

GFK-0682C  
May 1996

### Miniconverter Kit

The Miniconverter Kit consists of an RS-422 (SNP) to RS-232 Miniconverter, a 6 foot (2 meter) serial extension cable, and a 9-pin to 25-pin Converter Plug assembly. The 15-pin SNP port connector on the Miniconverter plugs directly into the serial port connector on the programmable controller. The 9-pin RS-232 port connector on the Miniconverter connects to an RS-232 compatible device.

When used with an IBM® PC-AT, or compatible computer, one end of the extension cable plugs into the Miniconverter's 9-pin serial port connector, the other end plugs into the 9-pin serial port of the computer. The Converter plug (supplied with kit) is required to convert the 9-pin serial port connector on the Miniconverter to the 25-pin serial port connector on the IC647 computer, or an IBM PC-XT or PS/2® Personal Computer.

*The IC640 industrial computer requires an additional adapter (not supplied - please contact your local PLC distributor) for use with the Miniconverter.*

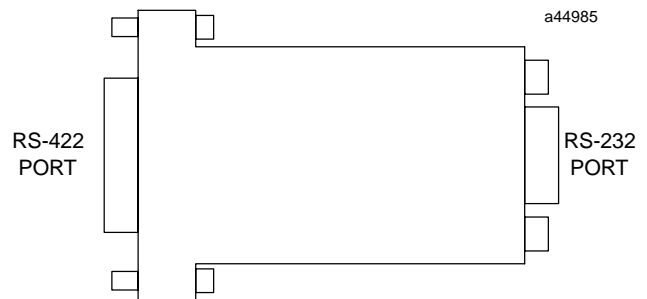
The pinout of the Miniconverter is shown in the following two tables. Table 1 is the pinout for the RS-232 port. The direction of signal flow is with respect to the Miniconverter.

**Table 1. Miniconverter RS-232 Port**

Pin	Signal Name	Direction
2	SD - Send Data	Output
3	RD - Receive Data	Input
5	GND - Ground	n/a
7	CTS - Clear To Send	Input
8	RTS - Request To Send	Output

The pinouts were chosen to allow direct connection (using a straight through, or 1 to 1 cable (as provided

with kit)) to the IBM PC-AT. Most IBM compatible computers equipped with an RS-232 port will provide a pinout compatible with the one shown above.



#### SNP Port to RS-232 Adapter

Table 2 is the pinout for the Miniconverter's RS-422 serial port. The direction of signal flow is also with respect to the Miniconverter.

**Table 2. Miniconverter RS-422 Port**

Pin	Signal Name	Direction
1	SHLD - Shield	n/a
5	+5 VDC - Power	Input
6	CTS(A') - Clear To Send	Input
7	GND - Ground	n/a
8	RTS(B) - Request To Send	Output
9	RT - Receive Termination	Output
10	SD(A) - Send Data	Output
11	SD(B) - Send Data	Output
12	RD(A') - Receive Data	Input
13	RD(B') - Receive Data	Input
14	CTS(B') Clear To Send	Input
15	RTS(A) - Request To Send	Output

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**System Configurations**

The Miniconverter can be used in a point-to-point configuration as described above, or in a multidrop configuration with the host device configured as the master and one or more programmable controllers configured as slaves.

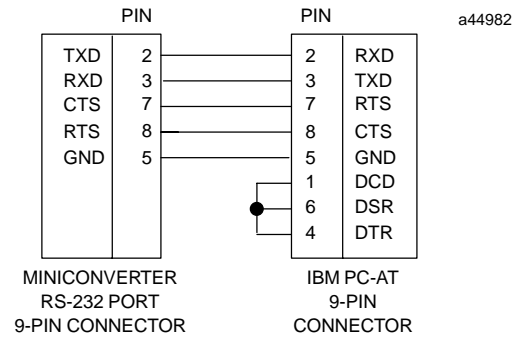
The multidrop configuration requires a straight through (1 to 1) cable from the Miniconverter's RS-422 port to the first slave PLC's SNP port. Other slaves will require a daisy chain connection between slaves. A maximum of eight devices can be connected in an RS-422 multidrop configuration.

All of the devices must have a common ground. If ground isolation is required, you can use the Isolated Repeater/Converter (IC655CCM590) in place of the Miniconverter.

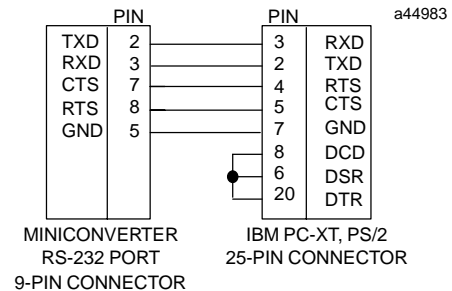
When using the Miniconverter with a modem connection, it may be necessary to jumper RTS to CTS (consult the user's manual for your modem).

**Cable Diagrams (Point-To-Point)**

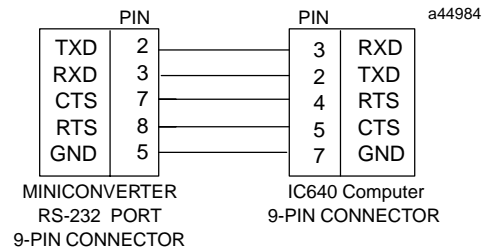
When connecting the Miniconverter to IBM PC and compatible computers with hardware handshaking, the following cable connections should be used.



**Figure 1. Miniconverter to PC-AT**



**Figure 2. Miniconverter to IC647 computer, PC-XT, PS/2**



**Figure 3. Miniconverter to 9-Pin IC640 Computer or PC-XT Computer (Additional Adapter Required)**

**Table 3. Miniconverter Specifications**

<b>Mechanical:</b>	
<b>RS-422</b>	15-pin D shell male for direct mounting to serial port on the programmable controller
<b>RS-232</b>	9-pin D shell male for connection to RS-232 serial port of an IC647 industrial computer or Personal Computer.
<b>Electrical and General:</b>	
<b>Voltage Supply</b>	+5 VDC (supplied by PLC power supply)
<b>Typical Current</b>	Version A (IC690ACC901A) - 150 mA Version B (IC690ACC901B) - 100 mA
<b>Operating Temperature</b>	0° to 70° C (32° to 158° F)
<b>Baud Rate</b>	38.4K Baud maximum
<b>Conformance</b>	EIA-422 (Balanced Line) or EIA-423 (Unbalanced Line)
<b>Ground Isolation</b>	Not provided