

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Frequency Converter

with type designation(s)
ACS 880-01

Issued to

**ABB Oy, Drives
HELSINKI, Finland**

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Frequency converters for use in marine and offshore applications.

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

This Certificate is valid until **2020-04-01**.

Issued at **Høvik** on **2015-11-30**

DNV GL local station: **Helsinki**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

**Marit Laumann
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

ACS880-01 (with option +C132) frequency converter. Option +C132 denotes marine approved option package.

Power*	Input Voltage	Output voltage	Output frequency	Ingress Protection**
0,55 – 250 kW	3~230 V 3~400 V 3~440 V 3~500 V 3~690 V	0 - U _{input}	0-500Hz	IP 20/21/55

* Max. applicable motor output to be de-rated at 45°C according to ABB document 3AXD50000010521 Rev A (EN)

** Limitation of location on the vessels applies for the IP20 and IP21 enclosure, see below.

Application/Limitation

Electro Magnetic Compatibility:

- EMC filter option E200, E202 to be used in TN-system.
- EMC filter option E201 to be used in IT-system.

Converter to 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.

Pollution degree:

To be installed in an enclosure with an IP degree in accordance with DNV Rules w.r.t. location. IP 20 and 21 versions are limited to be used in pollution protected rooms (maximum pollution degree II).

Vibration:

Vibration dampers (Option +C131) are to be used as specified by manufacturer.

Product certification:

Frequency converters larger than 100kW serving important or essential equipment is subjected for additional case by case based product certification. Documents for the actual application are to be submitted for approval in each case in accordance with DNV GL Rules Pt.4, Ch.8, Sec.1, Table 2 including reference to this type approval certificate and confirmation that the correct marine options and power ratings are used.

Type Approval documentation

Tests carried out

General type tests in accordance with IEC 61800-1 and 61800-5-1 including Full Current Test and Heat run test.

Environmental tests including Power Supply Variation, Power Supply Failure, Dielectric, EMC (immunity and emission), Vibration, Low temperature and Damp heat.

Marking of product

ABB Oy – Type designation – Output – Input – IP degree

Job Id: **262.1-019525-2**
Certificate No: **TAE00000SJ**

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 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.

Assessment to be performed at least every second year.

END OF CERTIFICATE