

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Frequency Converter**with type designation(s)
Sinamics G130, G150, S120, S120CM & S150

Issued to

**Siemens AG Process Industries and Drives, Large Drives, PD
LD
Nürnberg, Bayern, Germany**is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Frequency Converter for 3-phase Motors Sinamics S & G series. Range: 75 kW to 2700 kW
380-690 VAC supply.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed
by DNV GL.**Issued at **Hamburg** on **2018-10-23**This Certificate is valid until **2023-10-22**.DNV GL local station: **Augsburg**for **DNV GL**Approval Engineer: **Thomas Hartmann**

Arne Schaarmann
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

General characteristics of SINAMICS G and S series

Voltage variation:	± 10 %
Frequency variation:	± 10 %
Output frequency:	0- 550 Hz G130, G150: 0- 300 Hz
Temperature range in operation:	0 – 45 °C <100m above sea level (45 – 50 °C when derated)
Degree of protection	
G130, S120	IP00, IP20
G150, S120CM, S150	IP20, IP21, IP23, IP43, IP54 and IP55

Sinamics G130

General performance built-in type modules (chassis units) Variable speed controller for asynchronous motor. Constant / variable torque applications.

Sinamics G150

Single drive cabinet with G130 chassis

Sinamics S120

High performance built-in type modules (chassis units), Air- or liquid cooled.

Sinamics S120 CM

Cabinet Modules for multi drive systems with S120 chassis, Air- or liquid cooled.

Heat Exchanger Modules (HEM)

Cabinet with recooling system for liquid cooled converters.

Sinamics S150

Single drive cabinet with S120 chassis with rectifier-regenerating unit.

Type designation	Mains supply [V]	Output [kW] ¹⁾	Rated output current [A]
G130			
6SL3310-1GExx-x	380 - 480	110...560	210...985
6SL3310-1GFxx-x	500 - 600	110...560	175...810
6SL3310-1GHxx-x	660 - 690	75...800	85...810
G150			
6SL3710-1GExx-x	380 - 480	110...900	210...1560
6SL3710-1GFxx-x	500 - 600	110...1000	175...1360
6SL3710-xGHxx-x ²⁾	660 - 690	75...2700	85...2752
S120			
6SL33xx-xTExx-x	380 - 480	110...900	210...1700
6SL33xx-xTGxx-x	500 - 690	75...1500	85...1880
S120CM			
6SL37xx-xTExx-x	380 - 480	110...800	210...1405

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Type designation	Mains supply [V]	Output [kW] ¹⁾	Rated output current [A]
6SL37xx-xTGxx-x	500 - 690	75...1500	85...3200
HEM (Heat-Exchange-Module)			
6SL3705-0RExx-x 32...120 kW (recooling power)	380 - 480	3,5-6,4	n/a
6SL3705-0RGxx-x 32...120 kW (recooling power)	660 - 690	3,5-6,4	n/a
S150			
6LS3710-7LExx-x	380 - 480	110-800	210-1405
6LS3710-7LGxx-x	500 - 690	75...1200	85...1270

Footnotes :

- 1) Values applicable for 45 °C
- 2) 2GH denominates parallel connected power modules

Application/Limitation

Temperature class: A
Vibration class: A
Humidity class: A
EMC class: EMC Directive /IEC 61800-3
To be used on EMC class A locations

The Sinamics G130, G150, S120, S120 CM and S150 must be regarded as a component. The actual installation to be designed according to Siemens Operating Manual and according to the applicable DNV GL Rules for the actual application. To be installed in an enclosure with an IP degree in accordance with DNV Rules w.r.t. location.

The current output must be derated over 45 °C and over 100 m sea level. For details, see Siemens catalogue.

Controller : CU 320

Converters with conducted and radiated emission above the DNV GL required limits can be installed in "special distribution zone" and "general power distribution zone", in accordance with IEC 60533 provided measures are taken to attenuate these effects on the distribution system, so the safe operation is assured. Planned EMC measures shall be submitted for approval prior to installation onboard.

The EMC measures should be derived from an EMC analysis and plan in accordance with IEC 60533 Annex B and /or IEC 61800-3 Annex E.

Heat exchanger module (HEM) basic wiring diagram A5E45798942A suitable for TN-Systems as per 60204-1, clause 18. HEM Sensor-list with setpoints and adjustment to be submitted for each project. 6SL3705-0RGxx-x supply via step-down transformer.

Type Approval documentation

Tests carried out

Visual inspection, Performance, Power supply failure, Power supply variations, Inclination test, Vibration, Dry heat, Damp heat (partly), Insulation resistance, High voltage.

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EMC: The following tests are in accordance with the EMC directive / IEC 601800-3: Electrical fast transient (Burst), electrical slow transient (Surge), RF-common mode Voltage, radiated RF-electromagnetic fields, electric discharge (ESD), radiated and conducted emission.

Marking of product

Siemens Sinamics S120, S150 or S120 CM – Type designation – Power – Voltage
Siemens Sinamics G130 / G 150 – Type designation – Power – Voltage

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE