Traditional Dataloggers

System Components

Datalogging systems are an essential element of automated monitoring. A complete system includes the following components:

Datalogger: The datalogger obtains and stores measurements from sensors at scheduled intervals. It also controls peripherals such as multiplexers and communications devices.

Monitoring Program: The logger runs a custom monitoring program that contains detailed instructions for each of the measurement and control functions the logger is to perform.

Interface Modules: Interface modules supplement the logger's measurement capabilities, providing compatibility with a wider range of sensors.

Multiplexers: Multiplexers increase the number of sensors that can be monitored by a data logger. This is especially useful when there are large numbers of sensors concentrated into a small area.

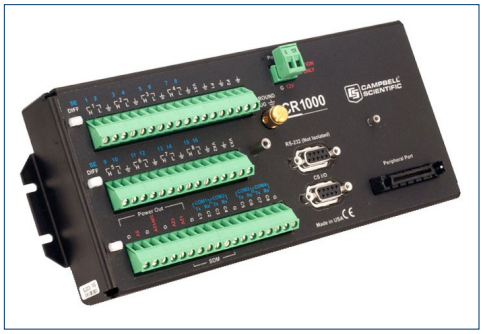
Power Supply: A power supply provides regulated power to the logger and sensors. The power source is typically a battery that is charged from AC mains power or a solar panel.

Communications Device: Measurements must be transferred from the logger to an off-site server for processing and distribution. Cellular IP modems provide the most direct transfers, but other communications options, wired and wireless, are also available.

Weatherproof Enclosure: Enclosures protect components from the environment. Options include heavy-duty, steel enclosures with integrated solar panels, standard wall-mounted enclosures, and waterproof enclosures designed for below-grade applications.

Note: GEO-Instruments has developed special expertise in configuring and programming the Campbell Scientific equipment shown in this datasheet, but can also deploy equipment from other manufacturers as needed.

Installing a wireless datalogging system

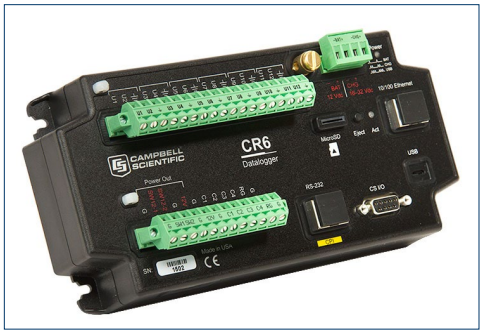


CR1000 Datalogger

The CR1000 can read nearly all sensors, natively or via interface modules, and its extensive instruction set accommodates complex configurations.

CR800 Datalogger

The CR800 is a smaller-capacity version of the CR1000, sharing its instruction set, protected input terminals, and robust communications capabilities.



CR6 Datalogger

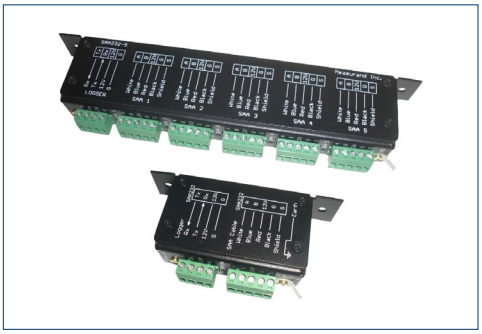
The CR6 is a new-generation, multipurpose logger with an instruction set similar to the CR1000s and built-in support for vibrating wire sensors.

CR300 Datalogger

The CR300 is a small logger with wide sensor compatibility and features that make it suitable for long-term, remote monitoring and control.

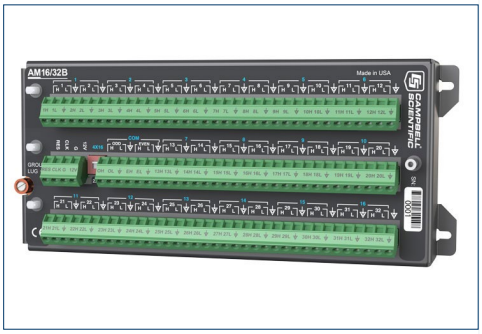
VW Interface

The AVW200 vibrating wire interface allows the CR1000 and CR800 to read VW sensors. It features spectral analysis for improved immunity to RF noise.



SAA Interface

Measurand's SAA interfaces allow Campbell Scientific loggers to operate shape arrays. They also provide switched power and surge protection.



Multiplexer

AM16/32B multiplexers greatly increase the number of sensors that can be measured by a Campbell Scientific datalogger.

Power Supplies

Power supplies include sealed, rechargeable batteries, regulator circuitry, and connectors for solar panels or AC wall chargers.

Cellular Communications

The RV50 cellular modem provides reliable communications via Verizon, AT&T, T-Mobile, Rogers, Bell, or Telus cellular networks.

Traffic-Rated Antenna

GEO's Lid-Link® traffic-rated, flush-mount antenna is used where radio telemetry is required but traffic or vandalism makes conventional antennas impractical.

Heavy-Duty Enclosure

GEO's HD logger enclosure includes an impact resistant solar panel and a low-profile antenna. It accommodates a logger, power supply, high capacity batteries, interface modules, multiplexers, and a communications module.

Standard Enclosure

GEO's standard fiberglass enclosure can be mounted on a wall or pole. It accommodates a logger with power supply, an interface module with multiplexer, and a communications module with antenna.

Waterproof Enclosure

The GEO-Canister is a waterproof enclosure for a data logger, battery, and communications module. It is designed for below-grade installation and is normally used with the Lid-Link® antenna.