BASIC WEATHER STATIONS

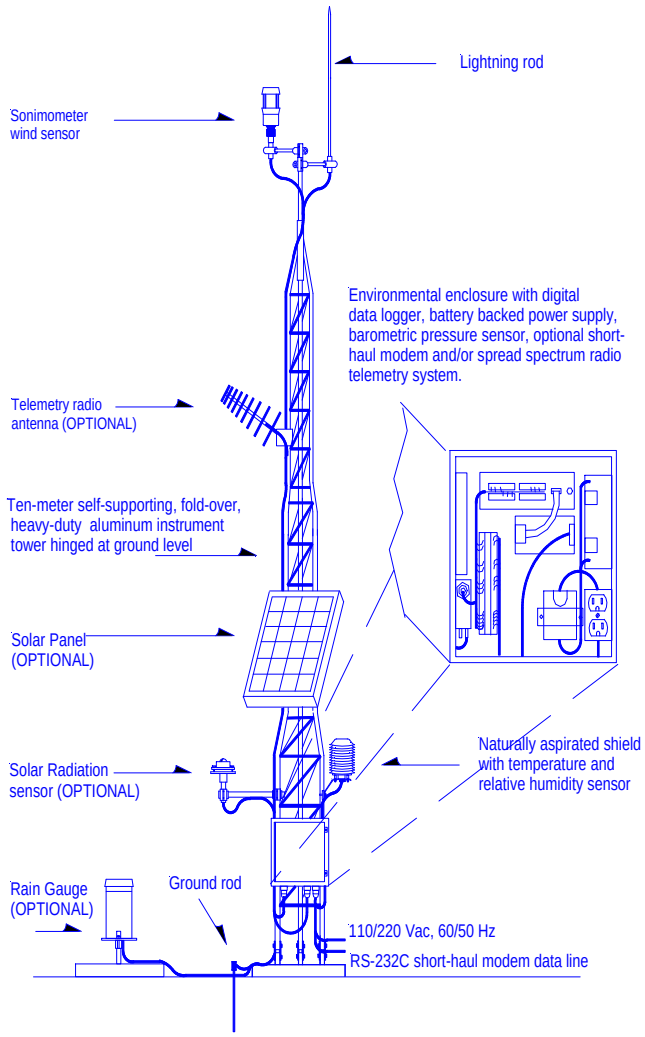
FEATURES

- **Complete Integrated System**
- **Reliable, Proven Sensors**
- **ASCII, RS-232C or RS-422/485 Compatible**
- **Optional MODBUS protocol**
- **Low Power CMOS Design**

The weather is monitored for many reasons as it can have a major impact our lives and our work. For example, real-time information about ambient atmospheric conditions provides the necessary input data required to make the proper decisions during an industrial emergency involving any type of hazardous material. Depending on the plant type, size and age, the federal Environmental Protection Agency (EPA), as well as municipal and state environmental regulatory organizations, also requires that a number of basic meteorological variables are continuously measured and recorded on site to ensure compliance with environmental regulations. Other applications include transportation safety, energy conservation and development, wind power systems, food and forest production, climatological studies, health effects research, and for forecasting severe storms.

Climatronics' Basic Weather Stations are designed to provide users with an easy way to assemble an integrated weather monitoring system that meets all of their needs and will collect all the weather data they need. The system uses reliable and accurate sensors to measure the weather variables of interest. The sensors are connected to a data logger which is housed in a weatherproof enclosure. The data logger supplies excitation signals to the sensors and converts the sensor output signals to digital data, which are RS-232C or RS-422/485 compatible and available in printable or comma delimited ASCII or optionally with MODBUS protocol. The data logger will also store the data and, if required, perform computational preprocessing such as averages, standard deviations, max/min, as well as certain control functions.

BASIC WEATHER STATION



When isolated 4-20 mA current loop signals are required and/or when on-site data storage is not required, the Universal Interface Module (UIM) is used as a lower cost alternative to the data logger. The data logger can also be provided with digital to analog converters for this function.

Climatronics has developed and is producing a sonic anemometer of novel design that can replace traditional wind sensors. We call this sensor the Sonimometer™, which is a standard feature of our Basic Weather Station that provides several advantages over both mechanical and other solid-state sensors. With no moving parts, it requires no periodic maintenance, lowering the user's life-cycle costs. Our unique design means that it can tolerate a build-up of dirt, dust, snow, or other foreign matter in the sensing volume without measurement degradation. The design also improves accuracy and reliability since there are no 'arms' supporting the transducers to move, vibrate, or to provide roosts for birds. The digital output of the Sonimometer™ also means that there will be no conversion (A-D) or line-loss errors. For those who prefer a mechanical wind sensor, that option is also available.

ORDERING INFORMATION

The Basic Weather Station consists of the following items and options:

STAND-ALONE DIGITAL RECORDING SYSTEM
102779 SONIMOMETER™ Sonic Anemometer
102778 Sensor Mount and Cable, 50-feet
102798 Temperature/Relative Humidity Sensor
5980 Naturally Aspirated Temperature/Relative Humidity Shield
102663-G1-10 Barometric pressure sensor
102796 AutoMet 466A Data Logger w/built-in Keyboard & Display
Air Plus® Data Logger Software
100519 Power Supply
19017 Enclosure Mounting Bracket Set
System Integration, Programming & Documentation
System Manual

SENSOR OPTIONS
Solar Radiation Option
Precipitation Option
Alternate Wind Sensors

DATA RETRIEVAL OPTIONS
Storage Module Kit
Short-Haul Modem Kit
Telephone Modem Kit
Cellular Phone Kit
Spread Spectrum Radio Modem Kit

Mounting Options
C33HD-G0-H0 Tower, 10m
T-1100C Expandable Tripod Mast (2 - 3 m) with Captive Legs and Quick Connect Hardware
102631-G1 Transit Case, Tripod
100924-G2-35 Lightning Grounding Kit (10m Tower)
101004-G3 Guy Kit, 10m
19017 Enclosure Mounting Brackets (pair)

Power Options
100800-G1 Solar Panel, 10W
PS1282L Rechargeable Battery, 8AH
101139 Power Supply with Rechargeable 8 AH Battery Backup

The system can be provided with optional spare parts or maintenance tools, and the sensors can be provided with NIST-traceable calibration certificates. Contact Climatronics for additional details.

The standard data output from the Basic Weather Stations will have the following English or metric engineering units:

Wind Speed:	0 - 125 mph	(0 – 50 m/s)
Wind Direction:	0° – 360°	
Air Temperature:	-55° to +125°F	(-50° to +50°C)
Relative Humidity:	0 – 100 percent	
Precipitation Accumulation:	0.01-in increments	(0.25 mm increments)
Barometric Pressure:	28 – 32 in Hg	(800 – 1100 hPa)

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