DNV·GL

Certificate No:
TAA000014W

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
TIP-121NT/150NT/170NT/190NT

Issued to
Tetradyne Co., Ltd.
Seoul, 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 GL.

Location classes :

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**IP65 (Front)**

Issued at **Busan** on **2017-03-22**
This Certificate is valid until **2022-03-21**.
DNV GL local station: **Seoul**

Approval Engineer: **Eun Jin Lee**

for **DNV GL**

Michael Jost Auf der Stroth
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.

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Job Id: **262.1-016535-2**
Certificate No: **TAA000014W**

Product description

Model	TIP-121NT	TIP-150NT	TIP-170NT	TIP-190NT
TFT-LCD	12.1”	15”	17”	19”
Touch screen	5 wire Resistive			
CPU	Intel i3-2310M(2.1GHz, 3M)			
Chipset	Intel QM67 PCH Express chipset			
Memory	1xDDR3 4GB (max. 8GB)			
STORAGE	1xSSD 128GB(max. 1TB)			
Graphic	Intel® HD Graphic Engine			
I/O	2xLAN 6xUSB2.0(Front x 2, Rear x 4) 2xCOM(COM1: RS-232/422/485, COM2: RS-232 only) 1xVGA, 1xHDMI, 1xDP			
AC/DC power supply	220VAC(50/60Hz) 18VDC~31VDC			
Operating System support	MS-Windows 7/XP			

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 Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Tests carried out

Applicable tests according to DNVGL Class Guideline DNVGL-CG-0339, Nov.2015

Marking of product

Tetradyne Co., Ltd.
TIP-1xxNT

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE