

# 4. Maintenance



**Warning:** To avoid hazards to personnel, ensure that all environmental isolation seals are properly maintained.



**Caution:** The instrument contains electrostatic discharge (ESD) sensitive devices. Use standard ESD precautions when handling the control circuit. See Chapter 2, Operation, for ESD details.

The FCI instrument requires very little maintenance. There are no moving parts or mechanical parts subject to wear in the instrument. The sensor assembly which is exposed to the process media is all stainless steel construction and is only susceptible to chemical attack based on the corrosion relationship of the RTD thermowell material with the process media.

## Maintenance

Without detailed knowledge of the environmental parameters of the application surroundings and process media, FCI cannot make specific recommendations for periodic inspection, cleaning, or testing procedures. However, some suggested general guidelines for maintenance steps are offered below. Use operating experience to establish the frequency of each type of maintenance.

### Calibration

Periodically verify the calibration of the output and re-calibrate if necessary. See Chapter 3 for instructions.

### Electrical Connections

Periodically inspect cable connections on terminal strips and terminal blocks. Verify that terminal connections are tight and in good condition with no sign of corrosion.

### Remote Enclosure

Verify that the moisture barriers and seals protecting the electronics in the local and remote enclosures are adequate and that no moisture is entering those enclosures.

### Electrical Wiring

FCI recommends occasional inspection of the system's interconnecting cable, power wiring and sensing element wiring on a common sense basis related to the application environment. Periodically the conductors should be inspected for corrosion and the cable insulation checked for signs of deterioration.

### Sensing Element Connections

Verify that all seals are performing properly and that there is no leakage of the process media. Check for deterioration of the gaskets and environmental seals used.

### Sensing Element Assembly

Periodically remove the sensing element for inspection based on historical evidence of debris, foreign matter, or scale buildup during appropriate plant shutdown schedules and procedures. Check for corrosion, stress cracking, and/or buildup of oxides, salts, or other substances. The thermowells must be free of excessive contaminants and be physically intact. Any debris or residue buildup could cause inaccurate switching. Clean the sensing element with a soft brush and available solvents that are compatible with the instruments wetted metal.

