

Completely Integrated Solutions
for the Navy

SINAVY^{CIS} POWER LV

Generators, switchgear and power management systems for naval surface vessels – save costs with intelligent, comprehensive solutions from a single source

Your Success is Our Goal

SIEMENS

Industrial Solutions and Services

As a comprehensive solution, SINAVY^{CIS} POWER LV from Siemens ensures the safe and efficient generation and distribution of electrical energy on board of naval surface vessels. All components are perfectly integrated into the overall system. This helps to avoid interface problems and save costs. SINAVY^{CIS} POWER LV fulfils the special operational, functional and tactical requirements for naval surface vessels, and is ideally equipped for the widest variety of environmental conditions (EMC, shock stability, short-circuit protection).

SINAVY^{CIS} POWER LV – energy at all times – safe and efficient

Electrical energy is fed by the generators into the on board network via one or more main switchboards. This can only be achieved with switchgear and distribution systems that not only fulfil the fundamental electrotechnical requirements, but also the special demands on board battle ships. Among others, these include EMC, shock resistance and short-circuit protection.

The availability of the required power must be assured for every defined operational state to ensure that the vessel's operability is upheld at all times. The individual components of the electrical systems should, similar to a building block system, be adapted to one another as perfectly as possible, in order to prevent costly and failure-prone interface problems.

Five good reasons for SINAVY^{CIS} POWER LV

- High degree of reliability, operational safety and availability for naval surface vessels
- Modular, flexible design consisting of standardized components is cost-effective and avoids interface problems
- Type-tested, robust and freely combinable standardized components guarantee a high level of availability right from the start
- Compact design
- Design meets conventional standardized norms such as DIN, VDE and German military design regulations



SINAVY^{CIS} POWER LV – our solution in detail

SINAVY^{CIS} POWER LV consists of brushless synchronous generators, a naval switchgear system and a power management system, as well as transformers and converters as required for other voltage systems. The system comprises a modular-designed low-voltage switchgear system, specially reinforced for use aboard naval vessels. Through integrated protection elements, it offers a high degree of safety and availability.

It contains:

- Open generator power switches for up to 4,000 A
- Generator protection devices
- Power Management System (PMS)
- Differential protection
- Manual or motorized open power switches, fixed or removable, for the 630 to 4,000 A range
- Compact power switches, fixed or removable, for the range between 16 to 1,250 A
- Motor-controlled power switches optional

The power management system is a part of the switchgear system, and ensures the continuous supply of energy required for a particular operational state. Thereby, system operation is highly economical and cost-efficient. Depending on the current energy need, the system connects the generators according to predefined parameters to the on board network, and then disconnects them again when no more energy is needed. Among other things, the SINAVY^{CIS} POWER LV power management system offers the following basic functions:



- Multiple operating modes
- Programmable start priorities
- Load-dependent start/stop function
- Synchronization and load sharing
- Control of open power switches for generators, bus bar clutch, land connection, etc.
- Load-shedding and disconnection of unneeded consumer devices or consumer groups

The system is rounded off by an extensive package of integrated safety features such as automatic blackout start and standby-start/stop.

SINAVY^{CIS} POWER LV comprises type-tested, reliable standardized modules that can be freely combined with one another. This simplifies adaptation to the individual circumstances on board a particular vessel, while ensuring a high degree of availability right from the start.

Brushless synchronous generators are the primary source of electric power.

For voltages other than 440V/60Hz supplied by the main generators, transformers or converters are provided taking care of the relevant standards with regard to net quality.

Cost-effective and proven many times over

SINAVY^{CIS} POWER LV is the versatile, flexibly adaptable comprehensive solution from a single source. This guarantees system integrity and helps save costs through simple handling and a high degree of availability. Siemens systems have been performing reliably for many years on board naval vessels, including those of the German, Argentine, Turkish, Portuguese, Greek, Australian, New Zealand and South African Navies.

www.siemens.com/marine

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CIS = Completely Integrated Solutions

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Order No.: E10001-P19-A7-V3-7600
Printed in Germany
Dispo No.: 16600 K No.: 35300
C-OMSM5207M03 PA 1106
Subject to change without prior notice

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SINAVY^{CIS} – Completely Integrated Solutions for the Navy

As a comprehensive industry-specific solution for naval vessels, our SINAVY^{CIS} product family integrates all the products and services you need for sustained maximization of your ship's performance.

For each particular task, a solution has been defined that

- **horizontally** improves all of your ship's operations
- **vertically** integrates the ship's information and security management end-to-end, helping to make better-founded decisions
- and, at the same time, is designed for optimal vessel specific maintenance and comes with assured further development **over the whole life cycle**

Due to this unique combination of horizontal, vertical and life cycle dimensions, our solutions all carry the genes of an exhaustive and sustained plant productivity in their very core.

For More Stability. More Availability. More Power.

Completely Integrated Solutions from Siemens.