, RS-232 to RS-485 protocol converter built into the RS232 end.

Intended primarily as a programming cable for the SLC 500, the AB500 can also be used as a link adapter to connect a personal computer to the DH-485 data highway through a 1747 AIC interface coupler.

In conjunction with Niobrara's P1500 power injector, the AB500 can be used to interface a personal computer to the HHT500 programming terminal.
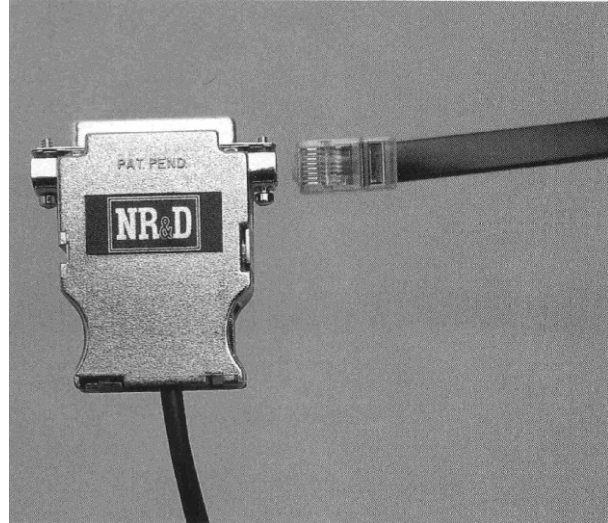
Installation:

1. Connect the 25 pin connector to a personal computer RS-232 COM port. If the COM port uses a nine pin connector, Niobrara's SDO34 cable may be used to adapt the AB500 to the nine pin port.

> **Warning!** Never connect the AB500 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.

2. Connect the eight pin modular connector to the programming port of the SLC 500, or if a network connection is desired, into the PERIPHERAL port of the 1747-AIC Isolated Link Coupler. The SLC500 or link coupler will provide the 24VDC power for the A13500.

3. Configure the personal computer software for proper connection. For the SLC 500 Advanced Programming Software 1747-PA2E, select 1747-PIC (DH-485) for the Current Device in the Online Configuration screen. Also check that the Baud Rate setting matches the attached devices, normally 19200 baud. For more information on the software setup, consult the APS manual.

Cable Pinouts:

The 8 pin Modular end of the cable is compatible with Allen-Bradley Peripheral ports. The pin-out is as follows:

1 ———————	Data +
2 ———————	Data -
3 ———————	+24 VDC
4 ———————	GND
5 ———————	TXEN
6 ———————	Frame GND
7 ———————	GND
8 ———————	+24 VDC

Pins 3 and 8 power the converter when driven to 24 volts by the handheld programmer power output of a programmable controller or link adapter. Pin 5 provides the handshaking line to the link adapter for Data Highway interfacing.

The DB25 end of the cable is an RS232 DCE interface. The pin-out is as follows:

1 ———————	Frame GND
2 ———————	RXD (from computer)
3 ———————	TXD (to computer)
6 ———————	DSR
7 ———————	Signal GND
20 ———————	DTR

The computer transmits to the converter on pin 2 and receives from the converter on pin 3. Pin 6 is driven to approximately +10 volts by the converter. The state of pin 20 determines the direction of transmission on the RS-485 data leads and should be low when the computer is transmitting. The state of pin 4 is ignored.

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