

Case Study

University in College Station, TX

Versatility and Reliability Set the DGC-2020HD Apart

Basler Electric Genset Application Specialist Ronnie Carroll worked with a consulting contractor at a major university in Texas to set up and commission two 5 generator systems using a competitor's switchgear with both Modbus® and analog signals. Proving that the DGC-2020HD is versatile and reliable in any situation.

Scope

- DGC-2020HD set up and commissioning of two 5 generator systems
- Each system has five generators rated at 500KW each in parallel for a total of 2.5MW per group
- The systems are tied to the facility and the grid using ASCO switchgear and are two separate systems with no communication between them

Schedule

Three months with all testing completed the week of April 17, 2017.

Design and Solution

In this application, the DGC-2020HD is used to synchronize two separate five-generator systems that are paralleled for a total capacity of 2.5MW each.

The university used these separate sets to provide backup generation, peak shaving, and exporting power back to the grid. A unique aspect of this setup is the DGC-2020HDs are controlled by a competitor's switchgear using only Modbus and analog signals with no direct sensing of the mains field and no breaker control. While not the preferred method of control, it allowed the versatility of Basler's controller to be displayed.

Testing

A contractor, consulting for the university, approached Basler to assist with the setup and commissioning of the controllers and to provide a demonstration to the university's facility management team. Carroll revisited College Station to finalize installation and perform a demonstration.

Wrap Up

The DGC-2020HDs worked flawlessly. Both systems successfully synchronized to the grid and were able to scale their output at 500KW, 1.5MW, and 2.5MW for a final export testing of 5MW to the grid. This type of control worked very well and impressed the customer.

The contractor has been asked to bid on another project for a satellite campus with 10MW of power for the entire campus. The system will also be used to sell power to the grid when needed.

After seeing the controller's capabilities, the customer will allow the contractor to design a system that will use DGC-2020HDs to control all of the power generation without any PLC or ASCO gear.



Figure 1 - Inside look at one of the two 5 generator systems