



Rugged, Reliable

Passive no-contact detector, ideal replacement for snow pillow

Overview

The CS725 measures snow-water equivalent (SWE) by passively detecting the change in naturally occurring electromagnetic energy from the ground after it passes through snow cover. It is mounted above the ground and has no contact with the snow. As the snow pack increases, the sensor detects the attenuation of the electromagnetic energy from the ground, and SWE can be calculated. The measurement area of the CS725 is 50 to 100 square meters (540 to 1,075 square feet), making it an excellent replacement sensor for the traditional snow pillow and snow scale.

Common applications for the CS725:

- › Hydroelectric power forecasting and hydropower potential forecasting (Read the "[Northern Canada: Hydroelectric Power Forecasting](#)" case study.)
- › Seasonal run-off management
- › Flood forecasting and risk management
- › Irrigation planning and management

Benefits and Features

- › Non-contact measurement
- › Excellent replacement for traditional snow-pillow sensors
- › Does not cause the melt of light snow
- › Greatly reduces the need for site visits
- › No site preparation or earthworks required for set-up
- › Performance not affected by rainfall or snowfall
- › Effective with any type of snow or ice
- › Will not cause snow drifting
- › Seven-year maintenance cycle
- › No antifreeze chemicals used (i.e., glycol)

Detailed Description

The CS725 uses an innovative, non-contact method of measuring snow water equivalent (SWE). It passively detects the change in naturally occurring electromagnetic energy (mainly from the decay of ^{40}K) from the ground after it passes through snow cover.

As SWE changes, the amount of energy that penetrates the snow pack changes—regardless of what state of the water (that is, liquid or frozen). A sensor installed above the ground prior to the first snowfall will have a base-line measurement of the electromagnetic energy coming from the ground. As snow accumulates and energy is attenuated, the SWE value will

increase. The CS725 has an internal processor that determines the SWE and sends this information to a data logger or

communication device via RS-232.

Specifications

| | |
|-----------------------------|--|
| Measurement Range | 600 mm maximum water equivalent |
| Accuracy | » ±15 mm (from 0 to 300 mm) » ±15% (from 300 to 600 mm) |
| Resolution | 1 mm |
| Coverage Angle | 60° |
| Operating Temperature Range | -40° to +40°C |
| Power Requirements | 11 to 15 Vdc |
| Power Consumption | 180 mA |

| | |
|----------------------|---|
| Output Options | RS-232 (1200 to 115200 bps) |
| Cable Type | Four conductor, two-twisted pair, 22 AWG, Santoprene jacket |
| Warranty | 2 years |
| Maximum Cable Length | 30 m (98.43 ft) |
| Diameter | 12.7 cm (5 in.) |
| Length | 62 cm (24.4 in.) |
| Main Body Weight | 9 kg (20 lb) |
| Collimator Weight | 25 kg (55 lb) |
| Total Weight | 34 kg (75 lb) |

For comprehensive details, visit: www.campbellsci.com/cs725 



Campbell Scientific, Inc. | 815 W 1800 N | Logan, UT 84321-1784 | (435) 227-9120 | www.campbellsci.com
AUSTRALIA | BRAZIL | CANADA | CHINA | COSTA RICA | FRANCE | GERMANY | INDIA | SOUTH AFRICA | SPAIN | THAILAND | UK | USA

© 2020 Campbell Scientific, Inc. | 10/20/2020