#### SOLUTION



# WATER

Measurement & Control Systems for Water Applications



Campbell Scientific builds systems for unattended, long-term monitoring of hydrologic conditions. They are used in many environments, including wells, dams, streams, weirs, stormwater systems, and water or wastewater treatment plants. These systems are reliable regardless of salinity level, pollution level, or other harsh environmental conditions. Campbell systems can communicate via GOES satellite, licensed-frequency radio, IP cell modems, spread-spectrum radio, and other methods.

#### MAJOR SYSTEMS

|                                                                                                     | Measurements                                                                                                                                             | Datalogger                         | Power                                                    | Communications                                                             | Description                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RDP120<br>ALERT Flood Warning System                                                                | Precipitation<br>Water Level                                                                                                                             | CR1000<br>CR850<br>CR800<br>CR200X | 24 A h recharge-<br>able battery                         | Typically uses<br>licensed radio with<br>ALERT or ALERT2                   | Rugged, turn-key<br>system is designed<br>for ALERT-style stand<br>pipe installations. This<br>system is field con-<br>figurable and fully<br>programmable.                                                                                      |
| OBS-3A 🔤<br>Turbidity and Temperature<br>Monitoring System                                          | Turbidity<br>Temperature<br>Pressure<br>Conductivity                                                                                                     | Integrated                         | Three D-cell<br>batteries                                | Laptop<br>Archer-OBS                                                       | Combines our OBS®<br>probe with pressure,<br>temperature, and<br>conductivity sensors<br>in a battery-powered<br>recording instrument.                                                                                                           |
| <b>OBS-5+</b><br>High Suspended Sediment<br>Concentration Monitoring<br>System with Pressure Sensor | Turbidity<br>Pressure                                                                                                                                    | Integrated                         | Three C-cell<br>batteries                                | PC via an RS-232<br>or RS-485 link                                         | Monitors high sedi-<br>ment concentrations<br>(up to 200 g/l) using an<br>infrared laser and a<br>proprietary dual photo-<br>detection system.                                                                                                   |
| DCP200<br>GOES Data Collection<br>Platform (DCP)                                                    | <u>Water</u><br>Level<br>Flow<br>Turbidity<br>Dissolved Oxygen<br>Temperature<br><u>Weather</u><br>Precipitation<br>Air Temperature<br>Relative Humidity | CR295X                             | 24 A h recharge-<br>able battery and<br>20 W solar panel | GOES satellite                                                             | Designed specifically for<br>stream stage, water qual-<br>ity, and rainfall applica-<br>tions, this DCP measures<br>the sensors, processes<br>the measurements, and<br>then transmits the data<br>to a receiving station<br>via the GOES system. |
| CanalMaster120/<br>CanalMaster185<br>Canal Monitoring Systems                                       | Water Level<br>Flow<br>Temperature<br>Pressure                                                                                                           | CR200X                             | 12 Vdc recharge-<br>able battery and<br>solar panel      | <u>CanalMaster120</u><br>typically PC<br><u>CanalMaster185</u><br>cellular | These low-cost water-<br>level gaging stations<br>allow the user to ac-<br>curately monitor canals.<br>They can be used in<br>remote locations with<br>no access to ac power.                                                                    |



|                                                        | Measurements  | Datalogger | Power                                               | Communications                           | Description                                                                                                                                                                                          |
|--------------------------------------------------------|---------------|------------|-----------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TMS120/TMS185<br>Turbidity Monitoring Stations         | Turbidity     | CR200X     | 12 Vdc recharge-<br>able battery and<br>solar panel | TMS120: typically PC<br>TMS185: cellular | These low-cost turbid-<br>ity monitoring stations<br>allow the user to ac-<br>curately measure sedi-<br>ment in waterways.<br>They can be used in<br>remote locations with<br>no access to AC power. |
| AVS4400C/AVS4400D<br>Portable Water<br>Sampler Systems | Water samples | CR200X     | 115 Vac with<br>17 A h battery                      | Cellular                                 | The AVS4400C includes<br>a PVS4120C compos-<br>ite sampler, and the<br>AVS4400D includes<br>a PVS4120D discrete<br>sampler. Can be pro-<br>grammed to detect<br>alarm parameters.                    |

## **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.

## Water Applications

- Water level and flow
- > Water quality
- > Flood warning (ALERT)
- Coastal Monitoring
- Dam Monitoring
- Aquaculture/Fisheries
- > Irrigation and Canal Control
- Oceanography
- Rural Water

- Stormwater
- ) Mining
- Wastewater

#### Water Case Studies

Our water systems have helped a variety of organizations reach their goals. The following are just a few of these:

Campbell Scientific gear is used in a municipal water-supply system that automatically allows Trenton and Amalga, Utah to share water during emergency situations.

www.campbellsci.com/utah-scada

For the Duck Creek water system, our dataloggers control pump on/off status and measure pressure, flow rate, and current (at the pumps). Alarms are set for low water levels, pump failures, loss of communications, or intrusion incidents.

www.campbellsci.com/duck-creek-utah-water

Nearly 60 monitoring stations containing Campbell equipment record water level and water quality at reservoirs, canals, pipelines, and springs in Emery County, Utah.

www.campbellsci.com/emery-county-utah

A Campbell Scientific system monitors and controls water flow to the Pequest Trout Hatchery in New Jersey. www.campbellsci.com/new-jersey-hatchery

A Campbell automated monitoring and control system maintains optimal dissolved oxygen levels on Lee's multiple-pond catfish farm in Macon, Mississippi.

www.campbellsci.com/macon-mississippi



For Lee's catfish farm in Mississippi, our equipment eliminated the need to manually check dissolved oxygen concentrations several times a night. Alarms are sent via RF to a computer.

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