What is a Temperature Recorder?

**Definition**
A temperature recording instrument is designed to continuously measure and permanently record the temperature of a specific application or condition over a predetermined period of time.

**Principles of Operation**
The Trerice Temperature Recorder Series L86000 has three primary aspects to its operation: a thermal system, a chart motor drive, and a circular temperature chart. The large 10" circular chart is characterized by a calibrated representation of temperature and time duration lines. The chart motor drive (electric or spring wound) turns the chart at an exact rate over a specific duration (24 hours or 7 days). The thermal system is comprised of a sensing bulb, a tube system, an internal hydraulic mechanism, and a pen arm with disposable pen. At a static temperature, the pen arm will remain stationary, producing a consistent ink measurement line. When the sensing bulb is exposed to a temperature change, the fluctuation is transmitted through the thermal system to the hydraulic mechanism within the instrument case. The hydraulic mechanism then repositions the pen arm, and the fluctuation is permanently marked as a temperature measurement on the chart.

**Selecting a Temperature Recorder**
The Trerice Temperature Recorder Series L86000 is available in various configurations, including portable models and two pen systems for dual measurements. The options in temperature range, time duration, motor drive, and thermal system are extensive and designed to meet most applications.

All Trerice Temperature Recorders should be carefully selected to meet the demands of the particular application. The information contained in this catalog is only offered as a guide to assist in making the proper selection. Improper application may cause failure of the instrument, resulting in possible personal injury or property damage.
What is a Temperature Recorder?

continued

Case
The L86000 Temperature Recorder can be surface or flush mounted. A portable version is also available. The case is constructed of a molded ABS plastic. The door assembly is constructed of an impact-resistant, clear acrylic plastic.

Accuracy
The Trerice L86000 Temperature Recorder is accurate to ± one minor chart division.

Ranges
The Trerice L86000 Temperature Recorder is available in a wide variety of Fahrenheit, Celsius, and dual scale ranges, suitable for most temperature recording requirements.

Thermal System
- **Bulb** – Trerice Temperature Recorders are furnished with a copper or stainless steel sensing bulb, depending upon the requirements of the application. A fixed union connection is standard, with an adjustable union connection optionally available. The fixed union connection is furnished with a standard sensing bulb length of 1.8” to 15.5”, depending upon the temperature range specified. The adjustable union connection may be adjusted over a 24” length prior to initial insertion. This allows the sensing bulb to be installed at any desired insertion length (U-length). Plain and Teflon covered bulbs are available for open tank applications. Please see the Temperature Recorder Thermal System section for complete bulb specifications.

- **Capillary** – Trerice Temperature Recorders can be specified with a maximum of 50 feet of capillary, in various materials and special covers to meet the requirements of any application.

Thermowells
For applications where the process media may be corrosive or contained under pressure, the use of a thermowell is required to prevent damage to the sensing bulb and facilitate its removal from the process.