DNV·GL

Certificate No:
TAE000024X

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Frequency Converter

with type designation(s)
SD700 Series

Issued to
Power Electronics Espana, S.L.
Paterna, Spain

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Frequency Converter for Asyncronous Motors Range: 63 kW to 630 kW 230-690 VAC supply.

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

This Certificate is valid until **2021-10-02**.
Issued at **Høvik** on **2017-07-11**

DNV GL local station: **Valencia**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

Digitally Signed By: Andreas Kristoffersen
Location: DNV GL Høvik, Norway
Signing Date: 2017-07-12

Andreas Kristoffersen
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

SD700 Series: Frequency converter for use in various marine applications.

Frime size:	5	6	7	8
Power Modules in parallel:	n/a	2	3	4
Rated input Voltage (V):	230 - 690	230 - 690	230 - 690	400 - 690
Rated input frequency (Hz):	50 / 60			
Max. motor output (kW):	63 - 160	100 - 315	185 - 450	450 - 630
Ingress protection:	Up to IP44			
Pollution degree:	2	2	2	2
Over voltage category:	3	3	3	3
Cooling method:	Forced air-cooling			

Application/Limitation

Supply voltage range:	200-240 V / 380-480 (500) V / 525-690 V, 50/60 Hz
Voltage variation:	± 10 %
Frequency variation:	47- 65 Hz
Output frequency:	0… ±250% of rated input frequency
Temperature range in operation:	-20 °C to +50 °C
Temperature class:	A
Vibration class:	A
Humidity class:	A
EMC class*:	IEC 61800-3 C2 To be used on EMC class A locations

Documents for the actual application are to be submitted for approval in each case in accordance with DNVGL-RU-SHIP Pt.4 Ch.8 Sec.1 Table2. A Product Certificate is required for converters ≥ 100 kW.

* Converters EMC classed C2 according to IEC 61800-3 can be installed in "special distribution zone" and "general power distribution zone" in accordance with IEC 60533 provided precautions are taken to attenuate these effects on the distribution system, so the safe operation is assured.

The Type Approval covers hardware and software for the basic controller.

Clause for software control:

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV GL for evaluation and approval. Major changes in the software are to be approved before being installed in the converter.

Type Approval documentation

Test reports
Power Electronics summary sheet document reference SD70IE01AI Rev.A

Tests carried out

In accordance with "Guidelines for Performance of Type Approval Chapter 2, Edition 2003"
IEC 61800-5-1

Marking of product

SD700 - Type designation – Power – Voltage

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type Approval is 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 Routines (RT) checked (if not available tests 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.

Assessment to be performed at 2, 3.5 year and at renewal.

END OF CERTIFICATE