CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

Flood Warning (ALERT)

Real-time Monitoring and Control Systems

Campbell Scientific designs and builds standard ALERT, ALERT2, hybrid ALERT, and customized flood-warning systems. This includes a turn-key transmitter packaged in a traditional ALERT-style canister for standpipe installation. The dataloggers at the heart of our systems have been proven over decades in the harshest, most remote conditions. You can add our systems to an existing network of stations, or we can customize a system for your unique application.

RELIABLE SINCE 1974 MONITORING

MAJOR SYSTEMS

		Measurements	*Datalogger*	*Power*	*Communications*	*Description*
ALERT100 ALERT Flood Warning System		Pulse Count, SDI-12, 0 to 5 V, 4 to 20 mA	none	12 or 24 Ah rechargeable battery	ALERT via licensed frequency radio	Rugged, low cost, turnkey system for basic ALERT-style standpipe installation. This system is field configurable.
ALERT200 ALERT Flood Warning System		Pulse Count, SDI-12, 0 to 5 V, 4 to 20 mA	none	12 or 24 Ah rechargeable battery	ALERT2 via licensed frequency radio	Identical to the ALERT100, but programmed to use the ALERT2 protocol.
ALERT110 ALERT Flood Warning System		Pulse Count, SDI-12, 0 to 5 V, 4 to 20 mA, Digital I/O, Low Level AC, Bridge	CR800	12 or 24 Ah rechargeable battery	ALERT via licensed frequency radio	Rugged, turn-key system is designed for ALERT-style standpipe installations. This system is field configurable and fully programmable.
ALERT210 ALERT Flood Warning System		Pulse Count, SDI-12, 0 to 5 V, 4 to 20 mA, Digital I/O, Low Level AC, Bridge	CR800	12 or 24 Ah rechargeable battery	ALERT2 via licensed frequency radio	Identical to the ALERT110, but programmed to use the ALERT2 protocol.

Custom Systems

Most of the systems we sell are customized. Tell us what you need and we'll help you configure a system that meets your exact needs.

ALERT/ALERT2 Stations

Our ALERT stations match all standard ALERT protocols. Our dataloggers, proven in thousands of applications world-wide, provide multiple types of inputs (pulse, analog, SDI-12, and others), which allows use of almost any type of water level sensor including pressure transducers, shaft encoders, bubblers, and ultrasonic distance sensors. Onboard algorithms can calculate hourly and daily minimums, maximums, averages, totals, flow, or any other statistical value. These values can be stored on-board the station, providing a backup of data. A solar panel can provide continuous charge to the battery for extended unattended monitoring.

Additional sensors to measure soil moisture, water quality, or meteorological conditions can easily be integrated. We can upgrade older stations, even those from other manufacturers, with the latest datalogger and transmitter, often allowing you to use the same sensors and standpipe or enclosure.

Custom Flood Warning Solutions

Campbell Scientific can help design and build custom hardware packages that meet your exact needs. Any of our standard systems can be modified to take advantage of other forms of communications and use various communications protocols. Other common forms of telemetry are:

- Digital VHF/UHF Radios
- License-Free 900 MHz Radios
- Satellite (GOES, BGAN, OrbComm, Irridium)
- Cellular
- Ethernet / Wi-Fi

Additionally our dataloggers support a variety of communication protocols, such as:

- ALERT/ALERT2
- Modbus
- PakBus
- DNP3
- TCP/IP
- SDI-12

With such a large variety of telemetry options and communication protocols to choose from, we can help you develop a custom solution that fits your budget and meets your needs.

Customized Flood Warning Network Using LoggerNet Software

A flood warning network that uses LoggerNet software takes advantage of two-way RF communications and the latest in network management software. LoggerNet is a client/server software program used for managing large networks of monitoring stations. A LoggerNet-based system is a viable solution to flood warning applications because of the speed with which LoggerNet can poll multiple RF stations and the speed and versatility with which LoggerNet can make the data available to multiple interested parties. For example, DIAD has a client that links DIADvisor to the LoggerNet server.

When a "send data" command is broadcast to a group of remote stations, the stations transmit predefined data to the LoggerNet server in their own time window. Transmission windows can be as short as 100 ms, allowing multiple sites to be polled per second. As the data is collected, LoggerNet clients can access it from LANs or via the Internet, making data available to multiple users/agencies in near real time.

Other Resources and Options

To meet customer needs, other resources and communications options can be combined with flood warning systems. Commonly, local governments will combine resources to obtain the best possible system. In other situations, federal agencies can be involved to increase system coverage and robustness, and even help with the budget. For example, satellite transmitters can be added to stations to provide automated data archival through the National Weather Service (NOAA/NESDIS) and the US Geological Survey. Multiple purpose data collection systems bring to bear the resources and expertise of environmental data experts.