Wireless Data Logger: Confirming reptile safety and comfort

Using Lascar's EL-WIFI-DTC dual temperature logger for habitat monitoring

Housing and keeping lizards comfortable can be a complicated pastime. Like all members of the reptile class, lizards are ectothermic/cold-blooded, meaning their bodies do not generate stable internal temperatures like those of birds and mammals. They are real sun-worshippers but, when they get too warm, a shady spot or burrow is crucial. Shown here is a male Collared Lizard (Crotaphytus collaris) which is native to the hot deserts of south-eastern United States and northern Mexico. When a man-made enclosure is built, similar dry, arid conditions need to be maintained to reflect these settings, allowing them space to run, bask and hide.

The Challenge

When building an enclosure for a Collared Lizard, bigger is better: a minimum of 3ft in length with large vents and glass sliding front doors. If the ambient temperature where you live drops low in winter, then you need to provide a thermally-efficient enclosed tank. The Animal welfare groups recommend that a reptile's enclosure is set up at least a week before homing them. This allows for confirmation that the equipment is working properly and that there is an understanding of how to regulate and adjust the complex heating and lighting system of thermal gradients for the particular species.

Collared Lizards require UVB lighting (to replace natural sunlight) with a recommended 10.0 UVB or 12% desert bulb. Since most UVB lights don't produce heat, additional sources are needed: overhead heating from UV light bulbs to make a warmer area, and an under-tank heating pad or a well-secured basking rock. A basking lamp can offer heat and the UVA rays a lizard needs, providing a basking area of between 40-48°C (avoiding higher temperatures and keeping lights away from lizards to prevent burns). It is important to retain an ideal temperature above 30°C, which should cover around 25% of the surface. Ventilation should also be set up to ensure that heat is lost from the cooler side, while keeping the basking spot itself at a consistent temperature. To meet all these requirements,

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it is therefore recommended to place at least one thermometer and a dimming thermostat on the inside of the enclosure to monitor the wide-ranging temperature gradients. It is also important to provide a regular day and night cycle. Lizards are diurnal so lighting needs to be switched off at night, ensuring the heating is still on but does not drop less than 15°F below the daily conditions. Timers can be used for control of these. Checking on a thermometer and using a thermostat to keep optimal conditions can be a tricky balance. Verifying these important temperature levels on a daily basis for long-running precision can also be time-consuming.

The Solution

This is where data logging and Lascar's EL-WIFI-DTC really come into their own. The WiFi-enabled device comes with two external K Type thermocouple probes which have a measurement range of 0-200°C (32-392°F). Placing the device near the outside of the enclosure, the two probes can easily be spaced across the inside of any habitat using the two 1.5m cables and attached with suction cups to the glass. These will monitor the specific temperatures in the different areas. EL-WIFI devices can be programmed with high and low temperature alarms designed to continually monitor and record the data in an enclosure. The live data received can be accessed via any internet browser on the EasyLog Cloud App over your WiFi network - and the first logger on your system

is FREE. EasyLog Cloud automates data logging and alert notifications for compact systems with the supplied sensors, anywhere, any time, on devices around the globe.

The Benefits

Alarms can be set up for email and SMS (text) alerts for temperature zone breaches, and subsequent email alerts from the EL-WIFI-DTC sent straight to your inbox or phone.

If the lizard's enclosure suffers problems during a power cut, the EL-WIFI-DTC can draw on its industry-leading 2-year battery life supply, to advise that parameters are not met and that action is required, sending out instant alerts. The EL-WIFI can also be powered using a mains adapter (sold separately), and is provided with a wall mountable bracket for installation.

The EasyLog Cloud offers unlimited and secure data storage, powerful analysis and reporting from all devices. Data is stored internally so if the device loses WiFi connection, it automatically uploads data to the Cloud once reconnected.

www.lascarelectronics.com/data-loggers