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## New Controls For Managing Complex Bus Configurations

Woodward Inc. introduces LS-5 circuit breaker and easYgen-3400/3500 generator controllers

Woodward Inc. has announced the release of several new electrical power systems control products for managing complex bus configurations. The LS-5 circuit breaker controller and easYgen-3400/3500 generator controllers were designed for use in power systems with multiple utility feeds, tie breakers and generators on different bus segments and are designed to eliminate the need for external control logic in many applications.

The LS-5 circuit breaker controller provides active synchronization, import/export control and soft loading and unloading across a utility feed circuit breaker or tie breaker. Woodward said integrated mains decoupling protections (including vector shift and ROCOF) automatically detect a loss of utility power and start the appropriate

generators. Additionally, Woodward said as many as 16 LS-5 controls can be used to define 32 different bus segments using Woodward's LogicsManager onboard Boolean programming, the company said.

Voltage and frequency synchronization references are communicated over a single CAN connection between all the LS-5 controls and easYgen-3400/3500 gen-set controllers in the network, greatly reducing point-to-point wiring in the system, the company said.

The LS-521 model is panel door mounted and has a graphical display and soft keys for direct operator interface. The LS-511 has a metal housing with eight configurable alarm or annunciation LEDs, and includes options for back panel

or DIN-rail mounting. Both LS-5 models include CAN and Modbus RS-485 communication as well as ample onboard discrete I/O that Woodward said can be operated in automatic or manual mode or controlled remotely, allowing LS-5s to be used independently from the easYgen gen-set controls.

Woodward added that the easYgen-3000 series are gen-set controls with the flexibility and features for a range of power generation applications including emergency standby, cogeneration (CHP), marine ship/shore power, islanded prime power or utility paralleling with peak shaving and import/export control. The easYgen-3400/3500 models expand the functionality of the easYgen-3000 series by providing additional CAN



The easYgen-3400/3500 models expand the functionality of Woodward’s easYgen-3000 series by providing additional CAN communication capability to LS-5 series circuit breaker controls. The easYgen-3500 model shown here is panel door mounted and features a 14.5 cm diagonal, back-lit color LCD screen.

communication capability to LS-5 series circuit breaker controls.

The easYgen-3500 model is panel door mounted and features a 14.5 cm diagonal, back-lit color LCD screen that is now standard on the easYgen-3200 series as well. It has sealed soft keys and a user-friendly, easy to navigate menu structure for manual control and interface. The easY-

gen-3400 is housed in an anodized aluminum case for back panel mounting. Up to 32 easYgens can be combined with 16 LS-5s to create as many as 64 different bus segments.

Woodward has also released a newly upgraded RP-3000 universal remote panel for use with all easYgen-3000 series controllers. Each RP-3000 remote panel is used in conjunction with a

single easYgen-3000 gen-set control for annunciation and remote control of the gen-set via CAN communication. It has the same 15.5 cm color LCD screen and soft-key interface as the easYgen-3200 and easYgen-3500 models.

The RP-3000 is commonly used with back panel mounted easYgen models, reducing wiring across panel door hinges. It can also be used as an additional, external portal for programming the easYgen-3000. The RP-3000 also has multilingual capability. It can be programmed in one language and then configured to display in English, German, Polish, French, Spanish, Portuguese, Chinese, Japanese, Italian, Turkish or Russian.

According to Paul Wilhelm, Woodward electrical power systems account manager, “The LS-5 circuit breaker control and easYgen-3400/3500 controls further enhance the flexibility of the easYgen-3000 series, allowing switchgear manufacturers and gen-set packagers to standardize on a single, affordable control platform to fit most applications.”

The LS-5 series circuit breaker controller, easYgen-3000 series generator controls and RP-3000 remote panel are UL/cUL listed and CE marked and have Lloyd’s Registry and ABS marine certifications. Additionally, regional marine certifications have been obtained for some models, the company said.

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