



Runway Surface Condition Sensor 6901 Series



Overview

The All Weather, Inc. (AWI) 6901 Series of Runway Surface Condition Sensors is used with the AWI Automated Weather Observing System (AWOS). These sensors provide ATC controllers and pilots with important information on runway surface conditions that are critical to risk reduction and decision-making related to takeoffs, landings, braking procedures, and GO/NO-GO decisions.

The 6901 Runway Surface Condition Sensor is mounted flush with the runway surface. The two-part housing design allows the combined sensor/electronics unit to be easily removed for maintenance or calibration at any time.

The following parameters are reported and recorded.

- Runway surface temperature
- Water film height
- Freezing temperature for de-icing materials
- Runway surface conditions

Adding the 6901 Runway Surface Condition Sensor to an AWI AWOS provides the additional ability to generate **Runway Condition Reports (RCR)** that provide reliable and accurate runway information, meeting the stringent needs of ICAO's **Global Reporting Format (GRF)**.

SPECIFICATIONS

Parameter	Specification
<i>General</i>	
Runway Surface Temperature	-40°C to 80°C
Water Film Height	0 to 4 mm
Operating Temperature Range	-40°C to 80°C
Operating Relative Humidity Range	0–100%
<i>Electrical, Communications, and Physical Details</i>	
Power	9–14 V DC, nominal 12 V DC, <200 mA
Communications	RS-485
Baud Rate	2,400...38,400 bps, standard 19200 bps
Dimensions	50 mm high x 120 mm diameter
Weight (without cable)	800 g
Cable Length	50 m or 100 m options
Connector	CAGE CLAMP, WAGO (cross section <0.5 mm ²)
Protection Type	IP68
<i>Technical Data</i>	
Detectable Runway Surface Conditions	Dry, Moist, Wet, Moist with Contaminants, Wet with Contaminants, Ice
Runway Surface Dampness	Dry, Damp, Wet, Damp with Contaminants, Wet with Contaminants
Slippery Runway Conditions	No Ice/Snow, Snow, Ice
<i>Runway Surface Temperature</i>	
Measurement Principle	NTC
Measuring Range	-40°C to 80°C
Accuracy	±0.1°C (-20 to 20°C), otherwise ±0.2°
Resolution	0.1°C
<i>Freezing Point</i>	
Measuring Range	-40°C to 0°C
Accuracy	±0.5°C (0 to -2.5°C), otherwise ±20% of average value
Resolution	0.1°C
<i>Water Film Height</i>	
Measurement Principle	Radar
Measuring Range	0 to 4 mm
Accuracy	Better than ±30% of measurement (0.2 mm to 3 mm)
Resolution	0.01 mm

ORDERING INFORMATION

Part Number	Description
6901-50	Runway Surface Condition Sensor with 50 m cable
6901-100	Runway Surface Condition Sensor with 100 m cable



All Weather Inc.

www.allweatherinc.com

Phone: 916-928-1000
USA Toll Free: 800-824-5873
Fax: 916-928-1165

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