



Customizable

Rugged, digital temperature measurements

Overview

The CS230 Temperature Profiler measures temperature using a rigid probe assembly and up to four external probes. The rigid probe assembly maintains the precise position of the temperature points within the profile, while protecting the temperature sensors in all mediums. The completely sealed probe assembly and external probes permit the CS230 to be used in roadbeds, soils, and water (snow and ice). Example applications include spring load adjustment, frost and permafrost monitoring, soil, and water or snowpack temperature profiling.

Benefits and Features

- › Customizable measurement spacing of temperature sensors for a variety of applications
- › Up to four external probes for simplified roadbed installation
- › Electrical surge protection provided by SGB3
- › One SDI-12 channel used to connect all temperature sensors
- › Low power—suitable for remote applications
- › No calibration required
- › Serial number and installation depth data for each location stored onboard each sensor
- › Excellent long-term stability of measurements
- › Comprehensive measurement range

Specifications

- › Operating range: -55° to $+85^{\circ}$ C
- › Accuracy (includes lifetime drift)
Typical: $\pm 0.2^{\circ}$ C (-40° to $+85^{\circ}$ C)
Worst case: $\pm 0.4^{\circ}$ C (-40° to $+85^{\circ}$ C); $\pm 0.5^{\circ}$ C (-55° to -40° C)
- › Resolution: 0.0078° C
- › Communications: SDI-12
- › Maximum length: 3.0 m (118 in)
- › Probe Diameter: 2.13 cm (0.84 in)
- › Maximum cable length: 152 m (500 ft)
- › Maximum number of sensors per probe: 32
- › Minimum spacing: 5 cm (1.97 in)
- › Supply voltage: 9 to 28 Vdc
- › Current consumption:
Quiescent current draw per sensor: 1.0 mA (maximum)
Active current draw: 20 mA + (number of sensors * 1.0 mA)
- › Warm up time on power up: 10 s
- › Lifetime minimum/maximum temperature recording
- › User resettable minimum/maximum temperature recording
- › Automatic 1 s temperature update

