

# ZooCADA<sup>TM</sup> - Mod

## **Program Customisation Module**

ZooCADA-Mod is a software program that enables a ZooCADA station program to be customised with extra sensors, processing, or data logging, without making changes to the station program itself.

- ★ Add sensors to a station for site specific data acquisition needs.
- ★ Add custom calculations and data processing.
- ★ Record additional data to support research and management.
- ★ Enable staff to focus more on animal care and conservation tasks.



# ZooCADA-Mod Program Features

## Sensor Measurements

- SDI-12 sensors are recommended as there is ample address space available on all ZooCADA stations.
- Pulse output sensors such as wind speed and rainfall supported on CR1000X stations.
- Analog output sensors up to 4 on ZooCADA-Log, 1 on ZooCADA-Life and ZooCADA-Lab stations.

## Control Port I/O

- Configurable as Outputs or Inputs, 1 on ZooCADA-Log, up to 2 on ZooCADA-Life and ZooLab stations.  
See Campbell Scientific datalogger specifications for logic high/low voltage specifications.

## Switched 12V DC Outputs

- Suitable for relay control, 1 on ZooCADA-Log, up to 2 on ZooCADA-Life and ZooLab stations.  
See Campbell Scientific datalogger specifications for output current limits.

## Calculations and Data Processing

- Calculate derivative values from existing or new measurements.
- Apply conditional logic to measurements to switch datalogger outputs on/off.  
Amount of additional processing that can be added depends on available program memory.

## Data Logging

- Add data tables to record data from additional sensors.
- Add data tables to record data from calculated derivative values.  
Amount of additional data that can be logged depends on available data storage memory.

## General

- Define constants.
- Define public variables.
- Define private variables.
- Define and call data tables.
- Insert code into the program startup initialisation.
- Insert code into the beginning of the program scan immediately after timers.
- Insert code into the end of the program scan immediately before data logging.
- Insert code into the end of the program immediately after data logging.
- Insert code into slow scan Aux flag controlled section for SDI-12 sensor measurements.
- Insert code into slow scan uncontrolled section so customisation code can control it.

ZooCADA is a modular control and data acquisition system. Each station can operate standalone or as an integral part of a fully networked, zoo-wide, system with various stations performing different tasks. Using our modular approach, up to 4000 stations, distributed over any geographic area, can be networked provided that network connectivity (typically the site's IP computer network) is available at each station.

Adena Scientific believes that accuracy and reliability are paramount requirements of any system used in applications that support animal welfare, so we purpose designed our ZooCADA system to meet zoological needs, and built it to run on dataloggers manufactured by Campbell Scientific in the USA and available worldwide.

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