

Surface Patrol® HD

Mobile Pavement Data Sensor

Overview

The Surface Patrol HD is an advanced mobile weather sensor capable of providing pavement temperature, air temperature, relative humidity and dew point readings - all while on the move. The Surface Patrol HD is used to detect possible freezing temperatures on the pavement. It assists maintenance personnel in determining when conditions are favorable for the formation of frost or black ice on roadways and can possibly indicate when precipitation is about to begin.

The Surface Patrol HD provides comprehensive road weather data in a vehicle for real-time decisions. If your vehicles are equipped with mobile data collection, Surface Patrol HD will significantly increase your road weather network.

Let the Dew Point Work for You

Frost or black ice is one of the most dangerous road weather conditions because it is hard to see and forms quietly without detection. Frost and black ice forms when the pavement surface cools to a temperature that is colder than the **dew point** of the air above it. When this occurs, water vapor condenses on the pavement surface.

The dew point can also assist in determining when precipitation will begin. If precipitation is forecast in your area and you begin to see the **dew point** rise closer to the air temperature, it can indicate that the forecast precipitation is about to begin.

Next time let dew point work for you. Surface Patrol HD will give you the advantage of monitoring dew point as you drive.



Benefits

- ▶ Mobile sensor provides real-time pavement data for your entire route
- ▶ Data allows you to predict when frost or black ice will occur on the pavement
- ▶ Monitoring dew point readings allows you to determine when precipitation may occur
- ▶ Determine when road treatment is necessary, resulting in cost savings
- ▶ Compatible with Surface Patrol® infrared pavement temperature sensor

Applications

- ▶ Winter maintenance operations (snow plows, supervisor vehicles, etc.)
- ▶ Airport grounds vehicles
- ▶ Roadway pavement marking (paint striping)
- ▶ Other fleet vehicles to increase your AVL network



Surface Patrol HD Components

Features

- ▶ Measures dew point, relative humidity, air and pavement temperatures
- ▶ Easy to install and maintain (field serviceable sensor)
- ▶ Dash-mounted digital display shows all data readings
- ▶ Surface temperature sensor can be calibrated in the field
- ▶ No need for field calibration for the moisture sensor (factory calibrated)
- ▶ Infrared pavement temperature sensor with patented cone design to protect lens
- ▶ Capacitive polymer relative humidity sensing technology



Key Specifications

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|------------------------------|---|
| Surface Temperature Accuracy | ±0.5°F (0.28°C) at 32°F (0°C) |
| Dew Point Accuracy | ±2°C at 0°C at relative humidity values greater than 70% |
| Surface Sensor Input Voltage | 12 or 24 VDC unregulated |
| Surface Sensor Shock | 50 Gs |
| Surface Sensor Vibration | 10 Gs in any axis |
| Surface Sensor Optics | Precision crystal (germanium lens) |
| Cable Length | 15 feet (4.57 meters) for the HD sensor; 18 feet (5.5 meters) for the surface temperatures sensor |
| Operating Temperature | -40°F to +160°F (-40°C to +71.1°C) |
| Operational Humidity Range | 0 to 100% RH |
| Dual Digital Meter | High brightness, red LED simultaneously displays: <ul style="list-style-type: none"> ▶ Pavement temperature and dew point ▶ Air temperature and relative humidity |
| RF Hardened | Withstands external radio frequency effects caused by mobile radios |
| Digital Output | RS-232 with surface temperature and dew point output 10 times per second |
| Analog Output | 4 to 20 mA; 1 to 5 V with surface temperature and dew point output 10 times per second |
| CE Compliant* | Directive 2004/104/EC |

*CE compliance applies to surface temperature sensor only.



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