



# AEROSPACE RECOMMENDED PRACTICE

ARP5623™

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Superseding ARP5623

Mobile Digital Infrared Pavement Surface,  
Ambient Air and Dew Point Temperature Sensor System

## RATIONALE

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## 1. SCOPE

This SAE Aerospace Recommended Practice (ARP) covers the requirements for a combined Mobile Digital Infrared Pavement Surface, Ambient Air, and Dew Point Temperature Sensing System (referred to as the system). The system monitors real-time surface, air and dew point temperatures of airfield pavement areas to ensure safe winter ground operations of aircraft and other vehicles. The vehicle mounted electronic system provides the operator with real-time readings of surface, air and dew point temperatures of airfield pavement areas including runways, taxiways, ramps, bridges, vehicular roadways, parking garages and parking lots. The electronic system shall be available with or without the dew point sensing option.

This electronic system can be utilized as a stand alone system at small airports, or may be used to augment airport operations that currently have a Stationary Runway Weather Information System (reference ARP5533). Because the electronic system is mobile, it can be utilized to measure pavement temperatures at locations where an in-pavement sensor or weather station is not located.

## 2. APPLICABLE DOCUMENTS

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), [www.sae.org](http://www.sae.org).

ARP5533 Stationary Runway Weather Information Systems (In-Pavement)

### 2.2 FAA Publications

Available from Federal Aviation Administration, 800 Independence Avenue, SW, Washington, DC 20591, Tel: 866-835-5322, [www.faa.gov](http://www.faa.gov).

Latest Edition - AC 150/5200-30C: "Airport Winter Safety and Operations"

## 3. TECHNICAL REQUIREMENTS

### 3.1 General Description

The full electronic system shall consist of the following components (not all components are required for a basic system) (see Figure 1).

### 3.2 Temperature Sensors

The electronic system shall include a mobile infrared pavement surface temperature sensor, an ambient air temperature sensor, and (an optional) dew point temperature sensor. The sensors are typically mounted on airfield operations or maintenance vehicles (such as patrol vehicles, anti-icing trucks, friction testers, plows, multifunction vehicles, etc.). These types of vehicles drive on airfield pavements where the system data is extremely useful in making important winter maintenance and operations decisions. These decisions include determining the type and application of anti-icing chemicals, and the correct snow removal techniques to utilize to maintain acceptable pavement surface friction readings. The optional dew point sensor enables the operator to predict when atmospheric and pavement conditions are favorable for formation of frost or black ice on the surface of the pavement.