



GE Zenith Controls

Designed for Success

Results

- High reliability
- Cost effective
- Flexible configuration and networking
- Easy-to-use, graphical operator interface
- Small footprint
- Reduced maintenance costs

"Using GE Fanuc controls on our new paralleling switchgear equipment provides our customers with a high-quality, highly reliable product at a reasonable cost."

Joe Kirstein
New Product Introduction Manager
GE Zenith Controls

Switching Gears

GE Zenith Turns to GE Fanuc for New Equipment Controls

Most office, hospital and factory workers don't know that power distribution throughout their workplaces relies on paralleling switchgear equipment. But, when this equipment isn't working properly, the lack of it becomes all too noticeable and critically important. As a result, GE Zenith Controls (Chicago), a unit of GE Infrastructure, incorporates the latest technologies into each new generation of paralleling switchgear equipment to ensure maximum reliability, safety and flexibility. And, by specifying automation controls from sister business GE Fanuc on its newest product for multiple engine-generator control – the Entellisys Pro – GE Zenith has also been able to decrease system costs to itself and its customers, greatly expand system capabilities, and build a product that is easier to use and maintain.

Generating Benefits

GE Zenith's new Entellisys Pro is designed for use in a range of power distribution control applications, including emergency standby, prime power, parallel utility, cogeneration and distributed generation. Since the system is designed for use in such diverse applications, engineers needed to specify controls that would provide maximum reliability and flexibility in any installation – at a cost their customers could afford and within system design parameters.

Size was one of the primary motivations for choosing the latest GE Fanuc controls. "Every square foot in an industrial building is

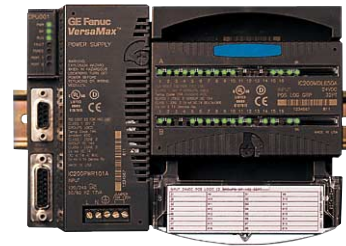
expensive,” says Joe Kirstein, new product introduction manager for paralleling switchgear at GE Zenith Controls. “The smaller the controls we use, the smaller the footprint of our equipment and the greater the space and associated cost savings to our customers.”

Incorporating the latest and greatest GE Fanuc controls also enables GE Zenith to give its customers up-front savings on the cost of their equipment while providing a better quality product. Using fewer devices that provide more powerful control capabilities enhances performance while reducing the risk of incorrect wiring and decreasing engineering and labor costs.

The Entellisys Pro’s control system consists of one VersaMax® programmable logic controller (PLC) per generator, each of which communicates via its own ModBus network. “One of the really great things about the VersaMax PLC is that it has three communications ports, providing us with a tremendous amount of flexibility in terms of system architecture,” Kirstein notes. Entellisys Pro uses one port for Ethernet communications to a GE Fanuc industrial computer running Machine Edition* software, another for ModBus communications to protective relays, engine controls and the engine itself, and the third for communications to a GE Fanuc QuickPanel operator interface touchscreen.

Machine Edition software captures data from each of the Entellisys Pro components and provides an easy-to-use human machine interface. Customers can access power distribution information through the software and control and monitor the system from any location using a web browser. Machine Edition features a graphical, user-friendly interface and screens can be easily adjusted to accommodate ongoing changes to power generation configurations and requirements. The software also provides event logging and trending features that help repair personnel debug issues and solve problems more quickly by tracking and identifying events that occurred just before a system error. Machine Edition’s automatic e-mailing capability notifies operators when generators need maintenance, helping to keep the system in better condition and alleviating downtime.

Should the main interface go down, the QuickPanel touch screen provides a valuable backup for system access and control. “This redundancy is absolutely necessary in critical facilities like hospitals,



where even a couple of seconds of downtime can affect patient care and cause extensive monetary loss,” Kirstein explains.

Redundancy is also built into the Entellisys Pro through the PLCs. Each VersaMax PLC houses all system logic – rather than housing logic in a single master. This way, if a controller should happen to go down, the remaining PLCs still control the entire system, reducing downtime and its critical consequences.

Because Entellisys Pro is networked via Ethernet, GE Zenith’s repair personnel can dial into the system before a service call to determine the nature of the problem and whether it can be solved remotely. If on-site support is required, accessing the system before going to the facility reduces on-site service time and enables repair personnel to bring the proper tools to the job site.

Powerful results

Entellisys Pro features a number of other capabilities that maximize performance and reliability, including a built-in electronic governor that serves as a single paralleling switchgear source for all engine-generator configurations and built-in utility non-emergency start modes like plant exercising and utility demand avoidance that provide preventive maintenance and lower operating costs. While these capabilities and those of the GE Fanuc automation may not mean much to people in the buildings controlled by the Entellisys Pro, the results – power on demand 100% of the time – most certainly do.

* Part of Proficy Intelligent Production Solutions from GE Fanuc.



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Additional Resources

For more information, please visit the GE Fanuc web site at:

www.gefanuc.com