Certificate no.:
TAA00003C2

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Peripheral Equipment

with type designation(s)
Monitouch V10 Series

issued to
Hakko Electronics Co., Ltd.
HAKUSAN, ISHIKAWA, Japan

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.

Temperature	**D**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**C (Front: IP66, Inside: IP20)**

Issued at **Busan** on **2023-12-01**
This Certificate is valid until **2028-11-30**.
DNV local unit: **Japan CMC**

for **DNV**

Approval Engineer: **Eun Sook Kim**

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

MONITOUCH V10 series is 24V DC type panel-mount touch screens incorporating programmable memory for screen display and the following models are covered by this certificate:

V 1 0 ⓐ i S ⓑ ⓒ D ⓓ

ⓐ	Two digits for TFT color display size
15	15.0”
12	12.1”
10	10.4”
08	8.4”

ⓑ	Functions
Nil	without extended wired LAN or wireless LAN interface
L	with extended wired LAN interface
R	with wireless LAN interface

ⓒ	Front case color
Nil	light gray
B	black

ⓓ	Touch panel specifications
Nil	analog resistive film type
-Uxxx	-U may be followed by 3-digit number (000 to 999, front bezel sheet number)

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.

Compass safe distance

The equipment must be installed with a safe distance of at least 5 m to a standard or a steering magnetic compass.

Type Approval documentation

Tests carried out

Applicable tests according to Class Guideline DNV-CG-0339, August 2021

Marking of product

Each panel is marked with:

- Manufacturer's name: Hakko Electronics Co., Ltd.
- Type: Model name V10…. as listed under product description
- Serial number
- Supply voltage: 24VDC

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

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