

*terra-Q*TM

NON-INTRUSIVE PAVEMENT CONDITION SENSOR

OVERVIEW

The *terra-Q* is a non-intrusive pavement condition sensor designed to detect ice, snow, or water on the roadway. The sensor utilizes an electro-optical sensor to detect pavement condition without having to install a sensor in the roadway surface. The *terra-Q* benefits maintenance personnel by warning them immediately when snow or ice begins to form and allows appropriate action to be taken before roads become hazardous.

The *terra-Q* sensor is contained within a weather-proof, durable housing to protect it from harsh weather elements. This allows the *terra-Q* to provide accurate readings during any weather condition.

The *terra-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. Additionally, maintenance requirements are low, making the *terra-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 formation of 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



terra-Q Sensor

terra-Q



terra-Q

NON-INTRUSIVE PAVEMENT CONDITION SENSOR

FEATURES

- ▶ Remote surface sensing of ice, snow, wet, damp and dry
- ▶ Easy to install with no lane closures required
- ▶ Infrared detector with up to 50 feet (15.24 meter) range
- ▶ Rugged design to withstand and measure conditions in all types of weather
- ▶ Wiper/washer to keep lens clean
- ▶ Window heater
- ▶ Interfaces with SSI® Linux RWIS platforms

PERFORMANCE SPECIFICATIONS

- ▶ Data output surface condition: ice/snow/wet/damp/dry
- ▶ Multiple wavelengths have the capability to detect black ice
- ▶ Measuring area diameter 36 inches at 50 feet (91.44 centimeters at 15.24 meters)
- ▶ Elevation angle 30° to 90°



WWW.QTTINC.COM



Quixote Transportation Technologies, Inc.
 11612 Lilburn Park Road • St. Louis, Missouri 63146
 Tel: (314) 569-1002 • Fax: (314) 569-3567
 Toll Free: (800) 325-7226
 www.qttinc.com

SPECIFICATIONS

Model Number	PCQ-2400
Power Input	12 VDC and 24 VAC
Maximum Power	66 watts
Operational Temperature	-40°F to 150°F (-40°C to 65.5°C)
Sensitivity	±1°F (±0.56°C) 0.01 inches (0.025 centimeters) ice/water 0.05 inches (0.127 centimeters) snow
Surface	Concrete or asphalt (factory selectable)
Communication	RS-485 serial link Optional RS-232 or RJ-45
Data Outputs	Surface condition: ice/snow/wet/damp/dry
Dimensions	12.5 inches x 3.75 inches (31.75 centimeters x 9.52 centimeters)
Weight	17 lbs. (7.71 kg)
Lens Cleaning	Wiper/washer enclosure Window heater
Mean Time Between Failures	1.5 x 10 ⁶ hours
Contaminant	Insensitive to liquid deicing chemicals
Safety	Eye safe class 1 laser
Diagnostics	Start up BIT once digital test signal input

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