Road Sensor DRS511

VAISALA

Product Spotlight

Precise, reliable measurements to ensure safety and mobility for roadways and airports

Collect real-time surface data that can be used to monitor road and runway conditions, optimize maintenance operations, and increase the effectiveness of surface treatments.

Key benefits

High-performance passive road sensors provide the most relevant information in changing winter weather conditions with accurate, uninterrupted data measurements and reporting.

Multi-measurement data access points measure temperatures and the amount of chemicals on the pavement, making it easier and faster to determine if the current chemical layer is thick enough to tolerate variances in driving conditions to treat roads before it's too late to make a big difference.

Why Vaisala?

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

Our instruments and intelligence are built on 85+ years of innovation and are known as the gold standard for precision and reliability. We understand how accurate data and insights do even more by driving sustainable road operations and climate action. Our holistic approach provides customers with end-to-end simplicity, valuable partnership, and a comprehensive portfolio that is constantly evolving.

As recognized experts in transportation, we continue to channel our curiosity into new ways of making roadways safer and more efficient than ever.

Embedded directly into the pavement, the DRS511 sensor measures a combination of the current amount of chemical, water layer, and surface and ground temperatures to ascertain whether there is enough salt on the road to prevent the pavement from icing over during inclement weather.

The DRS511 uses passive road sensor technology to continuously calculate the freezing temperatures from the conductivity measurement and the thickness of the solution on the sensor. This proven technology makes it less vulnerable to disturbances and easier to remove irregular values.

It's used widely and globally because it can provide measurements from the most interesting spot on the road — the wheel track. The durable, molded structure of the sensor allows it to wear with the road surface to minimize the need for maintenance work over time. There is also a specialized version available to use in places where lower sensor depth is necessary (e.g., on bridges).

What's more, it links to an RWS station where the road state is calculated and the data is converted into a viewable format.

Applications

- Continuous monitoring determines if there is enough de-icing chemical residual on the pavement to ensure driver and passenger safety.
- A versatile indicator for informed decision-making in road surface treatment options.
- Monitoring for changes in surface temperature and state to indicate the potential development of ice or frost.

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