

SINAVY^{CIS} SG DC switchboards and switchgear ensure the safe and efficient distribution of electrical energy on board submarines. Many years of experience and close cooperation with navies and shipyards guarantee systems that, in every detail, are perfectly adapted for "underwater" utilization.

SINAVY^{CIS} SG DC – extreme demands

The electrical power provided by the batteries, charging generators or fuel cells on board submarines is fed into the propulsion motor and the on board networks via a main switchboard. Switchgear and distribution systems must therefore be suitable for the special conditions found on board submarines.

In addition to short circuit stability, other factors such as shock resistance, magnetism, acoustics, EMC as well as environmental considerations (temperature, humidity, air pressure) play an important role. Due to the limited space on board submarines extremely compact constructions that take heat dissipation in account are required.



Five good reasons for SINAVY^{CIS} SG DC

- High level of reliability and availability of the switchgear, and thus also of the submarine
- Solutions from a single source – SINAVY^{CIS} SG DC offers perfectly integrated solutions without interface problems
- Low stray field or stray field reduced designs available
- Compact design, proven in over 140 submarines
- Low service and maintenance requirements

SINAVY^{CIS} SG DC

Safe, efficient, low signature:
switchgear and switchboards for submarines

Marine Solutions

SIEMENS

SINAVY^{CIS} SG DC – our solution in detail

SINAVY^{CIS} SG DC from Siemens encompasses the supply, distribution and monitoring of the electrical power in the various networks of the submarine.

The main switchboard ensures the secure connection between the power sources and the submarine drive system (propulsion motor).

It comprises:

- Power circuit-breakers for batteries, generators, AIP systems (e.g. fuel cells), propulsion motor and charging connection
- Outputs for the energy supply into the on board networks (switches, circuit breakers, power diodes)
- Components for measuring currents and voltages (shunts, converters)
- Components for monitoring the insulation

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

As a comprehensive 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 optimum vessel-specific maintenance and comes with assured further development **over the whole life cycle**.

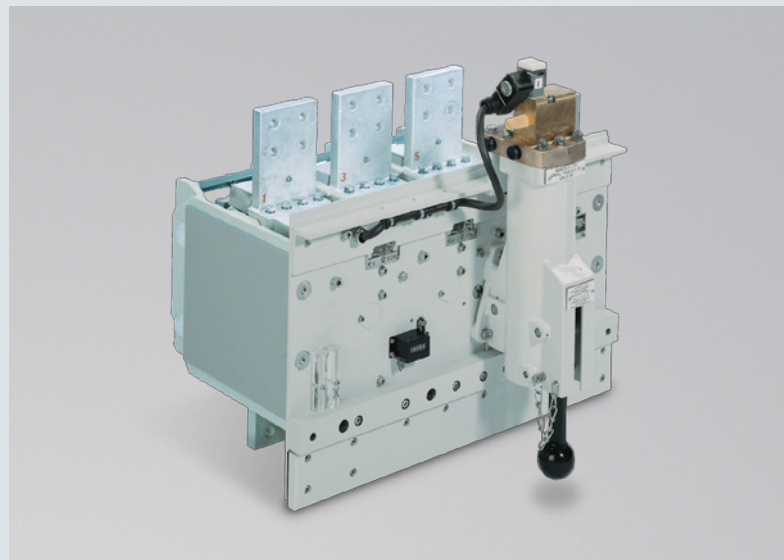
Due to this unique combination of horizontal, vertical and life cycle dimensions, our solutions all carry the genes of an exhaustive and sustained plant productivity in their very core.

**For More Efficiency. More Performance. More Power.
Completely Integrated Solutions from Siemens.**

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The auxiliary switchboard secures the power supply for the individual consumers of the various networks.

It comprises:

- Miniature circuit-breakers and motor protection switches for the individual consumers
- Instrumentation and operating elements for monitoring and control of the power distribution
- Insulation monitoring equipment
- Components for the energy supply from shore
- Components for the manual operation of the propulsion system

Control and monitoring systems are also available, including:

- Hoistable mast control
- Snorkel control
- Navigation light control
- Battery monitoring
- Generator monitoring (control and monitoring)

Customer-oriented and flexible

The SINAVY^{CIS} SG DC distribution systems are specially adapted to the requirements of each individual vessel.

With SINAVY^{CIS} SG DC, engineering, development and production are from a single source, thus eliminating costly and time-consuming incompatibility from the start.

SINAVY^{CIS} is a trademark of Siemens AG.
CIS = Completely Integrated Solutions

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.