



S6100SIGMAS/LS Module

- 3 Phase Measurement
- Busbar Monitoring
- Auto or Manual Operation
- Voltage Matching
- Frequency Stabilization
- Auto Synchronization
- Active Loadsharing
- Voltage Stabilization
- Reactive Loadsharing
- Conventional Governor/AVR
- Electronic Governor/AVR
- Paralleling with grid/shaft generator
- RS485 MODBUS Slave
- CAN Bus
- Redundant Power Supply



SIGMA is an integrated generator protection and control system. Ease of use, quality and cost effectiveness were the key targets when SELCO set out to design the SIGMA concept.

The SELCO S6100 SIGMA S/LS Module provides busbar monitoring, frequency stabilization, voltage stabilization, voltage matching, automatic synchronization and active/reactive load sharing. The S6100 has dedicated interfaces for both conventional and electronic governors and automatic voltage regulators (AVRs). Manual control is also possible through external push buttons.

The S6100 reads generator parameters from the S6000 IO/P module (connected through the CAN bus). The S6100 will also measure the Bus bar voltages across all three phases. The bus bar voltage measurements are digitally sampled by the built-in signal processor and converted to true RMS values. The S6100 will continuously do real-time calculations of derived parameters. The S6100 can connect to generators with or without neutral.

Busbar monitoring functions are provided. These functions include surveillance or under/over voltage, under/over frequency and frequency deviation (df/dt).

The S6100 control section includes voltage stabilization, frequency stabilization, voltage matching, automatic synchronization and automatic active/reactive load sharing. The control algorithms are based on three phase measurements.

Built-in relays are provided for control of conventional governors and AVR's. Isolated analogue outputs are provided for control of electronic governors and AVR's. The S6100 will work with or without droop. The S6100 can operate in parallel with the SELCO T4400 or T4800 load sharers.

The S6100 includes advanced functions which provide intelligent paralleling of one or more generators to the grid, or to shaft generators. These functions include base loading, peak shaving and various other power import/export schemes.

The RS485 MODBUS-RTU connection provides easy interfacing to SCADA systems and PLC's. Measured and calculated parameters are easily accessed by any device capable of operating as a MODBUS master. Configuration parameters can also be accessed and altered through MODBUS-RTU.

An RS232 connection is provided for point-to-point configuration. The S6000 can be remotely configured by "clear text" commands issued from a standard terminal emulator (e.g. Windows HyperTerminal). The complete configuration can be stored as a text file.

Together with the S6000 and S6500/S6600, the S6100 will provide a simple yet powerful solution to a full scale control system. Such a system will provide protection, auto-synchronization, active/reactive load sharing, indication and SCADA connectivity.

A single variant supports nominal voltages in the range 63 to 690 VAC. Indicated voltage up to 32 kV is supported.

The S6100 is designed to comply with marine requirements. The design of the circuitry and metal casing provides the best possible protection from EMC and environmental stress.

The S6100 is intended for switch board installation. Measurements are 145 x 190 x 64 mm.

This product is complementary to the following products:

- S6000 SIGMA IO/P Module
- S6500 SIGMA UI Module
- S6600 SIGMA PM Module
- T7900 Electronic Potentiometer
- E7800 Motorized Potentiometer

This product has obtained the following type approval certificates:

- SIGMA Bureau Veritas Certificate
- SIGMA Lloyd's Register Certificate
- SIGMA Lloyd's Register Design Appraisal Document
- SIGMA Germanischer Lloyd Certificate

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