MARGIN LINES INDICATE PRINCIPAL CHANGES IN THIS ISSUE

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ADEMCO

No. 4100SM
SERIAL INTERFACE MODULE

INSTALLATION INSTRUCTIONS

GENERAL INFORMATION

The No. 4100SM Serial Interface Module permits the installer to use 4130PC Downloading Software to program Ademco Vista control panels without the need for a modem or a telephone line. This is known as Direct Wire Downloading *and is meant to be used as a tool by the installer during the installation phase only.*

The installer simply connects the downloading PC's serial port to the control via the 4100SM, thereby reducing downloading equipment cost while retaining the user-friendly benefits of using downloader software for in-office or on-site programming and troubleshooting.

The 4100SM can also be used to connect a serial printer to those controls that feature Event Logging with Printer Output capability.

The downloading function *is not* applicable to UL Listing. The 4100SM *is* UL Listed, however, for Event Log Printer usage. This function is described briefly on page 2 and in detail in the instructions accompanying the specific control.

The 4100SM includes everything that is needed to connect the RS-232 serial port of most IBM compatible fixed or portable (laptop) PCs to the control. The following items are included:

- 1.5 foot, alligator clip leads (4)
- 4142TR Voltage Trigger Cable (9 Pos.)
- 10 foot, DB25 male to DB25 male RS-232 serial cable
- DB25 female to DB25 female RS-232 gender changer
- DB25 male to DB25 female null modem adapter
- DB25 female to DB9 female adapter
- Bracket and Insulator

Important: Please check the installation instructions provided with your control to determine whether its software supports direct wire downloading operation. Also, please check that you have downloader software that supports direct wire downloading for the control you are programming.

DIRECT WIRE DOWNLOADING CONNECTIONS

Place the 4100SM on a table or use its clip bracket to attach it to the side wall of the control's cabinet.

Depending on the control, direct wire downloading connections are made to the control's console lines via the supplied alligator clip leads (e.g., for a 4140XMP), or to a header on the control's circuit board via the supplied 4142TR cable in combination with the alligator clip leads (e.g., for a 4140XMPT, 4140XMPT2, or 5140XM). Refer to Diagram 1 and the control's instructions for details.

The 4100SM's terminals to be used are: 3 (TXD), 6 (RXD), 7 (GND), and 8 (+ PWR) as shown in Diagram 1.

The 4100SM has three colored jumpers (red, blue, and white). They must be left uncut for direct wire downloader applications.

Most IBM compatible PCs have two RS-232 serial ports: COM1 and COM2. First decide which serial port you would like to use, and then determine which type of connector (DB25 female, DB25 male, or DB9 male) is provided for this port.

If your PC has a DB25 female connector, then you may use the RS-232 cable supplied to make connections between the serial module and the PC serial port as shown in Diagram 2.

If your PC has a DB25 male connector, then you must use both the RS-232 cable and the gender changer supplied to make connections as shown in Diagram 3.

If your PC has a DB9 male connector, then you must use both the RS-232 cable and the DB9/DB25 adapter supplied to make connections as shown in Diagram 4.

Null Modem Note:
The 4100SM requires that your PC have a DTE pinout in order to communicate properly. Check the documentation supplied with your PC to determine whether the connector for the serial port you have chosen has a DTE pinout (meaning that your PC transmits data on pin 2 and receives data on pin 3) or a DCE pinout (meaning that your PC transmits data on pin 3 and receives data on pin 2). *If your PC connector has a DCE pinout,* you must attach the supplied null modem adapter to the RS-232 cable as shown in Diagrams 2, 3, and 4, to insure proper pin connections.

If you are not sure whether your serial port is DTE or DCE, assume that it is DTE. If a problem occurs, refer to the *IN CASE OF DIFFICULTY* section herein.

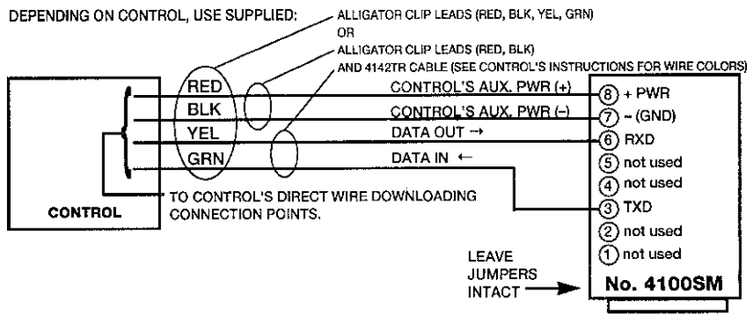

Diagram 1. DIRECT WIRE DOWNLOADING CONNECTIONS (No. 4100SM TO CONTROL)

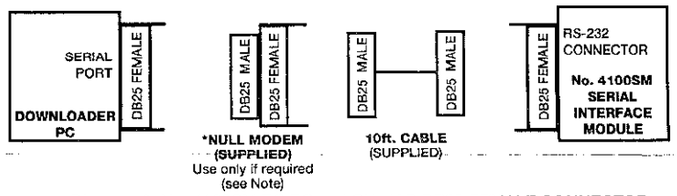

Diagram 2. No. 4100SM TO PC WHICH HAS DB25 FEMALE CONNECTOR

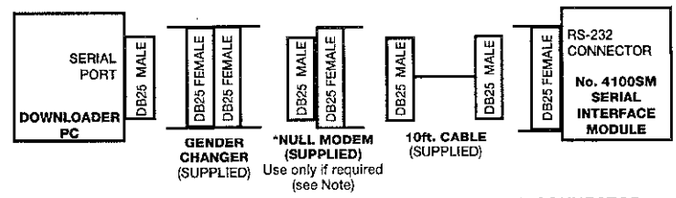

Diagram 3. No. 4100SM TO PC WHICH HAS DB25 MALE CONNECTOR

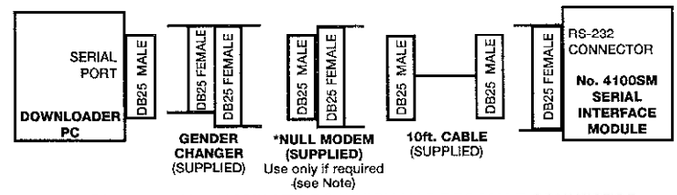

Diagram 4. No. 4100SM TO PC WHICH HAS DB9 MALE CONNECTOR

DIRECT WIRE DOWNLOADING PROCEDURE

Downloader Setup

In order for the 4100SM to be used, the downloading software must support direct wire downloading for the control being programmed.

In addition, the software must be configured to enable direct wire operation. To check this, enter the SETUP screen on the PC (only the Master user may do this). Check the entry marked COMM LINK located near the top of the screen. Hit the [+] key until the screen displays DIRECT WIRE/TELCO. Also check that the COMM PORT matches the port that you intend to use. Hit the [ESC] key to exit the SETUP SCREEN.

Downloader Operation

After making the connections described above, apply power to the control and verify that the default message (typically "DISARMED - READY TO ARM") is displayed. Also start up the downloader software on your PC and verify that the main menu is displayed. Make certain that the downloading software is configured to operate using the serial port (COM1 or COM2) that you selected above. (If you have an internal modem, the serial port will need to be changed every time you change from modem to direct wire operation.

Note: The control will not function as an alarm system while the direct wire downloader mode is active.

At the downloading PC, select the file and the control account information to be downloaded. Then select the "DIRECT WIRE" option from the "COMM" menu and hit [Enter].

Select FIRST COMMUNICATION if required. Press the [Enter] key. The START COMMUNICATION message will begin to blink. (***Note:*** If the selected panel type does not allow direct wire operation, the DIRECT wire option will not be displayed.)

Go to the nearest control console and enter "Installer Code" + [#] + [5]. The letters "CC" should appear on the 4127, 4137AD, or 6127 console's display ("MODEM COMM" on the 5137AD or 6139 console's display) to confirm that the direct wire downloader mode is in effect. The control will continuously and indefinitely monitor the console terminals for a handshake signal from the downloading PC. (This mode may be cancelled by entering an "Installer Code" + [OFF] sequence.

Hit the [Enter] key on the PC. The PC will display a "REQUESTING SESSION" message and will now commence a direct wire downloading session. From this point on, you may do an upload, download, or any other PC operation as required, in the same manner that you would if a remote connection via the telephone line were used. The communications will take place at a much higher speed, however. The control will automatically return to normal alarm system function when the downloading session is completed.

IN CASE OF DIFFICULTY

Check that the COM port that is used matches the COM port selected in the SETUP screen.

There is a possibility that the Null Modem adapter may be required to match the outputs of your computer's serial port to the 4100SM. Use the following procedure to determine if this is so:

1. Connect the 4100SM to the control and to your PC as outlined above. Do not yet attach the Null Modem adapter.
2. Connect a DC voltmeter, set to a 15 volt (or higher) range, across the BLACK wire on 4100SM terminal 7 (–), and the wire on terminal 3 (+). No voltage should be seen at this time. If a voltage is found, check the connections between the control and the 4100SM.
3. Go to the COMM screen after selecting DIRECT WIRE and hit the [Enter] key two times until the REQUESTING SESSION message appears. At this time, the meter reading should jump to approximately 12 volts for a few seconds and then return to zero. If this does not occur, there is a possibility that the transmit and receive pins on the computer are reversed. Insert the Null Modem adapter supplied and try again.

EVENT LOGGING

Complete information for connecting and using a serial printer with the control for Event Logging, via a 4100SM, is described in detail in the instruction manuals that accompany controls that feature such capability (e.g., 4140XMPT, 4140XMPT2, and 5140XM).

Typical connections for the 4100SM are shown in Diagram 5. Note that for Event Logging, terminal 1 (DTR) of the 4100SM is used, instead of terminal 3 that was used for downloading.

In addition, the colored jumpers may need to be cut, depending on the serial printer being used. See note 3 below for details.

Notes:

1. **If Earth Ground Fault Sensing is enabled in the control** you may get an earth ground fault indication if you use a printer (or PC) which has a 3 prong grounded power cord.

   If this occurs, verify that pin 1 (chassis ground) is isolated from pin 7 (signal ground) on your printer's RS-232 connector. Follow the instructions provided with your printer to isolate these pins, if required.
2. **The 4100SM is supplied with a 10 foot RS-232 cable.** A longer cable or an extension cable can be used if the 4100SM and serial printer are separated by more than 10 feet, but the total cable length should be less than 50 feet.
3. **Most printers either ignore the CTS, DSR and CD signals, or require them to be high** (i.e., 3-15VDC as measured on RS-232 DB25 connector pins 5, 6, & 8 respectively with respect to ground pin 7). The 4100SM Module sets these pins high. If the printer being used will not operate with these pins high, then clip the blue (CTS), white (DSR) or red (CD) jumpers on the 4100SM module to set the corresponding signal floating. Important pins on the RS-232 cable are pin 3 (data out), pin 7 (ground), and pin 20 (DTR - ready).

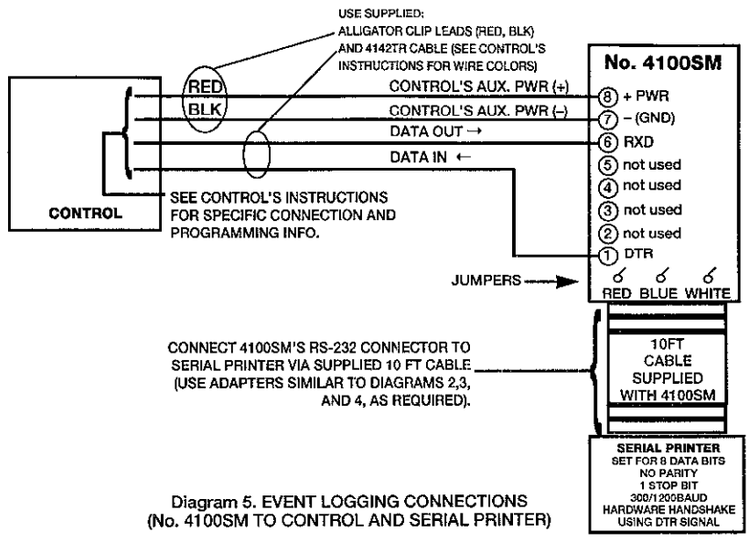

Diagram 5. EVENT LOGGING CONNECTIONS
(No. 4100SM TO CONTROL AND SERIAL PRINTER)

SPECIFICATIONS

Physical 4" W x 2-3/4" H x 3/4" D (102mm x 70mm x 19mm) ...approximately

Electrical Input Power: 12VDC, 25mA from control's console power (red wire) connection

RS-232 Interface: DB25 female with DCE output

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