Adena ZooLab ™

Environmental Control & Monitoring System

ZooLab is a software program and hardware system designed to control and monitor the environment in animal enclosures and special purpose rooms such as endangered species breeding labs 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.

ZooLab 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.
- Ventilation, air conditioning and dehumidifier run time each logged as hourly and daily totals.
- Portable temperature & RH sensors with ten minute logging for micro-climate monitoring. (Optional)
- 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 two lighting circuits for non-dimmable, pluggable loads.
- Automatically adjusts lighting timing each day for natural seasonal variation.
- Customer selectable operating modes for easy reconfiguration of enclosure to suit different species.
- Selectable for Diurnal or Nocturnal lighting on a day/night cycle.
- Selectable for Stepped or Build lighting on a day only cycle.

General

- Battery backup of datalogger 12V power so system keeps logging data during power failure.
- 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.

ZooLab is a module of ZooDAC, our zoo-wide, networked, data acquisition and control system. Each module is able to operate as a standalone station or as an integral part of a fully networked site-wide system. Using our modular approach, there is no practical limit to the number of stations or the geographic spread of any given site providing that network connectivity is available for each station.

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

Adena Scientific Ltd

PO Box 756, Hamilton, New Zealand.   Tel: (07) 829-7063 Email: sales@adena.co.nz