

MODEL 5436

Mobile Surface Sentinel Surface Temperature Sensor

- Fast Environmental Acclimation Rate
- Sensor-to-Display Bluetooth Connectivity
- Color LCD Display
- Fully Sealed Weatherproof Design
- Integrate with Existing AVL Systems



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Description:

The Model 5436-10 Mobile Surface Sentinel provides accurate surface temperature and air temperature, in real-time, to a vehicle operator on a color LCD. Premium materials are used, providing rapid temperature response rates, to meet the demands of road weather management professionals. An alarm is provided to alert the vehicle operator of freezing conditions.

The Mobile Surface Sentinel sensor connects to the Mobile Display Unit (MDU) via wireless Bluetooth for simple installation without the need to route wires from outside to inside the vehicle. Simply connect each unit to a vehicle power source. The

sensor mounts outside the vehicle, pointed at the road surface. The MDU mounts inside the vehicle to display the road surface and air temperature as a number and a graph. The display uses a high resolution color LCD that is configured with an easy to navigate menu. A menu selectable RS-232 or RS-485 serial output is made available via a connector with screw terminals on the back of the MDU for easy integration into new or existing Automated Vehicle Location (AVL) units.

FEATURES AND BENEFITS:

- Measures both air temperature and surface temperature in real-time
- Bluetooth connectivity to Mobile Display Unit (MDU) reduces installation time and cost associated with routing wires
- Rapid air and surface temperature response time to allow faster maintenance decisions
- Ability to calibrate the sensor in the field
- User adjustable temperature alert brings attention to the driver of freezing conditions
- Numerical and graphical display of sensor data
- RS-232 and RS-485 serial output standard from MDU allows for easy integration to AVL units
- Ambient light sensor automatically adjusts brightness of MDU for day and night operation

PRODUCT APPLICATIONS:

- Help determine chemical type and application rates for winter maintenance operations
- Tool for thermal mapping when connected to on-board controllers or AVL
- Low cost way to fill in gaps between existing road weather stations (RWIS)
- Alerting paint stripe crews that the road temperature is ready to start work

02-5436-10(A)

Environmental Monitoring Solutions

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SPECIFICATIONS:

Mobile Surface Sentinel

Range	1.5 to 15 ft (0.5 to 4.5 m)
Angle	0 to 10° from vertical
Field of View	10°, 10.5 inch (27.7 cm) circle at 5.0 ft (1.5 m)
Surface Temperature Range	-40° to 185°F (-40° to 85°C)
Surface Temperature Accuracy	±1° at 32°F otherwise ±2°F (±0.5°C at 0°C otherwise ±1°C)
Air Temperature Range	-40° to 185°F (-40° to 85°C)
Air Temperature Accuracy	0.45°F (±0.25°C) Typical
Supply Voltage	9-30 VDC, Reverse Polarity Protected
Average Current Consumption	0.21 Watts, active mode; 0.05 Watts, standby mode (MDU off)
IR Sensor Emissivity	0.96
Sampling Period	100ms, or 10 times per second
Data Reporting Period	½ second
Communications	Bluetooth to MDU
Materials	Hard Anodized Aluminum, Stainless Steel, Plastic
Power Cable	10 ft (3 m) standard, 105°C, PVC jacket, 18AWG
Operating Environmental Temp.	-40 to 185°F (-40 to 85°C)
Operating Environmental Humidity	0 to 100% Relative Humidity
Dimensions	5.5 x 2.3 x 3.6 inch (14.0 x 5.8 x 9.1 cm)
Weight	1 Lbs (0.45 kg)
Shipping Weight	2 Lbs (0.91 kg)

Mobile Display Unit (MDU)

LCD Resolution	240 x 320 pixels
Display update period	½ second typical, or as data arrives
Units	User Selectable °F or °C
Supply Voltage	9-30 VDC, Reverse Polarity Protected
Average Current Consumption	1.2 Watts
Buttons	Capacitive Touch
Light Sensor	Photo-diode
Communications	Bluetooth, RS-232, RS-485
Materials	Acetal Resin
Power Cable	10 ft (3 m) standard
Operating Temperature	-4 to 140°F (-20 to 60°C)
Operating Humidity	10 to 90% Non-condensing
Dimensions	3.0 x 2.3 x 2.0 inch (7.6 x 5.7 x 5.1 cm) with ball head
Weight	0.7 Lbs (0.30 kg)
Shipping Weight	1 Lbs (0.45 kg)

Warranty..... 2 years

ORDERING GUIDE:

Model 5436-10 Mobile Surface Sentinel with Mobile Display Unit	Model 5436-70 MSS Universal Mounting Bracket
Model 5436-01 Mobile Display Unit (replacement)	Model 5436-71 MSS Mirror and Bumper Mount
Model 5436-12 Mobile Surface Sentinel (replacement)	Model 5436-73 MSS License Plate Mounting Bracket
Model 5100-00 MSS Additional Sensor Cable (per foot)	Model 5436-80 MDU Universal Mounting Bracket
Model 5436-61 MDU Vehicle 12 VDC Power Receptacle Cable	Model 5436-81 MDU Dash Mount
Model 5436-65 USB to serial cable with bare leads	Model 5436-82 MDU 2 inch Gauge Mount

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