012 WEATHER STATION

The 012 Weather Station is designed for low cost, low maintenance climatological networking. Installation requirements are minimized through a modular design, prewired sensors, and a standard datalogger program.

Features/Options

Electronics Packaging

- CR10 and modem packaged in sealed compartment

Programming and Data Retrieval

- Remote programming with PC208 Datalogger Support Software
- Portable CR10KD for on-site functions

Power Supply

- 12V battery, user supplied
- AC/solar charging available

Communications Options

- Telephone
- Short haul modem
- Radio frequency
- Storage Module

Standard Sensors

Air temperature
Wind speed and direction
Solar radiation
Relative humidity (RH)
Precipitation (rainfall)
Soil temperature (optional)

Standard Outputs

Hourly Outputs

Output Array ID
Day of Year
Time (hour, minute)
Avg air temperature (^{o}F)
Relative humidity
Avg solar (kW/m^2)
Avg wind speed (mph)
Avg wind direction (degrees)
Standard deviation of wind direction (degrees)

Daily Outputs

Output Array ID
Day
Time (hour, minute)
Avg air temperature (^{o}F)
Max air temperature (^{o}F)
Min air temperature (^{o}F)
Max relative humidity
Min relative humidity
Avg solar (kW/m^2)
Max wind speed (mph)

Daily Outputs - cont.

Avg wind speed (mph)
Total rainfall (inches)
Internal moisture
Battery voltage (V)
Max CR10 temperature (^{o}C)
Min CR10 temperature (^{o}C)

Conditional Output

1 minute rainfall intensity (inches)

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Ordering Information

When ordering, please specify the 012, plus tele-communication and power supply options. The CR10KD and 4992 Soil Temperature Sensor must be specified if desired. Assistance in determining the options that best fit your application is available from Campbell Scientific.

Weather Station

012   **Weather Station** includes the data-logger and sensors for the following: temperature & relative humidity, wind speed, wind direction, solar radiation, and rainfall.

Weather Station Options

CR10KD   **Keyboard/Display** provides on-site review of data values and program instructions, via the serial I/O connector (optional).

4992   **Soil Temperature Sensor** (optional).

Telecommunication/Data Retrieval Options
Required:

PC208   **Datalogger Support Software** for IBM PC/XT/AT and PS/2 Series or compatible computers supports telecommunications, programming, and data processing functions.

Choose one of the following:

Short Haul

5723   **Short Haul Package** includes two SRM-6A RAD Short Haul Modems, two 4-Wire Surge Protectors (#5563), and one SC932 9-Pin to RS-232 DCE Interface. The modem transmits data up to 6.5 miles over a four-wire (2 twisted pair) unconditioned line.
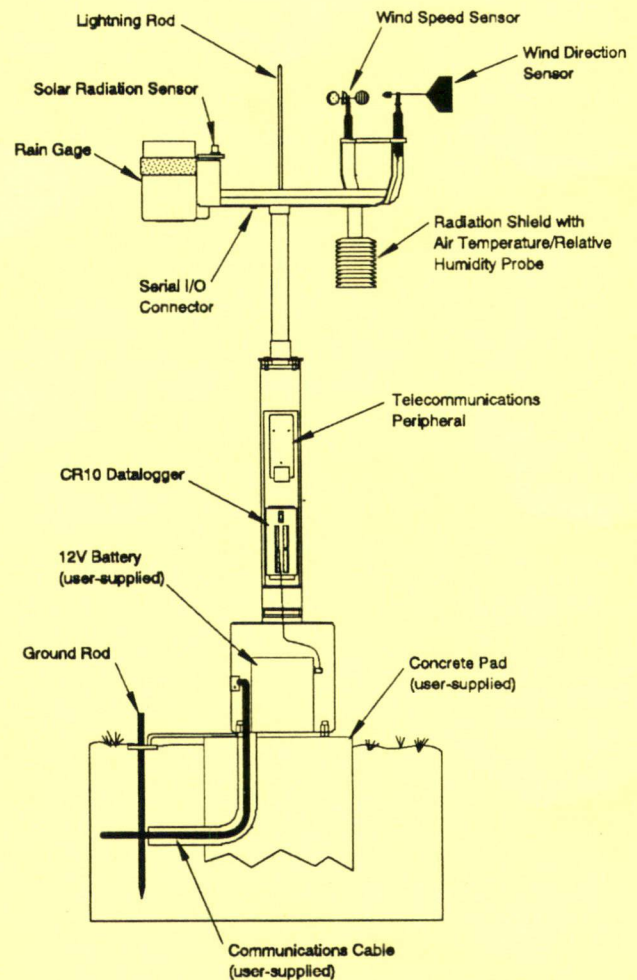
Telephone

5720   **Telephone Package** includes DC112 Telephone Modem and 2372-01 Joslyn Surge Protector. The weather station is called via a user-supplied Hayes-compatible 1200 baud modem.

Storage Module (Requires CR10KD)

SM192   **192K Solid State Storage Module** is carried to the field to retrieve data from the 012 via the serial I/O connector.

SC532   **9-Pin Peripheral to RS-232 Interface** connects the storage module to a IBM-PC or compatible computer's serial port.

SC90   **9-Pin Serial Line Monitor** indicates when data transfer is active (optional).

RF   Radio Communication (consult the factory).

Power Supply Options

Battery Only

5714   **Connection Hardware**

---   User-supplied 12V, 60 Ahr (automotive) battery

AC

5571   **12V Charger** with 110 VAC to 16 VAC Transformer

5719   **12V, 7Ahr Battery***

Solar

MSX10R   **10 Watt Solar Panel** with Regulator and Mounts

5714   **Connection Hardware**

5719   **12V, 7Ahr Battery***

*A user-supplied 12V rechargeable battery may be substituted.

Specifications

- Sensor measurement height: approx. 6 ft.

- Weight (shipping): 60 lbs. (65 lbs.)

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Programming and Data Retrieval

- Remote programming with PC208 Datalogger Support Software
- Portable CR10KD for on-site functions

Power Supply

- 12V battery, user supplied
- AC/solar charging available

Communications Options

- Telephone
- Short haul modem
- Radio frequency
- Storage Module

Standard Sensors

Air temperature
Wind speed and direction
Solar radiation
Relative humidity (RH)
Precipitation (rainfall)
Soil temperature (optional)

Standard Outputs

Hourly Outputs

Output Array ID
Day of Year
Time (hour, minute)
Avg air temperature ($^{\circ}$F)
Relative humidity
Avg solar (kW/m^2)
Avg wind speed (mph)
Avg wind direction (degrees)
Standard deviation of wind direction (degrees)

Daily Outputs

Output Array ID
Day
Time (hour, minute)
Avg air temperature ($^{\circ}$F)
Max air temperature ($^{\circ}$F)
Min air temperature ($^{\circ}$F)
Max relative humidity
Min relative humidity
Avg solar (kW/m^2)
Max wind speed (mph)

Daily Outputs - cont.

Avg wind speed (mph)
Total rainfall (inches)
Internal moisture
Battery voltage (V)
Max CR10 temperature ($^{\circ}$C)
Min CR10 temperature ($^{\circ}$C)

Conditional Output

1 minute rainfall intensity (inches)

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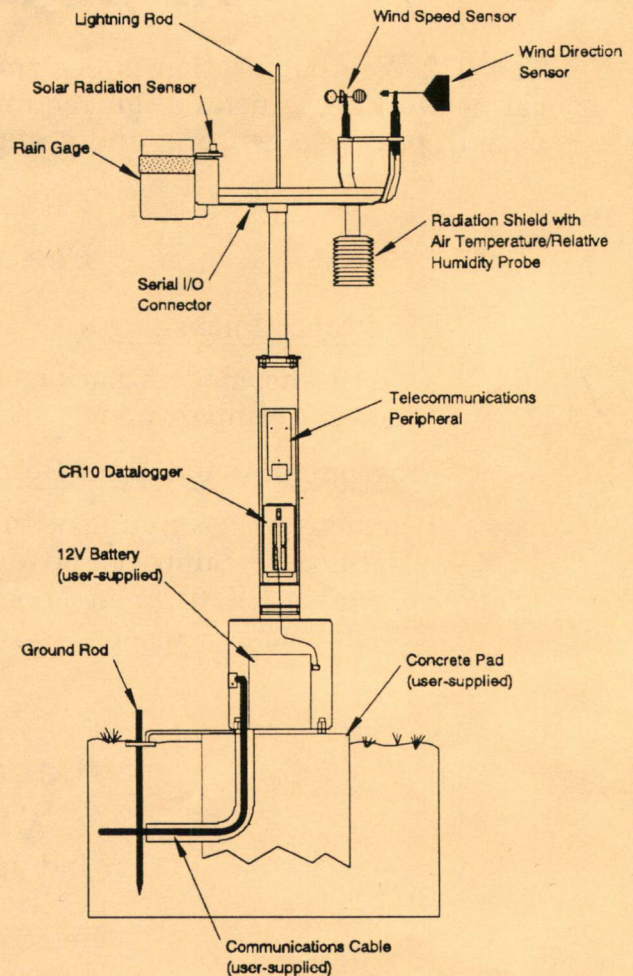
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Diagram labels: Lightning Rod, Wind Speed Sensor, Wind Direction Sensor, Solar Radiation Sensor, Rain Gage, Serial I/O Connector, Radiation Shield with Air Temperature/Relative Humidity Probe, Telecommunications Peripheral, CR10 Datalogger, 12V Battery (user-supplied), Ground Rod, Concrete Pad (user-supplied), Communications Cable (user-supplied).

Power Supply Options

Battery Only

5714   **Connection Hardware**

---   User-supplied 12V, 60 Ahr (automotive) battery

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