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Road Weather / RWIS

Road Weather Information Systems and Weather Stations

Campbell Scientific, Inc. has designed and manufactured environmental monitoring and control systems since 1974. Over 100,000 systems have been fielded, most of which have been configured as weather stations, many used in the harshest of setting located literally from Pole to Pole. Our equipment is known for flexibility, dependability in hostile environments, precision measurements, and remote telecommunication options.



CSI's Environmental Sensor Stations (ESS) are robust, reliable weather stations that capitalize on our highly regarded electronic design experience and manufacturing expertise. The ESS is fully NTCIP compliant. CSI also brings to the RWIS industry the new concept of Customer in Control Technologies™ (CCT) permitting customers to specify "best of breed" hardware and PC software, including products from other CCT vendors. As a result, customers can benefit from customized economical alternatives to older generation "One Size Fits All" PC-hardware based product offerings.

System Benefits

1. Customer-owned data; modify and redistribute data without additional costs.
2. Maximum flexibility; choose the sensors and telemetry that meet your exact needs.
3. NTCIP compliant.
4. Web-based software provides management of data collection and display of data and alarm notification.
5. Non-proprietary/open architecture.
6. Low cost.
7. Proven reliability in harsh weather conditions.
8. Low power consumption allows remote operation without AC power.

Typical Configuration

Typical systems include tower, RPU, two road sensors, and remote communication hardware, as well as sensors for the measurement of wind speed and direction, air temperature, relative humidity, barometric pressure, solar radiation and precipitation.

Lufft Intelligent Road Sensor

- Road temperature (+ up to 2 sub-surface temperature measurements - optional)
- Residual salt content and calculation of freezing temperature
- Road surface condition - dry, moist, wet, ice, snow
- Water film level



Lufft Radar Rain Sensor



- Maintenance free
- Total precipitation
- Differentiation between rain and snow

Software

BlackTop™ PC Software

BlackTop™ is an advanced web-based package that provides customer management of data collection and display of: atmospheric weather, road surface conditions, custom units of measure, alarm notifications, etc. BlackTop™ collects data to NTCIP standards and stores data in an industry standard relational database (MS SQL Server). It provides complete customer control on display pages



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Case Studies

[Perugia, Italy: Road Weat...](#)

Recommended Products

[CR10X Measurement & Cont...](#)[IRS21 Lufft Intelligent ...](#)[LOGGERNET Datalogger Sup...](#)[UT30 Universal 30 ft Tow...](#)

Documents

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including:

- Stations Grouping
- Station Summaries at a Glance
- Reports
- Graphical Presentations
- Historical data viewing, analysis and export features
- Personal and Global Units of Measure

BlackTop™ makes use of Internet Explorer as its delivery mechanism. Open architecture with clearly defined user interfaces allows easy integration to other sub-systems such as bulletin boards, web display, and second-party forecasting services. Four User Groups are supported and consist of Administrators, Power Users, General Users, and Anonymous Users.

LoggerNet Datalogger (RPU) Support Software

LoggerNet allows a customer to directly modify RPU application programs or to develop new custom instruction sets entirely under customer control. LoggerNet also collects and archives diagnostic information about the ESS hardware and software at the ESS, or remotely via a number of telemetry options. Diagnostic information may be collected on demand or automatically scheduled. Data may be exported to second party analysis packages.



ESS Remote Processing Unit (RPU) with battery-backed power supply and phone modem



Installation of Intelligent Road Sensor

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