



Certificate no.:
TAE000058M

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)
Isolator Breaker Box

issued to

Promeco Oy
Kankaanpää, Finland

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)	400
Rated frequency (Hz)	50/60
Degree of protection	44

Issued at **Høvik** on **2026-04-13**

This Certificate is valid until **2031-04-12**.

for **DNV**

DNV local unit: **Finland CMC**

Approval Engineer: **Qiang William Guo**

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 USD 300 000.

Product description

Isolator Breaker Box (IBB) is an Electrical protection and switching cabinet incorporating an ABB XT5N 400 Ekip Dip circuit breaker for overcurrent protection between the Electric Machine Drive (EMD) and Electric Machine (EM). The unit supports both manual and remote operation, with breaker closing enabled by the Volvo Control System (VCS) and remote opening always available with HVIL safety interlock function.

Nominal voltage /Frequency	690V,50/60Hz
Insulation voltage	1000VAC
Nominal current	400A
Control voltage	24VDC
Manual Mode	Allows manual opening of the breaker
Remote Mode	Enables the Volvo Control System (VCS) to close the breaker
Dimension (Lx W x D mm)	

Application/Limitation

For main and emergency switchboards application, product certification is required for each delivery according to the DNV Rules Pt 4 Ch 8 Sec 1, Table 7, edition July 2025, below documentation shall be subjected for case-by-case approval of each project:

- E120 - Electrical data sheet, general
- E140 - Assembly schedules and technical data
- E170 - Electrical schematic drawing
- E180 - Electrical assembly layout
- E240 - Functional description for electrical assemblies
- Z252 - Test procedure at manufacturer

Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

The instruction manual from maker should be observed and followed,

Environmental class location according to DNV-CG-0339 AUG.2021

Temperature class	B
Humidity class	B
Vibration class	A
Enclosure class	B

Type Approval documentation

Manufactured by:

Tests carried out

Type test in accordance with DNV-RU-SHIP Pt.4 Ch.8 Sec.4, Edition July 2025, DNV-CG-0339 AUG.2021 i.e. Performance test, High voltage, insulation resistance, Electrical power supply failure, power supply variation, vibration, dry heat, cold damp heat, IP test.

Marking of product

Volvo Penta Part number – AX 1350.000, Serial No., Factory ID, Production date etc.

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



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renewal of the certificate.”

END OF CERTIFICATE