



Certificate No:
TAA00002Z7

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrical Control System

with type designation(s)
ACCURA 2700/2750

Issued to

Rootech, Inc
Gyeonggi-do, Republic of Korea

is found to comply with

DNV GL 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.

Temperature	D
Humidity	B
Vibration	A
EMC	A
Enclosure	IP 20 (IP 54 for 2700DH/2750DCH)

Issued at **Busan** on **2021-04-29**

This Certificate is valid until **2026-04-28**.

for **DNV**

DNV local station: **Seoul**

Approval Engineer: **Eun Jin Lee**

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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.

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.



Form code: TA 251

Revision: 2021-03

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Product description

ACCURA 2700/2750 Smart motor management system

Accura 2700M

Incoming-unit integrated module
Power supply : 24V DC
Power measurement
Ethernet, RS 485

Accura 2700DH

Incoming-unit integrated HMI module
Power supplied from 2700M

Accura 2750PC

Motor-unit protection & control module
Power supply : 100Vac to 240Vac
Rating : 5A, 30A, 100A, 160A, 250A, 400A
Motor protection : THR(49), Overcurrent(50), Current unbalance(46), Undercurrent(37), ZCT(64)
Starter : Direct, Reversing, Two-speed, Two-step

Accura 2750DCH

Motor-unit protection & control HMI module
Power supplied from 2750PC

Unit socket RJ45 ports

Bridge socket RJ45 ports

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

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.

Type Approval documentation

Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, December 2019

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate



Job Id: **262.1-032877-1**
Certificate No: **TAA00002Z7**

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