Remote road sensors DSC211 and DST111
Reliable surface state and temperature data for safety and efficiency

World class road condition data — without invasive installation and maintenance.

Around the globe, various organizations have adopted Vaisala's rugged, non-invasive road condition sensors. With simple installations that avoid traditional costs and complexities, the DSC211 and DST111 sensors provide accurate data, quick time to value, and improved decision-making.

The DSC211 Remote Surface State Sensor series uses proven laser technology to identify water, ice, slush, snow, frost, and determine grip — even with heavy traffic. The DST111 Remote Surface Temperature Sensor measures infrared radiation day and night, applying intelligence signal processing for outstanding accuracy.

With these technologies, there's no need to stop traffic or risk worker safety with disruptive installations. They can be mounted to poles, lamp columns, or overhead structures. And, while the sensors can be used individually, the best data results are achieved by combining DST111 and DSC211 with other sensors via a Vaisala weather station.

Key Benefits

Safer roads, better maintenance
These sensors enable you to deliver on your core mission of improving safety through more effective maintenance.

Cost efficiency and time to value
The sensors' simplicity, ruggedness, and ease of use add value beyond the data they provide — especially for agencies under budgetary pressures.

Accurate, data-driven decisions
With outstanding uptime and data availability, the sensors provide 24/7 road intelligence in all weather conditions — improving efficiency and decision-making.

Remote road state sensors at a glance

Applications

- Remote road condition measurement
- Road maintenance decision-making and prioritization
- Long-term roadway assessment/analysis from multiple reference points

Advantages over embedded sensors

- Versatile, with non-invasive installation
- Sensitivity for early detection of ice crystals before they impact traction
- Easy-to-read grip data
- No damage from premature pavement failure, overlays, snow plows, or pooling
- Optimized maintenance with help of lens dirt indication

Key features

Fast, non-invasive installation
The sensors can be mounted on existing structures, with a wide installation height range. They require little or no traffic disruption, drilling, or new construction.

Flexibility and ease of integration
When used in combination, the sensors provide a complete picture of road weather conditions. They can also be easily integrated with existing weather systems, such as the Vaisala Road Weather Station.

Dependability over long service lives. With automatic calibration and highly resilient designs, the sensors require little or no maintenance — unlike traditional sensors.

Why Vaisala?

Vaisala's weather and environmental technologies enable unrivaled road network awareness — keeping roadways safe and efficient in any season.

As the gold standard for precision and reliability, Vaisala's holistic approach provides customers with end-to-end simplicity, valuable partnership, and a comprehensive portfolio of solutions that are constantly evolving. Our 85+ years of innovation are reflected in our guiding principles for roads:

1. **Move ahead**
   Only Vaisala provides data of unrivaled depth and breadth while synthesizing it into objective decision support — so everyone can keep moving toward better, more insightful ways of operating.

2. **Mobility and beyond**
   We deliver the right insights to the right people at the right time, enabling a wide range of stakeholders to act with confidence and achieve a comprehensive understanding of their road networks and the vehicles on them — creating better, safer outcomes for all.

3. **The innovators**
   As a recognized industry expert, we continuously apply our knowledge and experience to create next-generation solutions that advance the industry; enabling stakeholders to innovate and optimize road networks like never before.

4. **See, understand, decide**
   Vaisala gives users rich data intelligence that improves real-time decision-making as well as observation enhanced forecasting to enable strategic planning. With a better, fuller understanding of their road network, users can do their jobs more decisively and effectively than ever.

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