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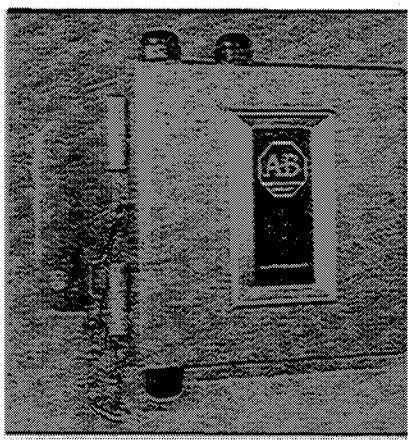
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Installation Data

Allen-Bradley Data Highway/Data Highway Plus Station Connector

(Cat. No. 1770-SC)

To the Installer

This publication describes the Data Highway Station Connector and the installation procedures for connecting the station connector to a Data Highway or Data Highway Plus trunkline cable.

The station connector simplifies Data Highway connections made between the trunkline and individual droplines, and protects the connections from the industrial environment. One station connector is required for each dropline. The station connector replaces the 1770-XG Data Highway Cable Connector Kit.

What the Station Connector Includes

Each station connector includes the following:

- Junction box with removable cover, and terminal block wired with the following:
  - 0.05 mfd 500V DC capacitor (terminals 4 and 5)
  - Jumper (terminals 7 and 9)
  - Ground wire (terminal 10) and earth ground wire with lug
- Packet containing:
  - D-shell cable connector hood
  - 15-pin female connector
  - Packet of assembly hardware for the cable connector
  - Terminator resistor (150 ohm, 1/4 watt)
  - Shrink tubing
  - Cable plug
- A copy of this publication.

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What the Station Connector Includes *(continued)*

Be sure each station connector you receive has these parts (figure 1).

Figure 1
Data Highway Station Connector Kit



Wiring Recommendations

To make reliable connections, you should observe the following wiring recommendations:

- Use Twinaxial Cable (cat. no. 1770-CD, Belden 9463 or equivalent) for the trunkline and droplines.
- Be sure to connect the ground wire from the station connector to the earth ground.
- Route the twinaxial cable away from sources of electrical interference.
- Make trunkline connections to the upper side of the station connector; dropline and earth ground connections to the lower side.

By observing these recommendations and those in the Data Highway Cable Assembly and Installation Manual (publication 1770-6.2.1), you will reduce electrical noise interference which can be induced into the trunkline and droplines.

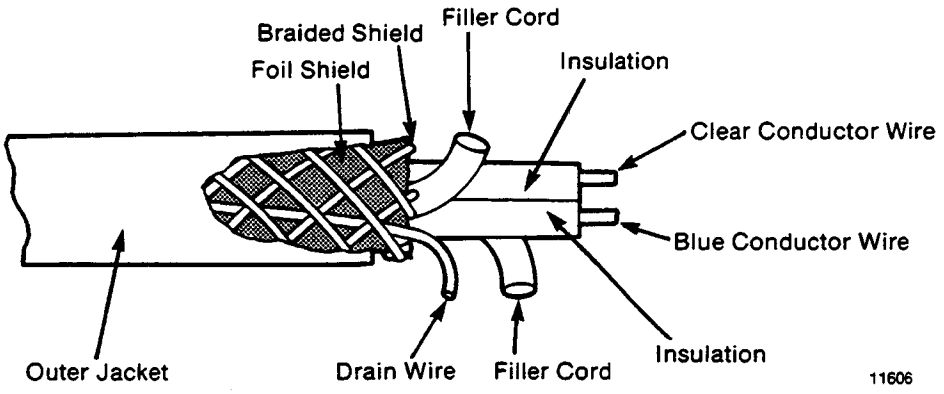
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Installing the Station Connector

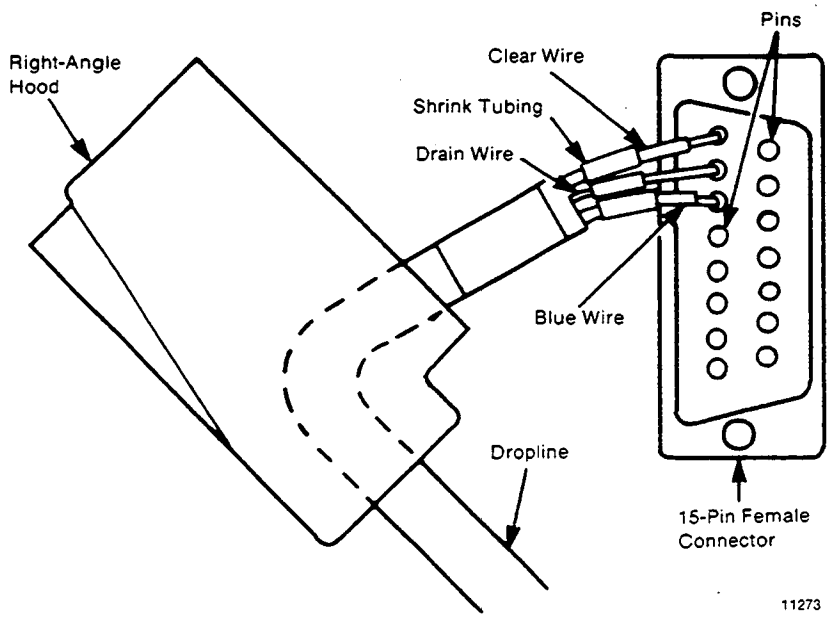
Use the following procedures to properly install each station connector. Read this entire section before performing the procedures.

Dropline Preparation

1. Cut the dropline cable to your required length.
2. Prepare the dropline cable for assembly. First carefully remove about one inch of insulation, foil, braided shield, and filler cord from one end of the cable, freeing the shield drain wire, clear, and blue insulated wires. Strip about 1/8 inch of insulation from the ends of the insulated wires.



3. Insert the prepared cable end through the circular hole in the hood of the D-shell connector. Insert about 1/2 inch of shrink tubing over the ends of the three conductors.



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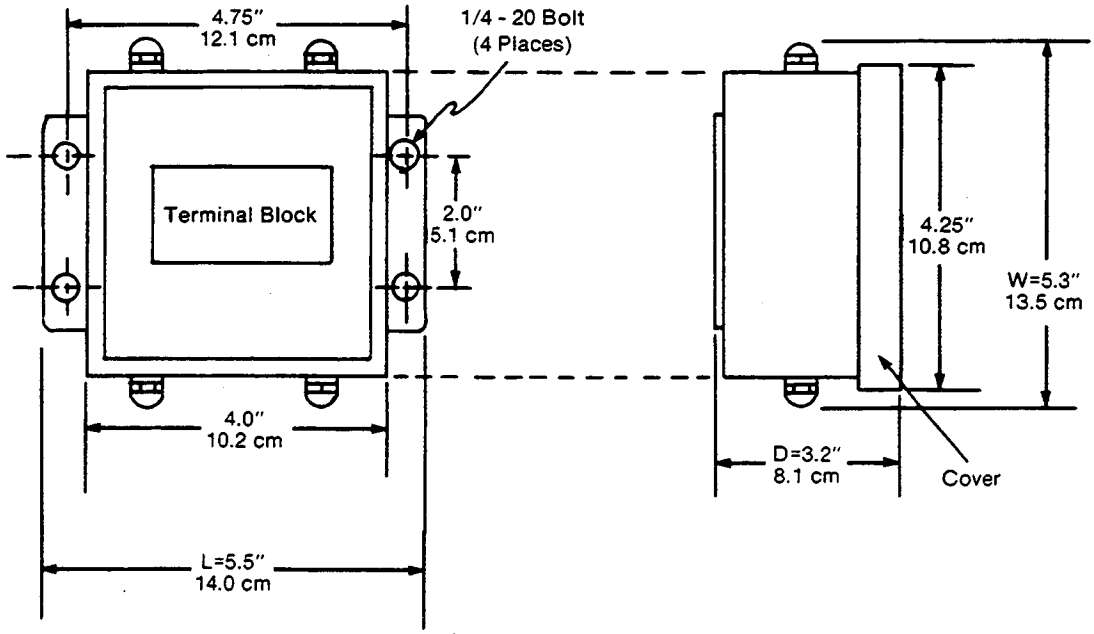
Dropline Preparation (continued)

4. Solder the blue, clear, and drain wires into their corresponding connector pins in the back of the 15-pin female connector. Connect the blue wire to pin 6, drain wire to pin 7, and clear wire to pin 8.
5. Slide the shrink tubing forward over the soldered connections and shrink the tubing with a heat gun.
6. Assemble the 15-pin connector to the D-shell hood.
7. At the other end of the dropline cable, carefully remove about three inches of insulation, foil, braided shield, and filler cord, freeing the drain wire, clear, and blue insulated wires. Strip about 1/4 inch of insulation from the ends of the insulated wires.

Trunkline Preparation

1. Remove the cover and the terminal block from the enclosure and mount the enclosure at the point where you want to add the dropline.

Important: Removing the terminal block allows you to make connections to the screw-clamp terminals more easily.

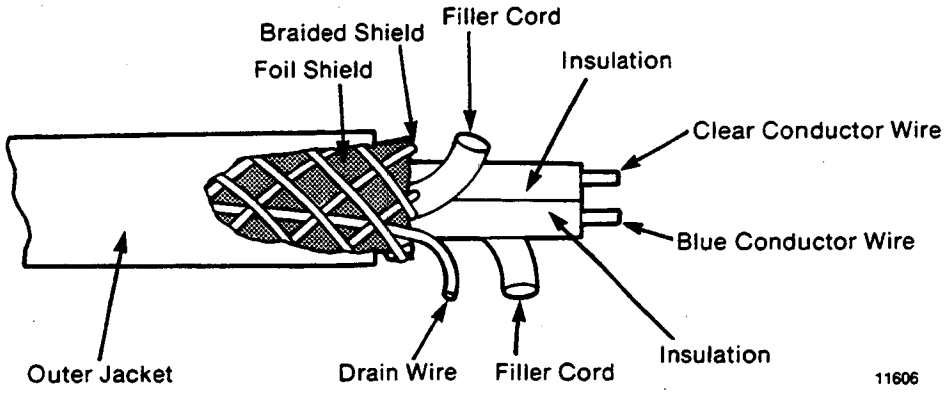


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Trunkline Preparation

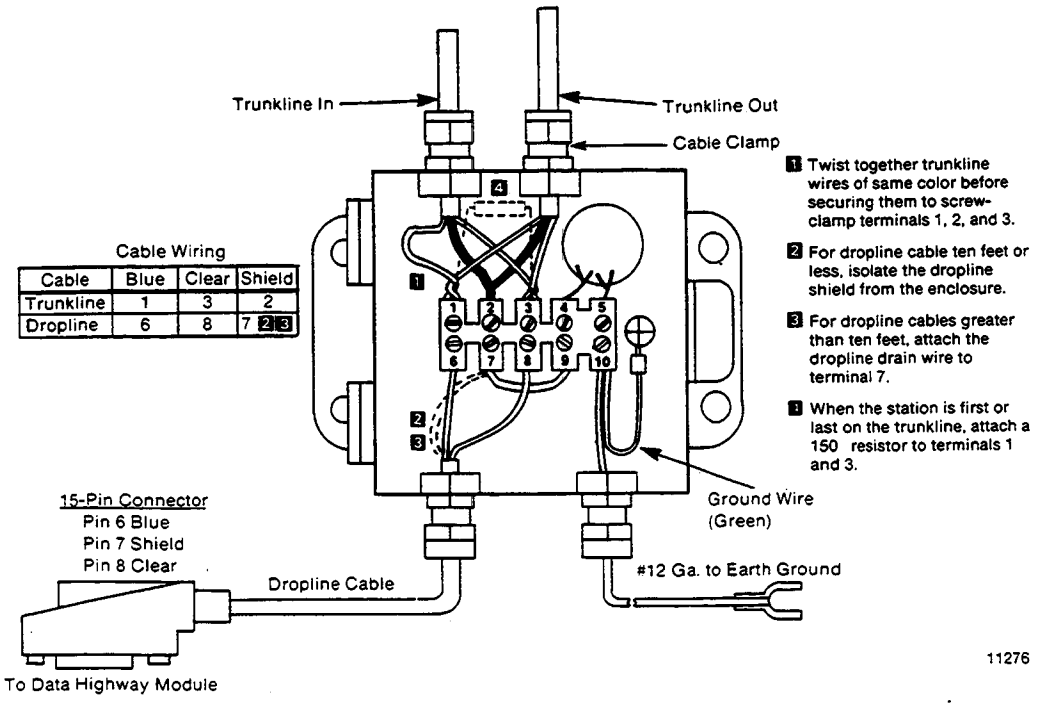
2. Cut the trunkline cable. Feed the incoming and outgoing trunkline cable through their respective cable clamps at the top of the enclosure.

3. Carefully remove about three inches of cable insulation, foil, braided shield, and filler cord, freeing the drain wire, clear, and blue insulated wires. Strip about 1/4 inch of insulation from the ends of the insulated wires.



Wiring the Enclosure

1. To maintain signal integrity, twist together the same color wires from each trunkline cable before securing the wires under their respective screw-clamp terminals. Connect blue wires to terminal 1, drain wires to terminal 2, and clear wires to terminal 3 as shown in the wiring diagram.



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Wiring the Enclosure

2. Feed the free end of the dropline cable through its cable clamp at the bottom of the enclosure.

3a. If your dropline cable is between 10 and 100 feet, connect the drain wire of your dropline cable to terminal 7.

3b. If your dropline cable is less than ten feet, isolate the shield of the dropline cable from the enclosure. Tape the drain wire and any protruding shield or foil for electrical isolation.

4. Connect dropline cable wires, blue to terminal 6 and clear to terminal 8 as shown in the wiring diagram.

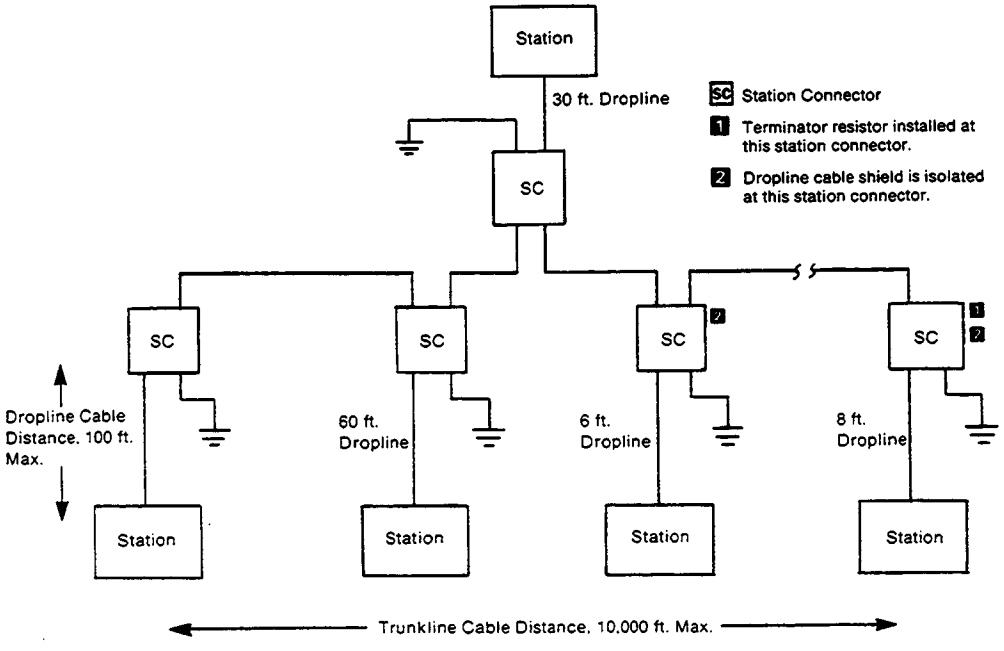
5. Secure the trunkline and dropline cables by tightening the cable clamps.

Terminating Stations

This part of the procedure applies only to the first and last station connectors on the trunkline.

1. Install the 150 ohm terminator resistor by inserting it into a one inch length of shrink tubing and connecting the leads to terminals 1 and 3. The trunkline must be terminated properly with a terminator resistor located in the station connector at each end of the trunkline.

Important: The first and last station connectors refer to the physical location along the trunkline (figure 5) and not to station addresses. Station addresses are independent of physical locations.



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Terminating Stations *(continued)*

2. To maintain the station connector's NEMA type 13 rating, plug the unused trunkline cable clamp on the first and last station connectors. Use the cable plug provided in the packet. Tighten the cable clamp to hold the cable plug in place.

Enclosure Assembly

1. Attach the station connector ground wire to earth ground. The lug accepts a number 10 screw.
2. Mount the terminal block in the enclosure and attach the cover plate. Be sure that one of the wires are pinched between the cover plate and enclosure.

Important: Be careful not to damage the gasket of the cover plate. Gasket damage could nullify the NEMA type 13 rating of the station connector.

For More Information on Cable Installation

For more information on installing a Data Highway or Data Highway Plus cable installation, refer to the Data Highway Cable Assembly and Installation Manual (publication 1770-6.2.1).

Specifications

- Terminals for trunkline and dropline
- NEMA type 13 enclosure

Overall Dimensions (LxWxD)
- 14.0 x 13.5 x 8.1 cm
- 5.5 x 53 x 3.2 inches

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