

EMERGENCY RESPONSE WEATHER STATION

CAMEO/ALOHA HAZMAT

FEATURES:

- Solid-State (No Moving Parts) Sensors
- Flux-Gate Compass
- ALOHA Compatible Digital Output
- Vehicle Mounted or Radio Telemetry
- Up to 20 Miles Line-Of-Sight Telemetry Distance

Met One's CAMEO/ALOHA HAZMAT Rapid Response Weather Station is the perfect choice for any application requiring a lightweight, low power, rapidly deployable first response weather station. Supplied in one of two rugged transit cases (depending on system version), this system is applicable to any emergency response application associated with homeland security, hazardous material spills, NBC threats, man-made or natural disasters, and other similar situations.

The CAMEO/ALOHA HAZMAT Rapid Response Weather Station is a Commercial-Off-The-Shelf (COTS) system used to determine surface meteorological conditions and the data can be used in a multitude of both civil and military applications. System setup is easily done in minutes and requires no tools or orientation of the sensor. The total sensor package is only 12 inches high and 4 inches in diameter, and weighs a mere 2.5 pounds, which is less than a third of that of our competitors' systems.

The basic vehicle mounted system consists of Met One's AIO 2 Sonic Weather Sensor, sensor mount, power/data interface cable, and a sensor transit case.



The data output from the system is a CAMEO/ALOHA compatible serial data stream. The user supplies the PC to run the application software such as CAMEO/ALOHA with MARPLOT or Met One's WeatherView display and data logging program. The telemetry version of the system adds two spread-spectrum radio transceivers operating in the 900 MHz band, a tripod, and any necessary antennas, cables, batteries, charger, and the appropriate transit case. A 2.4 GHz radio is available as an option for applications requiring deployment in countries other than the USA, Canada, Australia, or Israel.

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TRANSIT CASE ASSEMBLY FOR THE BASIC VERSION OF THE RADIO TELEMETRY HAZMAT SYSTEM

- AIO 2 Compact Weather Sensor
- Battery
- Base Station Data Logger
- Radio Transmitter
- Quick-Connect Charger and Data Interface Connections



The AIO 2 Sonic Weather Sensor measures the wind speed, wind direction, air temperature, relative humidity, and barometric pressure. An internal flux-gate compass is used to automatically orient the AIO 2 Sonic Weather Sensor wind direction data to magnetic North. This means that the sensor does not require any special alignment during deployment.

Software access to the AIO 2 Sonic Weather Sensor processor is provided so that the magnetic declination can be entered to provide wind direction data referenced to True North, which is required by the CAMEO/ ALOHA program. The range of the basic telemetry version system is about 1500 feet indoors and 1 - 2 miles line-of-sight (LOS) outdoors with the basic omni antennas. The AIO 2 mounts on a ¾ inch IPS (1 inch OD) vertical pipe stub via its supplied mounting adapter and includes a 35-foot power and data interface cable.



HAZMAT SYSTEM COMPONENTS

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AIO 2 SONIC WEATHER SENSOR



Power for the AIO 2 Sonic Weather Sensor and the rest of the remote site system components is provided from a commercially available, 8AH rechargeable battery. This battery, when fully charged, will operate the basic CAMEO/ ALOHA HAZMAT Weather Station system more than 5 days before requiring recharging or replacement. The basic system transit case holds the AIO 2 Sonic Weather Sensor, battery, radio transmitter, cables and other accessories.

For extended or long-term operations, a larger transit case including a higher capacity battery and a flexible solar panel charger is available as an option. This option also extends the telemetry range of the system to approximately 20 miles LOS, by adding an 8 dB gain Yagi directional antenna.

Met One's AIO 2 Sonic Weather Sensor includes several new features now possible with improved sensor technology resulting from our commitment to product improvement. The AIO 2 Sonic Weather Sensor incorporates Met One's unique folded-path, low-power sonic anemometer, with a temperature sensor, a fast-response, capacitive relative humidity sensor, a barometric pressure sensor, and a flux-gate compass to automatically orient the wind direction data to North. An on-board microprocessor controls the sensor and provides a serial ASCII output that is RS-232 compatible.

The AIO 2 Sonic Weather Sensor is designed for maximum durability, portability, and utility, making it uniquely applicable for rapid deployment and use by one person under adverse conditions.

PERFORMANCE:

Wind Speed

Range 0-60 m/s (0-134 mph)
 Accuracy* ± 0.5 m/s (1.1 mph) or 5%
 Resolution 0.1 m/s (0.1 mph)

Wind Direction

Range 0-360°
 Accuracy* $\pm 5^\circ$ @ wind speed > 2.2m/s (5 mph)
 Resolution 1.0°

Compass

Accuracy $\pm 2^\circ$

Temperature

Range -40°C to +50°C (-40°F to 122°F)
 Accuracy $\pm 0.2^\circ\text{C}$ ($\pm 0.4^\circ\text{F}$)(sensor element)
 Resolution 0.1°C

Relative Humidity

Range 0 - 100 percent
 Accuracy ± 3 percent
 Resolution 1.0 percent

Pressure

Range 500 - 1100 hPa
 Accuracy ± 0.5 hPa @ 25°C
 Resolution 0.1 hPa

ELECTRICAL:

Power Requirements Sensor: 8-36 VDC, 40 mA @ 12 VDC
 Radio: 9-16 VDC, 80 mA @ 12 VDC
 Signal Output RS-232 Serial data, ALOHA compatible

TELEMETRY:

Frequency 902 - 928 MHz (2.4 - 2.4835 GHz optional)
 Serial Data Interface RS-232, USB

Antenna ½- wave dipole whip (Yagi optional)
 Link Throughput 105 Kbps (max.)
 Transmit Power Output 250 mW
 Certifications

FCC Part 15.247 MCQ-XB900HP
 Industry Canada 1846A-XB900HP
 Mexico 1 FT RCPDIXB15-0672-A1

ENVIRONMENTAL:

Temperature -40° to 60°C (-40° to 140°F)
 Humidity 0-100%
 Altitude -100 to +10,000 ft MSL

**This accuracy is maintained when the sensor is within ± 10 degrees of vertical. WD accuracy includes compass.*

SHIPPING: Standard Case

Weight 28 Lbs
 Volume 5 ft³

Specifications are subject to change at any time.

