

Orion Vehicle Mount™ Weather System

For Fire
Hazmat &
Emergency
Operations



ALPHA 5.3.1
File Edit SiteData Setup Display Sharing SAM Options Help

Site Summary

SITE DATA INFORMATION:
Location: PHOENIX, ARIZONA
Building Air Exchanges Per Hour: 1.00 (sheltered single storied)
Time: October 14, 2005 1229 hours MST (using computer's clock)

CHEMICAL INFORMATION:
Chemical Name: AMMONIA
Molecular Weight: 17.03 g/mol
ERG-2: 750 ppm ERG-2: 150 ppm
IDLH: 300 ppm
Normal Boiling Point: -28.2° F Ambient Boiling Point: -29.5° F
Vapor Pressure at Ambient Temperature: greater than 1 atm
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC INFORMATION: (SAM ON)
No Inversion Height
Relative Humidity: 15% Cloud Cover: 0 tenths
Wind: 14.8 mph from 77° true at 3 meters Ground Roughness: open country
Air Temperature: 80° F

SOURCE STRENGTH INFORMATION:
Direct Source: 250 gallons/hr Source Height: 0
Source State: Liquid
Source Temperature: equal to ambient
Release Duration: 60 minutes

Weather Master 2000
File Options Configuration SW
Weather Station: [StationName]
Graphical [Current Conditions] Trend [Min/Max] Statistics

4/15/2004 1:02:00 PM

Temperature 1	49.2 °F	Wind Chill	41.3 °F
Relative Humidity	66 %	Dew Point	38.7 °F
Altimeter	29.92 inHg	Heat Index	49.0 °F
Rainfall	0.22 inches	Wind Speed	7 mph

Columbia Weather Systems

Footprint Window
Y-axis: 0 to 150
X-axis: 0 to 100
A yellow footprint is shown on a grid.

Plot Window
Title: Temp
Y-axis: 38 to 42
X-axis: 02:00AM to 12:00PM
A line graph showing temperature fluctuations over time.

www.columbiaweather.com
1-888-508-7375



Orion Vehicle Mount™ Weather Station

Sensor Specifications

Wind Speed: Ultrasonic

Range: 0-115mph

Accuracy: ± 0.7 mph

Resolution: 1 mph

Units Available: knots, mph, km/hr, m/s

Wind Direction: Ultrasonic

Azimuth: 0-360°

Accuracy: $\pm 2^\circ$

Resolution: 1°

Units Available: ° Azimuth

Temperature: Capacitance

Range: -60 to 140°F

Accuracy: $\pm 0.5^\circ\text{F}$ at 68°F

Resolution: 0.1°F

Units Available: °F, °C

Relative Humidity: Capacitance

Range: 0 - 100%

Accuracy: $\pm 3\%$ (0-90%), 5% (90-100%)

Resolution: 1%

Units Available: %RH

Barometric Pressure: Capacitance

Range: 17.50 to 32.50 InHg

Accuracy: ± 0.015 InHg at +32 to 86°F

± 0.03 InHg at -60 to 140°F

Resolution: 0.1 InHg

Units Available: Kpa, mbar, InHg

Precipitation: Impact

Range: cumulative

Collection Area: 602cm

Accuracy: $\pm 5\%$ (spatial variations may exist)

Resolution 0.01 in. (0.254mm)

Units Available: mm, inches



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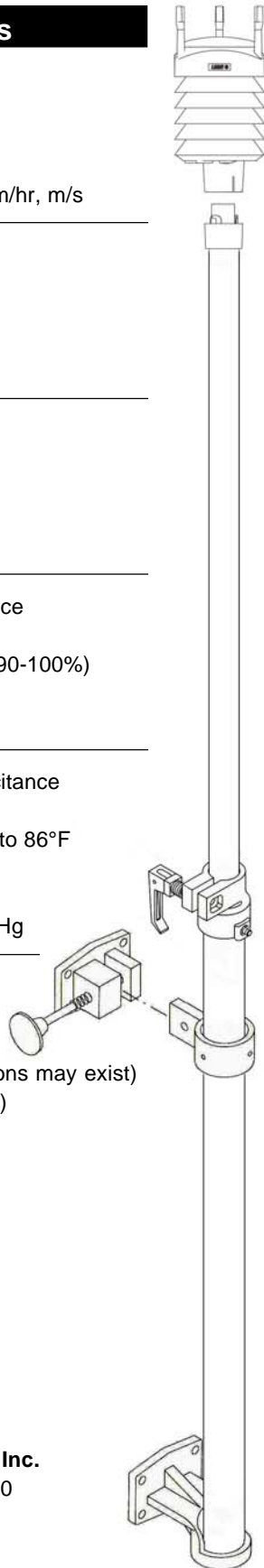
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The vehicle-mounted Orion™ Weather Station is specifically designed for Emergency Management. The mast and sensor module attach quickly and easily to any Incident Command or HazMat Response Vehicle once the exterior mounting brackets are permanently installed.

Features

This compact, all-in-one sensor module is very durable and has no moving parts. A single cable attaches through an external connector mounted on the vehicle. Inside, the Orion Interface Module provides power to the sensor transmitter and communication ports for both computer and Weather Display Console.

The 8-ft telescoping sensor mast is made of rugged anodized aluminum, with heavy-duty, powdered-coated steel mounting brackets.

The built-in North Orientation Offset feature quickly and efficiently orients wind direction readings. A permanent “snap-on” mounting adapter allows you to quickly remove and reinstall the sensor head without losing North orientation.

Monitoring Options

WeatherMaster 2000™ is a professional monitoring and database software which automatically interfaces with **CAMEO/ALOHA** software for HazMat applications such as plume modeling.

CWS's **Weather Display Console** is a dedicated, touch-screen display that can be rack-mounted in the vehicle.

Weather Parameters

- Temperature
- Barometric pressure
- Wind direction
- Wind speed with gust
- Relative humidity
- Rainfall

Calculated Parameters

- Average wind speed
- Heat index
- Wind chill
- Daily max/mins

Standard System Includes:

- Sensor Module: Orion 510 Transmitter housed in a Self-Aspirating Radiation Shield with
 - Temperature Sensor
 - Relative Humidity Sensor
 - Digital Barometer
 - Ultrasonic Wind Direction/Speed Sensor
 - Impact Rain Sensor
- Orion Interface Module with Dual Communication Ports
- Orion Data Manager Software
- Comprehensive User Manual
- Telescoping Sensor Mast (8-foot) and Truck Mount Brackets
- RS-232 Computer Cable, 6 feet

Ordering Information:

9520-B-1 Standard system with WeatherMaster 2000 Software

9520-C-1 Standard system with Weather Display Console

9520-C-2 Standard system with 19" Rack-Mt Weather Display Console

9520-D-1 Standard system with Weather Display Console and

WeatherMaster Software