DNV·GL

Certificate No:
TAA00001V4

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Temperature Sensor

with type designation(s)
DI-1100,DI-4100

Issued to
Doo Ik Eng. Co., Ltd.
Busan, 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.

Temperature	**A**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**C**

Issued at **Busan** on **2018-06-29**
This Certificate is valid until **2023-02-04**.
DNV GL local station: **Gimhae Station**

Approval Engineer: **Baeg Soon Choi**

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: **262.1-028574-1**
Certificate No: **TAA00001V4**

Product description

1. Technical Data/ Range Application
   - DI-1100 Resistance Bulb (PT100), 3-wire connection
     Temperature Range 0 -600°C: Class B:
     Available screw-in lengths: 80, 100, 120, 150, 180, 200, 250, 300 & 350mm
     Protecting tube/well material: SUS304

   - DI-4100 Thermocouple
     Temperature Range 0 -750°C: Class 2:
     Available screw-in lengths: 80, 100, 120, 150, 180, 200, 250 & 300mm
     Protecting tube/well material: SUS304

2. Manufacture place
   DOO IK ENG CO., LTD
   31, Haeyang-ro, Yeongdo-Gu
   Busan KOREA

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNVGL, 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 DNVGL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Type Approval documentation

Tests carried out

Periodical assessment

The scope of the retention/renewal survey 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 survey 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