

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

## **Enclosure Environment Control & Monitoring System**

ZooCADA-Life is our flagship software program and hardware system designed to control and monitor the environment in exhibit enclosures, for either nocturnal or diurnal species, at zoological facilities.

- ★ Automate the enclosure climate and lighting control systems.
- ★ Maximise enclosure energy efficiency to reduce costs.
- ★ Record enclosure data to support research and management.
- ★ Enable staff to focus more on animal care and conservation tasks.



# ZooCADA-Life Program Features

## Data Logging

- Enclosure and external temperature and RH values logged every 10 minutes.
- Enclosure and external max, min and average temperature and RH values logged daily.
- Enclosure soil volumetric water content and temperature logged hourly .
- Ventilation, air conditioning and dehumidifier run time each logged as hourly and daily totals.
- Barometric pressure sensor with hourly logging. (Optional)
- Lighting cycle times logged daily.
- Electricity use in kWh logged as hourly and daily totals.
- Event log of last 1000 alarm and system control events.
- Datalogging memory in excess of 1 year between downloads before memory overwrite.
- Data logged to ring memory so oldest data is overwritten first when memory full.
- Data files downloadable to Windows based PC using Campbell Scientific LoggerNet software.
- Data graphing from Windows based PC using Campbell Scientific LoggerNet software.

## HVAC Control System

- Automatically controls ventilation, air conditioning and dehumidifier.
- High and low temperature set-points for each month to provide seasonal variation.
- High relative humidity (RH) set-point to control dehumidifier.
- External temperature and RH sensor values from local and/or networked remote stations.
- External temperature and RH averaging when two sensors available via stations on site.
- Enclosure temperature and RH averaging when two sensors installed in enclosure.
- When sensor averaging is used the system continues to run normally if one sensor fails.
- Alarm messages sent by email to staff if temperature is too high, too low, or if sensors fail.
- Manual override controls for ventilation fan, air conditioner, and dehumidifier.

## Lighting Control System

- Automatically controls four dimmable lighting circuits for moonlight and sunlight scenes.
- Automatically controls a non-dimmable lighting circuit for UV lights or reptile basking lights.
- Automatically adjusts lighting timing each day for natural seasonal variation.
- Customer adjustable transition time between moonlight and sunlight scenes.
- Customer adjustable lighting level settings to suit different species.
- Selectable for Diurnal or Nocturnal enclosure lighting operation.

## General

- Alarms sent via email to staff if power fails, or if communications to a remote station fails.
- Communications to stations via LAN enables staff to monitor system operation.
- Communications to stations via LAN enables automated or manual collection of logged data.
- System maintenance from Windows based PC using Campbell Scientific LoggerNet software.

ZooCADA-Life is a station of our 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.

The logo for Adena Scientific Ltd features the company name in a stylized, italicized yellow font. A blue and white graphic element, resembling a stylized 'A' or a molecular structure, is positioned to the left of the text.

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