



## EC TYPE EXAMINATION (MODULE B) CERTIFICATE

This is to certify that:

LLOYD'S REGISTER VERIFICATION LIMITED (LRV), designated as a "notified body" under the terms of the Merchant Shipping (Marine Equipment) Regulations 2016 (S.I. 2016 No.1025), did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the essential Navigation equipment requirements of Marine Equipment Directive (MED) 2014/90/EU and Commission Implementing Regulation (EU) 2018/773 indicating design, construction and performance requirements and testing standards for marine equipment, subject to any conditions in the Design Appraisal Document attached hereto.

**Manufacturer (Applicant)** KELVIN HUGHES Ltd

**Address** Voltage Mollison Avenue,  
Enfield, Middlesex,  
EN3 7XQ

**Reference Regulation Item (No & Item designation)** **Regulation 2018/773**  
MED/4.33

**Product Type** Track Control based on Kelvin Hughes Navigation software ZM-2300 and EMRI SEM300 autopilot

**Product Description** ZM-2300 navigation software and EMRI SEM300 Autopilot

**Specified Standard** IEC 62065:2014  
IEC 62288:2014  
IEC 60945:2002 + Corr.1 (2008)  
IEC 61162-1:2010  
IEC 61162-2:1998

The attached Design Appraisal Document (schedule) forms part of this certificate.  
This certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Date of issue 27 June 2018 Expiry date 26 June 2023

Certificate No. MED 1800019 Signed

  
London Office  
Lloyd's Register Verification Ltd  
LRA27.1.2016.09



Sheet No. 1 of 4 Name P. Huntley-Hawkins  
For and on behalf of Lloyd's Register Verification  
LRV EC Distinguishing No. 0038

**Note:**  
This certificate is issued under the authority of the MCA.  
This certificate is not valid for equipment; the design or manufacture of which has been varied or modified from the specimen tested.  
The manufacturer should notify the notified body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.

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## Lloyd's Register Verification Limited

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Page 2 of 4
Document number MED 1800019
Issue number 1

### DESIGN APPRAISAL DOCUMENT

Date 27 June 2018	Quote this reference on all future communications SOUTSO/SFS/TA/PHH/WP32506620
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#### ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. MED 1800019

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

#### APPROVAL DOCUMENTATION

Declaration of Conformity Kelvin Hughes Ltd	23.06.2017
Requirement Specification for Widescreen Panel PC Display Processor No.KSD-6014, Issue 12	03.07.2017
ISO 9001:2008 Certificate No.189928-2015-AQ-GBR-UKAS	15.11.2015
EMRI AUTOPILOT SEM300 Datasheet	Undated
MED B Certificate Kelvin Hughes Ltd ECDIS Navigation System (ZM-2300) No.BABT-MED000112, Issue 01	22.06.2017
ZM-2300 TRACK CONTROL OPERATOR HANDBOOK No. HBK-2300-TCS ISSUE 1 SOFTWARE ZM-2300 V2.0 AND HIGHER	01.2018
KELVIN HUGHES NAVIGATION DISPLAY RADAR OPERATORS HANDBOOK No. HBK-2300-1 Issue 5 ZM-2300 software V2.x and higher	01.2018
KELVIN HUGHES NAVIGATION DISPLAY INSTALLATION AND COMMISSIONING No. HBK-2300-2 ZM-2300 software V2.x and higher	09.2017
TN2671, rev.1 (IEC 60945 Salt Corrosion Statement for MDC-A201-1 Network Switch and MDC-A20x Keyboard Ancillaries)	Undated
TAR-2223, rev.1 (Corrosion Statement)	11.08.2016
TAR-2251, rev.1 (Corrosion Statement)	11.08.2016
NCD-25121, rev.0 (Corrosion Statement)	27.07.2016
TN-2735, Issue 2 (ZM-2300 Track Control Compliance Matrix)	Undated
MED B Certificate EMRI SEM300 No. MEDB00003SJ	13-04.2018
MED B Certificate Kelvin Hughes Ltd S&X Band Radar Navigation System No. BABT-MED000103 Issue 06	10.05.2018
MED B Certificate Kelvin Hughes Ltd S&X Band Radar Navigation System No. BABT-MED000111 Issue 03	10.05.2018

#### TEST REPORTS

TEST REPORT No. TAR-2145, rev.1	15.08.2014
TEST REPORT No. TAR-2150, rev.1	05.09.2014
TEST REPORT No. TAR-2151, rev.1	29.08.2014
TEST REPORT No. TAR-2152, rev.1	08.08.2014
TEST REPORT No. TAR-2167, rev.1	27.06.2014



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Page 3 of 4
Document number MED 1800019
Issue number 1

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TEST REPORT No. TAR-2168, rev.1	09.10.2014
TEST REPORT No. TAR-2169, rev.1	13.05.2016
TEST REPORT No. TAR-2170, rev.1	18.05.2016
TEST REPORT No. TAR-2181, rev.1	19.05.2016
TEST REPORT No. TAR-2182, rev.1	12.04.2016
TEST REPORT No. TAR-2184, rev.1	23.04.2016
TEST REPORT No. TAR-2186, rev.1	20.05.2016
TEST REPORT No. TAR-2187, rev.1	21.03.2016
TEST REPORT No. TAR-2188, rev.3	21.03.2016
TEST REPORT No. TAR-2189, rev.1	15.06.2016
TEST REPORT No. TAR-2190, rev.1	16.06.2016
TEST REPORT No. TAR-2201, rev.1	02.06.2016
TEST REPORT No. TAR-2211, rev.1	30.06.2016
TEST REPORT No. TAR-2212, rev.2	04.08.2016
TEST REPORT No. TAR-2213, rev.1	23.08.2016
TEST REPORT No. TAR-2222, rev.1	10.08.2016
TEST REPORT No. TAR-2230, rev.1	07.09.2016
TEST REPORT No. TAR-2231, rev.1	31.08.2016
TEST REPORT No. TAR-2237, rev.1	14.11.2016
TEST REPORT No. TAR-2248, rev.1	24.11.2016
TEST REPORT No. TAR-2249, rev.1	24.11.2016
TEST REPORT No. TAR-2250, rev.1	10.11.2016
TEST REPORT No. TAR-2268, rev.1	24.07.2017
TEST REPORT No. TAR-2289, rev.1	28.02.2012
TEST REPORT No. TAR-2290, rev.1	05.10.2012

**SOFTWARE VERSION:** v.2.0

**CONDITIONS OF CERTIFICATION**

1. Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place
2. Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place
3. If the specified standards are amended during the validity of this Certificate, this product type is to be reappraised prior to it being supplied to vessels to which the amended standards apply
4. Should a change of Place of Production from that stated below be required, i.e. where the final stages of manufacture/assembly/testing of this product take place, the new Place of Production is to be advised to us prior to the change taking place. This Certificate will require to be updated for Approval to be maintained



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Page 4 of 4
Document number MED 1800019
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5. **Installation on board:** The arrangements and installation of the track control system on board the vessel are not part of this design appraisal and certificate. All such arrangements are to be to the satisfaction of the Surveyors attending on board; the fitting of the track control system to be in accordance with the manufacturer's instructions and any additional requirement of the State whose flag the vessel is entitled to fly
6. The track control system
  - is category C system (Full track control on legs and turns);
  - does not support Navigation status report (NSR) messages;
  - (Back up) Navigator alarm is handled by the Bridge Alert Management (BAM) system and not the auto pilot;
7. The following standards are not applicable:
  - IEC 61162-3 ed1.2 Consol. with am1 ed. 1.0 (2010-11) and am2 ed. 1.0 (2014-07);
  - IEC 61162-450 ed1.0 (2011-06)

**PLACE OF PRODUCTION**

KELVIN HUGHES Ltd  
Voltage Mollison Avenue,  
Enfield, Middlesex,  
EN3 7XQ



Peter Huntley-Hawkins  
Principle Specialist  
Southampton Technical Support Office, Marine & Offshore  
For and on behalf of Lloyd's Register Verification  
**LRV EC Distinguishing No. 0038**