

2. Installation

Receiving/Inspection

- Unpack carefully.
- Verify that all items in the packing list are received and are correct.
- Inspect all instruments for damage or contaminants prior to installation.

If the above three items are satisfactory, proceed with the installation. If not, then stop and contact a customer service representative.

Packing/Shipping/Returns

These issues are addressed in Appendix C - Customer Service.

Factory Calibration Note

The instrument is factory calibrated to the applications as specified at the time of order. There is no need to perform any verification or calibration steps prior to installing and placing the instrument in service, unless the application has been varied.

Pre-Installation Procedure



Warning: Only qualified personnel should install this instrument. Install and follow safety procedures in accordance with the current National Electrical Code. Ensure that power is off during installation. Any instances where power is applied to the instrument will be noted in this manual. Where the instructions call for the use of electrical current, the operator assumes all responsibility for conformance to safety standards and practices.



Caution: The instrument contains electrostatic discharge (ESD) sensitive devices. Use standard ESD precautions when handling the control circuit. See below, for ESD details.

The instrument is not designed for weld-in-place applications. Never weld to process connection or a structural support.

Damage resulting from moisture penetration of the control circuit or flow element enclosure is not covered by product warranty.

Use Standard ESD Precautions

Use standard ESD precautions when opening an instrument enclosure or handling the control circuit. FCI recommends the use of the following precautions: Use a wrist band or heel strap with a 1 megohm resistor connected to ground. If the instrument is in a shop setting there should be static conductive mats on the work table and floor with a 1 megohm resistor connected to ground. Connect the instrument to ground. Apply antistatic agents to hand tools to be used on the instrument. Keep high static producing items away from the instrument such as non-ESD approved plastic, tape and packing foam.

The above precautions are minimum requirements to be used. The complete use of ESD precautions can be found in the U.S. Department Of Defense Handbook 263.

Verify Serial Numbers

Verify that the flow element serial number matches the control circuit serial number.

Verify Installation Location

Prepare the vessel for installation, or inspect the already prepared location to ensure that the instrument will fit into the system. The location that should have been prepared at the time of order should be at least 20 pipe diameters downstream and 10 pipe diameters upstream from any bends or interference in the process pipe or duct to achieve the greatest accuracy.

Flow Element Installation

Verify the correct orientation of the flow element. Install the flow element in-line with the process media flow. See Appendix A for the dimensions of the instrument.

Wiring Installation

Conduit Routing

All socket and/or terminal block connections are to be made through openings in the remote enclosure if used. FCI strongly recommends that all electrical cables be run through an appropriate conduit for the protection of the instrument and personnel if a remote enclosure is used.

Protection of the control circuit from moisture is an important consideration. Keep the entry of the conduit into the enclosure in the downward direction so condensed moisture that collects in the conduit will not drain into the enclosure. In addition, FCI recommends sealing off the conduit with a potting Y or other sealing method to prevent moisture from entering the remote enclosure if used.

Minimum Wire Size

Table 2-1 shows the smallest (maximum AWG number) copper wire that is to be used in the electrical cables used for connecting the instrument to the customer alarms and power. Use a lower gauge of wire for less of a voltage drop. Contact FCI concerning greater distances than those listed in the table.

Table 2-1. Interconnecting Cable Size (AWG)

Connection	Maximum Distance for AWG					
	10ft. (3m)	50 ft. (15m)	100 ft (31 m)	250 ft. (76m)	500 ft. (152m)	1000 ft. (305m)
Input Power	22	22	22	20	18	16
Relay/mVOut	24	22	20	16	12	10

Cable Connections



Caution: In order to prevent circuit or component damage, remove the control circuit from the remote enclosure (if present) prior to the pulling of conduit wire.



Note: The installation of an AC line switch between the AC power source and the instrument is recommended. This facilitates easy power disconnection and is an added safety feature.

Unplug the control circuit from its socket by pulling up on the transformer in the center of the circuit. Then connect the mV Output and relay outputs to the customer alarms. Also connect the power to the instrument power input. See Appendix A for the appropriate connection information.

Replace the control circuit. Be sure any customer supplied gaskets, O-rings, seals or washers are correctly installed to prevent moisture from getting on the control circuit.