ITWatchDogs

A User Case Study from ITWatchDogs

ITWatchDogs' MiniGoose-XP II allows researchers at McGill University to remotely monitor lab chamber temperature and save experiments

Case study provided by

Peter Kirby
Chief Technician at McGill University

This case study discusses how the MiniGoose-XP II Climate Monitor helped researchers at The Department of Natural Resource Sciences at McGill University remotely monitor lab chamber temperatures to ensure all experiments were running under normal conditions.

Background

Here at The Department of Natural Resource Sciences of McGill University, we are operating eight cold rooms and incubators for soil and plant sample storage, raising of various insect colonies, and to conduct experiments involving the effects of soil characteristics and conditions on various animal and plant parameters. Maintenance of chamber temperatures at specific values is critical to these experiments. Should a chamber overheat, the subjects must be removed from the high temperatures within a couple of hours.

With the MiniGoose XP climate monitor we are able to monitor chamber temperatures remotely using its web interface as well as have automatic alerts sent to various email addresses.

Prior to acquiring the MiniGoose-XP II climate monitor, we lost two experiments when two of these incubators malfunctioned, overheated and killed a colony of moths, and a colony of worms used in an experiment involving nanoparticles. In both cases the incubators malfunctioned after work hours and by the time the problems were noticed, the two colonies had died from desiccation. Both resulted in a significant loss of technician and graduate-student time since the experiments had to be restarted from scratch.

Solution

With the MiniGoose-XP II climate monitor we are able to monitor chamber temperatures remotely using its web interface as well as have automatic alerts sent to various email addresses. Although the MiniGoose-XP II climate monitor is designed to send to a maximum of five email addresses, we have set up rules on our email client (MS Outlook

The MiniGooses XP provides peace-of-mind to our researchers who can

monitor their incubators from home at night or on weekends, to confirm that all is working fine.

accessing an MS Exchange email server) so that alerts can be redirected to an unlimited number of recipients by email and/or text messages sent to cell phones. This is very useful since individual graduate students assume the responsibility of monitoring and reacting to problems involving the incubator housing their own experiment.

Results

Configuration of the unit took less than one hour and involved setting up alert points for each sensor/incubator.

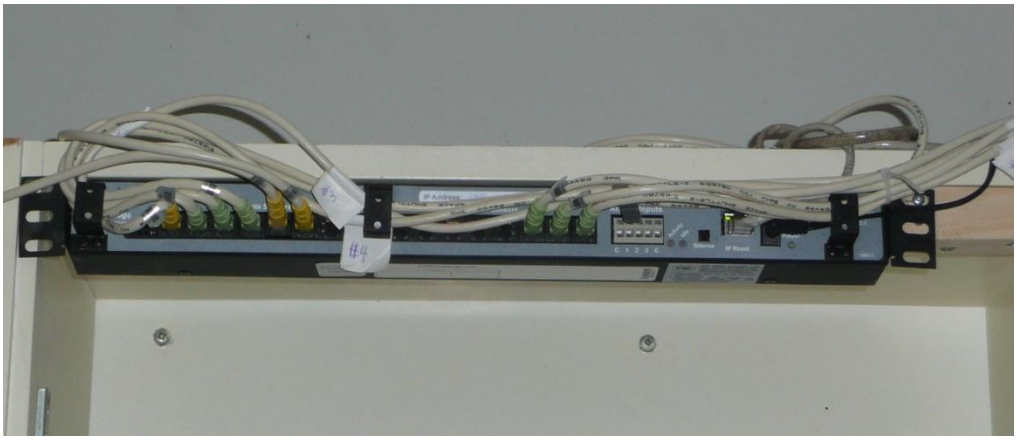
Since installing the MiniGoose-XP II climate monitor approximately two months ago, we have rescued an ongoing experiment when the incubator was randomly overheating due to a sticking relay. In addition, it provides peace-of-mind to our researchers who can monitor their incubators from home at night or on weekends, to confirm that all is working fine.

Temperature graphs in incubators and cold rooms

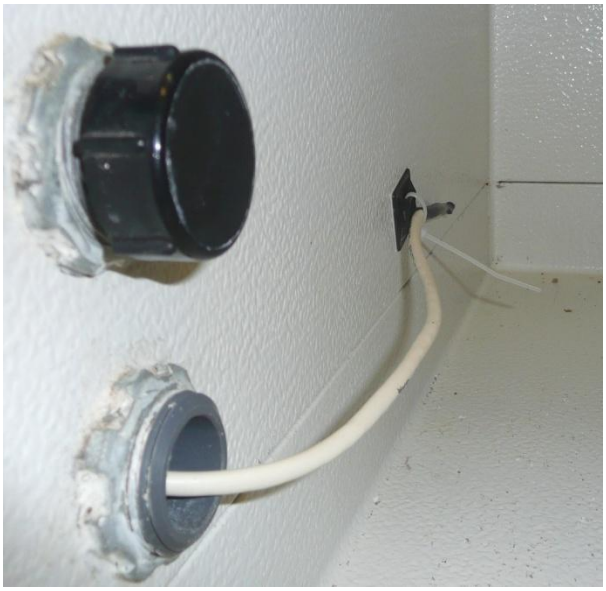
The MiniGoose-XP II climate monitor was easy to install involving mounting the unit to a wall cabinet, connecting it to the University's Ethernet network, plugging it in to a wall socket, and running temperature sensors to each of our incubators/cold rooms. Configuration of the unit took less than one hour and involved setting up alert points for each sensor/incubator. The cost of the unit and nine temperature sensors was less than $900. Other systems we evaluated were far more expensive.

Case study kindly provided by Peter Kirby, Chief Technician at the Department of Natural Resource Sciences, Macdonald Campus of McGill University, Canada.

MiniGoose-XP II in action:



MiniGoose-XP II mounted on wall



Temp sensor in lab chamber

Temp sensor in cold room

Soil columns in lab chamber

Raising moths in controlled temperatures