



## TYPE APPROVAL CERTIFICATE

**Certificate No.** : CPH04968-AE002 **Initial Approval** : 19th March, 2012

**Product** : Temperature Sensor

**Manufacturer** : Kongsberg Maritime AS, Trondheim  
Skonnertvegen 1, NO-7053 Ranheim, Norway

**Product Description** : Type : MB, MN Series

" See Appendix 1 "

- Approval Condition** :
1. This approval is granted on the basis of the approved drawings and the test report no. E10123.00 issued by NEMKO.
  2. The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.
  3. Individual Product Certification is not required.

**THIS IS TO CERTIFY** that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships.

This Certificate is valid until 18th March, 2022

Issued at Busan, Korea on 14th December, 2017

  
**KOREAN REGISTER OF SHIPPING**  
  
General Manager of  
Marine & Ocean Equipment Team

*Note : 1. This certificate will be valid subject to complying with the approval conditions described on the certificate and / or on the Rules of this Society.  
2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.  
3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.  
4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended*

## Appendix 1

# Product Description and/or Approval Condition

Certificate No : CPH04968-AE002

Date of Issue : 14th December, 2017

### Product Description :

#### 1. MB Series

- Element : NiCr-NiAl (Type K), Fe-CuNi (Type J)
- Measuring ranges : 0 ~ 800 °C (Type K)  
0 ~ 600 °C (Type J)
- Intended for ;  
General purpose temperature sensors for engine, exhaust gas & cylinder liner temperature sensor

#### 2. MN Series

- Element : PT 100, PT 1000, T 802
- Measuring ranges : - 200 ~ 200 °C (PT 100, PT 1000)  
0 ~ 100 °C (T 802)
- Intended for ;  
General purpose temperature sensors for engine, main bearing & general bearing temperature sensor

#### 3. Documentation

- Framework drawing nos. MB-810/-811/-812/-828/-970,  
MN-1397/-3288/-3458/-3469/-3470/-3473
- Test sample drawing nos. MB-158/-235/-236/-237/-1168/-1186,  
MN-524/-531/-2682/-1690/-1847/-4004/-4008
- Framework drawing nos. for both MB- and MN- series : MB-814, MN-1397
- Environmental test report no. E10123.00 issued by Nemko

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