

S6000SIGMAIO/PModule

 [Support documents](#)

- 3 Phase Measurement
- Short Circuit Protection
- Over Current Protection
- Over Load Protection
- Reverse Power Protection
- Excitation Loss Protection
- Load Shedding (2 Levels)
- 3 Analog Outputs
- RS485 MODBUS Slave
- CAN Bus
- Redundant 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 S6000 SIGMA IO/P Module provides data acquisition and complete protection for a single generator.

The S6000 measures the voltages across all three phases as well as the current running through each phase. The voltage and current signals are digitally sampled by the built-in signal processor and converted to true RMS values. The S6000 will continuously do real-time calculations of voltage, current, frequency, active/reactive power, VA, power factor etc. The S6000 can connect to generators with or without neutral.

The S6000 includes six programmable protection functions: Short Circuit, Over Current, Reverse Power, Overload, Excitation Loss and Voltage Establishment. The protection functions can be configured with regard to trip level, delay and relay function. The protection works on all three phases. A dedicated LED and open collector output is provided for each protection function.

Load shedding can be done at two individual levels. Each level controls a dedicated built-in relay.

Measured and calculated parameters can be provided as VDC and mA signals on three isolated analogue outputs. The span of each analogue output is programmable.

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 S6100 and S6500, the S6000 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. Secondary CT current must be specified upon delivery (5 or 1 A). Indicated voltage up to 32 kV is supported.

The S6000 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 S6000 is intended for switch board installation. Measurements are 145 x 190 x 64 mm.

This product is complementary to the following products:

- [S6500 SIGMA UI Module](#)
- [S6600 SIGMA PM Module](#)
- [S6100 SIGMA S/LS Module](#)

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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