

SIEMENS



SINAMICS DCM Cabinet

DC drive converter cabinets for
fast and simple system integration

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Answers for industry.

SINAMICS DCM Cabinet

Highest performance and integrated intelligence

SINAMICS DC MASTER Cabinet is the drive cabinet with the new SINAMICS DC MASTER generation of DC converters. This combines the advantages of the previous well-proven SIMOREG DC-MASTER series and the state-of-the-art SINAMICS drive family from Siemens.

Go into production ahead of schedule and minimize downtimes

With the ready-to-connect drive cabinets of the SINAMICS DC MASTER Cabinet system, a user-friendly solution is provided, which sets itself apart as a result of its compactness, its electromagnetic compatibility as well as the good accessibility of the individual components and interfaces. These design features ensure quick and simple integration into plants and systems: New plants and systems start to produce ahead of schedule, and for retrofits, downtimes are reduced to a minimum. Short delivery times are possible as a result of the standardized production procedures.

Thanks to the wealth of options, SINAMICS DC MASTER Cabinet units can be easily adapted to the plant-specific situation.

Ready to be connected and switched on and type-tested

The basic version of SINAMICS DC MASTER Cabinet is ready to be connected and switched on. As a consequence, engineering and commissioning times as well as plant downtimes can be simply shortened. Functionality is ensured through components that are optimally harmonized with one another.

It goes without saying that the drive cabinets are type-tested. The exhaustive testing, for example, regarding the mechanical and electrical strength as well as temperature rise, clearly verifies our high quality claims.

A compact design but individual components and customer interfaces are still easy to access

In spite of the compact design, the individual components are transparently arranged in the SINAMICS DC MASTER Cabinet, and are easy to access. Especially the terminals are arranged so that there is sufficient space for installation and fixing cables. The signal cables are combined and routed to terminals in the lower section of the cabinet.

Including supply for the motor fan

The power supply for the external fan of the DC motor is already included in the basic cabinet version, including the motor protection circuit breaker. By selecting the corresponding option, the setting values of the motor protection circuit breaker can be adapted to the motor.

Flexible when selecting the auxiliary power supply

SINAMICS DC MASTER Cabinet can be universally and flexibly used over wide voltage ranges. The ability to adapt to the existing control voltage is especially interesting when it comes to modernizing existing plants. The auxiliary voltage of the converter cabinet is appropriately adapted by specifying the line supply voltage available. If a separate auxiliary power supply is not available, then this is optionally taken from the cabinet.

EMC zone concept for disturbance-free operation

Thanks to the EMC zone concept, SINAMICS DC MASTER Cabinet is admirably suited for industrial applications. This is both regarding the ruggedness against disturbing effects as well as the low radiated emissions. There is also a high-frequency, low-ohmic connection between all of the relevant components. Further, separate cable routing and EMC zone segregation have been implemented. The EMC concept can be very easily integrated into the plant and ensures disturbance-free operation.

Seamless documentation

In addition to the manuals for the SINAMICS DC MASTER Cabinet units, it goes without saying that a circuit diagram and terminal diagram are also supplied. The diagrams are individually generated and precisely represent the state of the drive cabinets when shipped. These diagrams can also be provided in a digital form so that customers can integrate them into CAE systems.

Extensive portfolio

SINAMICS DC MASTER Cabinet can be directly connected to 3-phase line supplies up to 3-ph. 950 V AC, and in the basic version, addresses a power range extending from 6 kW up to 2500 kW. Individual engineering solutions are possible to complement this standard range. In addition to the 12-pulse series and 12-pulse parallel connections, solutions are available to expand the power rating – by connecting units in parallel, total power ratings of up to 30 MW are possible. Drive cabinets can also be produced for medium-voltage applications. Depending on the actual requirement, the converter cabinet is either based on the SINAMICS DC MASTER DC Converter – or on the Control Module and a separate power unit.



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Finely scalable and service-friendly for high plant availability

The finely scalable DC Converter is the core of the cabinet

The DC Converter is the core of the SINAMICS DC MASTER Cabinet. Its decisive advantage is its inherent scalability. As a consequence, it can be adapted to the complete range of basic applications up to sophisticated and demanding applications. The Advanced CUD can be used to expand the closed-loop control capacity for applications demanding a higher computational performance and more interfaces. Different requirements relating to the computational performance and speed can be precisely fulfilled by being able to select between a standard CUD, an advanced CUD or a combination of both. Further, the device can be expanded in a modular fashion and can be quickly and flexibly tailored to the particular application by using free function blocks and function modules.

Service-friendly for high plant availability

The plant or system availability is increased by being able to quickly and simply exchange components. Components that can be exchanged have been designed so that they can be quickly and simply replaced. The spare parts that are available – assigned to the serial number of the cabinet – can always be viewed online.

Monitoring the temperature inside the drive cabinet

In the field, the availability of a drive is frequently influenced by changing the ambient conditions. Additional external sources of heat in the environment can mean that the air intake temperature increases, unusually high levels of pollution in the air block the air intake filter or subsequently equipping the drive cabinet with devices with a higher power loss, additionally load the cabinet cooling. As an option, the temperature inside the drive cabinet is monitored using a PTC thermistor sensor. This allows these effects to be identified at an early stage so that countermeasures can be quickly applied.

Simple commissioning and parameterization

SINAMICS DC MASTER Cabinet units are commissioned and parameterized intuitively, menu-prompted at the AOP30 Advanced Operator Panel with the graphics-capable LCD display and plain text display - or PC-supported using the STARTER commissioning tool of the SINAMICS family.

Can be seamlessly integrated into the automation environment

SINAMICS DC MASTER Cabinet units can be simply integrated into automation solutions – for example, using a standard PROFIBUS communication interface and various analog and digital interfaces as well as PROFINET.



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Overview of sizes

Rated DC current				
≤ 280 A	≤ 600 A	≤ 1200 A	≤ 3000 A	
Dimensions refer to the basic version (W × H × D in mm)				
600 × 2326 × 600	800 × 2200 × 600	1200 × 2200 × 600	1400 × 2200 × 600	1600 × 2200 × 600



The advantages at a glance:

- Type tested, ready-to-connect and ready-to-switch-on
- Fast and straightforward installation, parameterization and commissioning
- Compact, but individual components and interfaces can still be easily accessed
- Maximum flexibility as result of the wide range of options
- EMC zone concept with optimum electromagnetic compatibility
- Flexible when selecting the auxiliary power supply
- Integrated power supply for the external fan of the DC motor
- Extensive range
- Finely scalable computational performance, field power supply and interfaces
- High system availability and service-friendly design
- Menu-prompted commissioning using the advanced operator panel or PC-based tool
- Can be seamlessly integrated into the automation environment

More information:
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