Monitor with Confidence

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ISO 9001

OPERATING PRINCIPLE: Carlson Instruments are elastic wire strain meters containing two coils of highly elastic steel wire, one of which increases in length and electrical resistance when a strain occurs, while the other decreases. The ratio of the two resistances is independent of temperature (except for thermal expansion) and therefore the change in resistance ratio is a measure of strain. The total resistance is independent of strain since one coil increases the same amount as the other decreases due to a change in length of the meter. Therefore, the total resistance is a measure of temperature.

PRODUCT CATEGORY:
CARLSON INSTRUMENTS

Carlson Resistance Thermometer

The Carlson Resistance Thermometer is used for the remote reading of temperature where a quick response is not required. It is well sealed against moisture and its diffusivity is approximately that of concrete. Therefore it is especially suited for embedment in concrete to measure internal temperature.

The active element consists of a coil of copper wire wound non-inductively on an insulated spool in such a way as to be stress free.

Standard Carlson Thermometers have a resistance of 39.00 ohms at 0°F. Resistance increases at the rate of 0.10 ohm per degree Fahrenheit. To convert resistance readings to temperature, subtract 39.00 from the measured resistance and move the decimal by one digit to read the temperature in degrees Fahrenheit.

When any Carlson readout instrument is used, the resolution is 0.1°F. The useful range is limited by the insulating materials to between 0° and 180°F (-18° to +82°C). The thermometer is adjusted to be within 0.5°F at 70°F and the error is less than 1°F (0.5°C) throughout the range. It measures moderate changes in temperature accurately to 0.1°F (.05°C).

> APPLICATIONS

Remote reading of temperature where a quick response is not required.

> FEATURES

Long-term reliability and stability.	Simplified reading in degrees F.
Ideal for direct embedment in concrete.	Proven Carlson design.

> BENEFITS

✓ **Increase Safety**	✓ **High Accuracy**
✓ **Increase Productivity**	✓ **High Reliability**

SPECIFICATIONS

DESCRIPTION	SPECIFICATIONS FOR MODEL TM-1
Standard Range	0° to 180°F (-18 to +82°C) – may be extended as required
Resolution	0.1° F (0.05°C)
Weight	227 grams (0.5 lbs.)
Dimensions	22 mm X 95 mm (0.88 in. X 3.75 in.)
Cable	3 conductor X #16 gauge < 183 (600ft.) 3 conductor X #14 gauge > 183 m (600ft.)

SPECIFICATIONS

ITEM	PART #
Model TM-1	CA356A