Case Study: Hawaii School
Increase Visibility

Location: Honolulu, HI
System Size: 148.58 kW
Modules: 646 Trina 230W
Inverter: Satcon 50 kW & Sunpower SMA 7 kW
Monitoring: Tigo Energy system
Mounting system: Unirac Sunframe
Completed: December 2011

The Challenge
When choosing the right solar solution for their school, administrators at Saint Francis in Honolulu, Hawaii needed to consider many issues. The school rooftop faced erratic shading from air conditioning unit obstructions. This combined with the unpredictable tropic weather patterns caused irradiance mismatch that significantly impacted the potential for energy production. Tropical weather and obstructions on the roof made it difficult to design for maximum energy harvest without somehow correcting for these irradiance issues.

The Solution
The Saint Francis School chose Trina Solar modules outfitted with Tigo Energy optimizers in order to maximize the value of their solar installation. Sunetric installed 646 Trina Solar 230 watt modules with Tigo Energy optimizers and Unirac mounting solutions. The system is rated for 148.58 kilowatts and can deliver 830 kWh of energy per day. By using optimizers on their array, which corrected for mismatch and irradiation variance, the school dramatically increased the energy production of their solar installation.

The Results
Tigo Energy’s optimizers allowed the school to not only achieve maximum energy harvest, but also allowed the system owners to identify several issues that impacted energy production promptly. Module-level monitoring data allowed installers to identify several failed diodes; impacted panels could then quickly be replaced under warranty. Without module-level data, these issues might go undiagnosed for significant amounts of time and take extensive time in the field to diagnose.

Children of the Saint Francis School in Honolulu, Hawaii are now able to participate in the generation of solar energy by monitoring the panels and learning from the data portal. Tigo Energy’s optimizers allow students, parents and administrators to participate in learning the value of optimized solar energy. Students and faculty can easily access module level data to use in experiments and projects. Administrators can rest assured that the solar installation is up to the highest safety standards with Tigo Energy’s PV-Safe technology that can activate module-level and total system shutdown remotely when a hazard is detected.