

TYPE APPROVAL CERTIFICATE

This is to certify:

That the **Low Voltage Switchgear and Control Gear Assemblies**

with type designation(s)

WL06-M welded frame switchboard system

Issued to

Wärtsilä SAM Electronics GmbH

Elmenhorst/Lichtenhagen, Mecklenburg-Vorpommern, Germany

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (V) 690
Rated current (A) up to 4800
Rated frequency (Hz) 50 - 60
Degree of protection IP23 / IP44

Issued at **Hamburg** on **2023-12-12**

This Certificate is valid until **2028-12-11**.

for **DNV**

DNV local station: **Hamburg – CMC North/East**

Approval Engineer: **Harald Amberger**

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Oddvar Deinboll
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

WL06-M: Low voltage power switchboard for circuits, motor protection and control.

Type:	WL06-M
Rated operation voltage Ue:	690V AC
Rated insulation voltage Ui:	800V AC
Rated impulse withstand voltage Uimp	8 kV
Rated frequency:	50-60 Hz
Rated current at 45 °C ambient:	
Main busbar:	Up to 4800 A
Distribution busbar:	Up to 3460 A
Short-circuit current main bus bar:	
Peak withstand Ipk:	Up to 220 kA
Withstand 1 sec. Icw:	Up to 100 kA
Short-circuit current distribution busbar:	
Peak withstand Ipk:	Up to 220 kA
Withstand 1 sec. Icw:	Up to 100 kA
Further ratings acc. manufacturer documentation.	

External dimensions: H: 2040 mm
 W: 400, 600, 800 or 1000 mm
 D: 600, 800 or 1000 mm

Installation instructions of the manufacturer to be observed

Application/Limitation

The type approval covers system design principle in accordance with IEC 61439-1/2 only. Equipment's as circuit breakers etc. are not covered by this type approval.

Documents and drawings for the actual application as stated in DNV Rules Pt. 4, Ch. 8, Sec. 1, Table 8 except E150, shall be submitted for approval in each case by the manufacturer. This type approval certificate does not replace the requirement for a DNV product certificate.

Vertical bus bars may be rated based on the reduced short-circuit stress occurring on the load side of the respective short-circuit productive device as stated in IEC 61439-1 item 8.6.1, but not less than 60 % of the rating for the main bus bar and only for single outgoing consumers protected by a fuse or short-circuit limiting breaker without time delay.

90°C Temperature-rise limit for mean/max. ambient temperature of 45/50°C

Type Approval documentation

Tests carried out

Type tests in accordance with IEC 61439-1 / 2, vibration test.

Marking of product

According with IEC 61439-2

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