



**optic-Q™**

Non-Intrusive Pavement Condition Sensor

## Overview

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The *optic-Q* is a non-intrusive pavement condition sensor designed to detect ice, snow, or water on the roadway. Multi-spectral imaging technology is used to detect pavement condition without having to install a sensor in the roadway. In addition, the *optic-Q* is able to provide a pavement grip measurement that determines the level of vehicle traction on the roadway, and it measures the depth of the ice, water or slush on the road surface. The *optic-Q* sensor is contained within a weather-proof, durable housing to protect it from harsh weather elements, which allows it to provide accurate readings during any weather condition.

The *optic-Q* benefits maintenance personnel by providing surface condition information, which allows appropriate action to be taken before roads become hazardous. The *optic-Q* is an excellent alternative in locations where invasive sensors cannot or do not want to be used. With no lane closures or cutting of the roadway required, installation is safe and easy. Maintenance requirements are low, making the *optic-Q* an affordable option for road weather systems. The sensor can be mounted on an existing road weather station or other structure where a clear, unobstructed view of the pavement is available.

## Benefits

- ▶ Detects water, snow and ice on the pavement surface
- ▶ Remotely senses condition of pavement surface
- ▶ Non-intrusive results in quick and easy installations
- ▶ Affordable solution for sensing road weather
- ▶ Low maintenance costs
- ▶ Use with existing RWIS network

## Applications

- ▶ Remote locations
- ▶ Bridge decks
- ▶ Problem areas
- ▶ High traffic areas
- ▶ Areas prone to hydroplaning
- ▶ Automated anti-icing systems

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## Features

- ▶ Remote surface sensing of water, ice, slush and snow
- ▶ Provides a road friction / grip measurement
- ▶ Provides a thickness measurement of water, ice, or slush
- ▶ Non-invasive design
- ▶ Insensitive to liquid deicing chemicals
- ▶ Infrared detector with up to 50 feet (15.24 meter) range
- ▶ Easy to install and maintain with no lane closures required
- ▶ Rugged design to withstand and measure conditions in all types of weather
- ▶ Interfaces with QTT Linux RWIS platforms



## Key Specifications

Model Number	TBD
Surface Condition Data Output	Ice; snow; slush; wet; damp; dry
Range	50 feet (15.24 meters)
Measuring Area Diameter	10 inches at 50 feet (25.4 centimeters at 15.24 meters)
Elevation Angle	30° to 90°
Power Input	9 to 36 VDC
Maximum Power	15 watts
Operating Temperature	-40°F to +150°F (-40°C to +65.5°C)
Operational Humidity Range	0 to 100%
Sensitivity	0.01 inches (0.025 centimeters) - ice 0.01 inches (0.025 centimeters) - water 0.05 inches (0.127 centimeters) - snow
Surface	Concrete or asphalt
Communication	RS-485 serial link
Mean Time Between Failures	1.5 x 10 <sup>6</sup> hours
Safety	No safety issue - non-laser technology



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