



Marine &amp; Offshore

Certificate number: 27549/B0 BV

File number: AP 4274

Product code: 4483H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**Kongsberg Maritime AS**  
Horten - NORWAY

*for the type of product*

**DISPLAY MONITORS / VIDEO SCREENS / TERMINALS**

Maritime Touch Control Panels

Models: 8" TCP & 13.3" TCP

### Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.  
IEC 60945 (2002)

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

*This certificate is a renewal of certificate N° 27549/A0 BV expiring on 13/07/2017*

**This certificate will expire on: 13 Jul 2022**

**For Bureau Veritas Marine & Offshore,**

At BV OSLO, on 16 Jun 2017,

Rune MARSTEIN

*Rune Marstein*



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

Maritime Touch Control Panel (TCP) comprising the following models:

8" TCP (HD 08T21 KMD-EP1-CACP)

13.3" TCP (HD 13T21 KMD-EP1-CACP)

#### 1.1 - Common characteristics:

	8" TCP	13.3" TCP
<b>LCD Type:</b>	Chimei Innolux Colour TFT with LED Backlight	Chimei Innolux Colour TFT with CCFL Backlight
<b>Touch Sensor</b>	Panjit - 8" MINIOS PCTS W/ KEY	Panjit - 13.3" MINIOS PCTS W/ KEY
<b>I/O Ports:</b>	1 x USB 2.0 1 x Digital Relay Output - (Watchdog) 1 x DVI-I	1 x USB 2.0 1 x Digital Relay Output - (Watchdog) 1 x DVI-I
<b>Power Supply:</b>	Dual 24 VDC Input Hatteland Display PSU - 60W	Dual 24 VDC Input Hatteland Display PSU - 60W
<b>IP Index:</b>	IP 66/20 (Front/Rear)	IP 66/20 (Front/Rear)

#### 1.2 - Specific characteristics of LCD Displays

	Manufacturer Type	Native Resolution	Display Format	Contrast Ratio	Light Intensity (cd/m <sup>2</sup> )
<b>8" TCP</b>	Chimei Innolux G080Y1-T01	800x480	16:9	600:1	600
<b>13.3" TCP</b>	Chimei Innolux G133I1-L02	1280x800	16:10	800:1	400

#### 1.3 - Firmware Versions:

	Watchdog	MB/VC*
<b>8" TCP</b>	100909R0V01	110124R0V01
<b>13.3" TCP</b>	100909R0V01	110124R0V01

\* Mother Board / Video Controller.

### 2. DOCUMENTS AND DRAWINGS:

#### **KONGSBERG:**

Data Sheets No. 347720C and 347721C, both undated.

#### **HATTELAND:**

Excel File, Mini OS Part List dated 2012.06.11

Statement, DOC100984-4, Rev. 04 dated 26th March 2012.

### 3. TEST REPORTS:

#### **DNV Technical Reports:**

EMC & Environmental Testing of Panel Computer HD08T21KMC, Report No. 2011-3419 Rev. 01, dated 2011.10.13

EMC & Environmental Testing of Panel Computer HD13T21KMD, Report No. 2010-3604 Rev. 01, dated 2010.12.13.

**Note:** Above equipment was tested and Approved according to IEC 60945 4th edition (except Salt Mist Test not carried out).

### 4. APPLICATION / LIMITATION:

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships and IEC 60945.

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - BUREAU VERITAS Environmental Category, **EC Code: 21**

4.4 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.

4.5 - To be flush mounted only.

4.6 - Only Hardware and Firmware successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.

4.7 - The Display Panels intended for the presentation of navigation-related information on the bridge of a ship shall be tested according to the requirements of IEC 62288.

**5. PRODUCTION SURVEY REQUIREMENTS:**

5.1 - The **Maritime Touch Control Panels (8" & 13.3" TCP)** are to be supplied by **Kongsberg Maritime AS** in compliance with the type described in this certificate.

5.2 This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **Kongsberg Maritime AS** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - **Kongsberg Maritime AS** has declared to Bureau Veritas the following production site(s):

**Kongsberg Maritime AS**  
**P.O. Box 1009, 3194 Horten**  
**NORWAY**

**6. MARKING OF PRODUCT:**

According to IEC 60945.

**7. OTHERS:**

7.1 - It is Kongsberg Maritime AS responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This Certificate supersedes the Type Approval Certificate No. 27549/A0 BV issued on 13 Jul. 2012 by the Society

\*\*\* END OF CERTIFICATE \*\*\*