CASE STUDY

CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

Solar Decathlon

Campbell gear measures energy efficiency of experimental houses

The Solar Decathlon takes place every other year on the National Mall in Washington, D.C. This competition enlists about 20 teams of college and university students to design, build, and operate the most attractive, effective, and energy-efficient solar-powered houses. Each house is instrumented with sensors to evaluate how well the students meet the challenge. Campbell Scientific dataloggers were chosen for a key role in the evaluation phase.

Over the previous two years before the event, each team of college students designs a solar house, knowing from the outset that it must be powered entirely by the sun. The competition demands that their designs maintain the house within a certain temperature range, provide lighting, run appliances, charge an electric car, and much more. They then build their solar houses, learning as they go.

The 20 teams transport their buildings to Washington and assemble them on the National Mall. The judging then begins, with Campbell sensors and dataloggers measuring factors such as light, temperature, and humidity. Our gear helps the judges

Case Study Summary

Application:
Evaluating performance in efficient home competition

Location:
National Mall, Washington, D.C., USA

Contributor:
Jim Tetro, Solar Decathlon

Products Used:
CR1000, ENC14/16, HMP50, PS100, 9591

Measured Parameters:
Air temperature, humidity, appliance efficiency, solar-power production

gauge performance in contests of engineering, comfort, appliances, hot water, and lighting.

The U.S. Department of Energy holds the Solar Decathlon every two years to serve three main purposes:

1. To educate the student participants about the benefits of renewable energy and energy efficiency
2. To raise public awareness about renewable energy and energy efficiency and the technologies available to reduce energy use
3. To help move solar energy technologies to the marketplace faster

There are many simple ways to save energy, and many relatively simple ways to generate energy from the sun. Solar energy technologies are clean, producing significantly less pollution than other options. And we can count on that energy source as long as the sun shines. Campbell Scientific is proud to provide tools to help measure our progress in energy production and use. For information, photos, and videos about this competition, visit solardecathlon.gov.