



EC TYPE EXAMINATION CERTIFICATE

MED-B-19341

In compliance with Module B of Council Directive 2014/90/EU of the European Parliament and included the Council Regulation (EU) 2021/1158 of 22 June 2021, this certificate is issued to the manufacturer:

Jotron AS
Ringdalskogen 8
NO-3270 Larvik, Norway

And applies to the product

Universal automatic identification system equipment (AIS)
Tron AIS TR-8000 MKII

This certificate attest that provisions according to type examination requirements given in

SOLAS 74 as amended, Regulation X/3, V/18, V/19
IMO Res.MSC.36(63)-(1994 HSC Code) 13
IMO Res.MSC.97(73)-(2000 HSC Code) 13
IMO Res.A.694(17)
IMO Res.MSC.74(69)
IMO Res.MSC.191(79)
ITU-R M.1371-5 (02/2014)
ITU-R M.1084-5, 2012
IMO Res.MSC.302(87)

IEC 60945: 2002 incl. IEC 60945 Corr. 1: 2008
IEC 61162-1:2016
IEC 61162-2:1998
IEC 61162-3:2008+A1:2010+A2:2014
IEC 61993-2: 2018
IEC 62923-1: 2018
IEC 62923-2: 2018
IEC 62288:2014
IEC 61108-1 Ed 2.0 2003

This certificate replaces certificate no MED-B-19341 Rev. 01, which is revoked

This certificate loses its validity if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to and agreed upon with Nemko. Software changes and updates: - See Product description in the Annex. Should the specified regulations or standards be amended during the validity of this certificate, the products are to be re-approved prior to them being placed on board vessels to which the amended regulations or standards apply.

The attached Schedule of Approval forms part of this certificate. The certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Oslo, 2021-07-28

Date of expiry: 2024-08-28

Notified Body Id. no. 0470
Nemko AS
P.O. Box 91 Lysaker
NO-1324 Lysaker, Norway

Roy Uggerud
Nemko AS

Annex I to EC Type-Examination Certificate, No. MED-B-19341

SCHEDULE OF APPROVAL

Product description

Automatic Identification System (AIS) Class A with separate display and transponder unit

Tron AIS TR-8000 MK II Software version: 01.02

Minor software changes, represented by increasing the last 2 digits .xx of the core revision number, are given with a notification to Nemko.

Major software changes, represented by increasing the first 2 digits XX. of the core revision number, must be recorded and documentation must be provided to Nemko for review and acceptance before implementation.

The EC Type-Examination Certificate covers the components listed below

Item no.	Designation	Part no.	Remarks
1	Tron AIS TR-8000 MKII Transponder Unit	103650	Software version 01.02 Hardware version 2036
2	Tron AIS TR-8000 Display Unit	85400	Software version 01.02 Hardware version 2112
3	Tron AIS TR-8000 MKII Class A complete with GPS antenna	103660	---
4	Tron AIS TR-8000 MKII Complete IMO package	103670	---
5	GPS Antenna - SANAV SA-200	86853	---
6	VHF Antenna - ProcomCXL 2-1LW/h	82484	Or equivalent VHF antenna

The approval documentation

Document	Document no.	Rev.	doc.
BSH: Test Rapport, IEC 61108-1	BSH/4543/001/41422941/15	2015-12-07	001
BSH: Test Rapport, IEC 61993-2 (2012)	BSH/4543/001/43222981/15-1	2015-12-02	002
BSH: Test Rapport, IEC 62288	BSH/46121/4321890/12-3	2012-04-19	003
BSH: Test Rapport, IEC 62288 Ed.2 (20)	BSH/4543/001/43222981/15-3	2015-12-02	004
BSH: Test Rapport, IEC 61993-2, IEC61162-1 (2010)	BSH/4543/001/414229725/14-1	201-07-09	005
BSH: Test Rapport, IEC 61993-2	BSH/4543/001/434229725/14-4	2014-07-10	006
BSH: Test Rapport, IEC 61993-2	BSH/46121/4321890/12-1	2012-04-19	007
BSH: Test Rapport, IEC 61108-1	BSH/46121/4321890/12-2	2012-04-18	008
BSH: Test Rapport, IEC 60945	BSH/412/4321890/12-6	2012-04-18	009
Nemko: Test report: IEC 61993-2 ed.2 Class A	150521/7-206702/2 Rev.4.0	2012-04-19	010
Nemko: Test report, EN60945 (2002)	161140/2	2011-12-28	011
Jotron: Manual, Technical Manual Tron AIS TR-8000	tr8000_995698	05	013
BSH: Test Report Tron AIS TR-8000 MKII	BSH/454.AIS-A/Jotron Tron TR-8000/4	2021-06-18	014
BSH: Test Report Tron AIS TR-8000 MKII, Inland AIS System	BSH/454.AIS-A/Jotron Tron TR-8000/5	2021-07-09	015
Jotron: Manual, Operator and Installation Manual Tron AIS TR-8000	TR8000 OP_IN MAN-v12	12	016

Inland Waterways

The Tron AIS TR-8000 MK II is also tested for Inland Waterways according to CESNI Test standard for Inland AIS, Ed.3

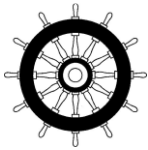
US Coast Guard Approval

According to the "AGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND THE EUROPEAN COMMUNITY ON THE MUTUAL RECOGNITION OF CERTIFICATES OF CONFORMITY FOR MARINE EQUIPMENT ", signed 17 October 2005 an U.S. Coast Guard approval number can be assigned when the production module (module D, E or F) has been completed. This U.S. Coast Guard approval number will be listed on the production module certificate.

This AIS radio transmitter is required to be authorised by U.S. Federal Communications Commission (FCC)

Limitations/restrictions

The Ethernet port from the Transponder Unit uses proprietary protocol for the connection of additional displays



"The Mark of Conformity" (i.e. the Wheel mark) may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production control phase module D (Production Quality Assurance), E (Product Quality Assurance), or F (Product Verification), of Annex B of the Directive (MED) is fully complied with and controlled by a written inspection agreement with a notified body."

----- End of certificate -----