

EC TYPE EXAMINATION CERTIFICATE

MED-B-15191

In compliance with Module B of Council Directive 2014/90/EU of the European Parliament and included the Implementing Regulation (EU) 2019/1397 of 6 August 2019, this certificate is issued to the manufacturer:

Jotron AS
Ringdalskogen 8
NO-3270 Larvik, Norway

And applies to the product

9GHz Search and Rescue Transponder
Tron SART 20

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

SOLAS 74 Reg. III/4, III/6, III/26

SOLAS 74 Reg. IV/7, IV/14

SOLAS 74 Reg. V/18

SOLAS 74 Reg. X/3

IMO Res.A.530(13)

IMO Res.A.694(17)

IMO Res.A.802(19)

IMO Res.MSC.36(63)-(1994 HSC Code) 8, 13, 14

IMO Res.MSC.97(73)-(2000 HSC Code) 8, 13, 14

ITU-R M.628-5 (03/2012)

IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008)

IEC 61097-1 (2007)

This certificate replaces certificate no MED-B-15191 Rev. 00, 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, 2020-05-04

Date of expiry: 2025-05-03

Notified Body Id. no. 0470
Nemko AS
Philip Pedersens vei 11,
1366 Lysaker, Norway



Roy Uggerud
Nemko AS

Annex I to EC Type-Examination Certificate, No. MED-B-15191

SCHEDULE OF APPROVAL

Product description

Maritime Search and Rescue Radar Transponder

Tron SART 20 software version: 1.08

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

Major software changes, represented by increasing the first digit 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 products listed below

Item	Type	Designation	Manufacturer	Module no.	Comment
1	Radar Transponder	Tron SART20 Radar Transponder w/Bulkhead Bracket	Jotron A/S	83010	---
2	LSH 14 Light 3v6	Battery SART20/AIS-SART 5 Year maint.kit	Jotron A/S	82615	---
3	Bracket	Bulkhead Bracket for SART20/AIS-SART/SA70	Jotron A/S	82746	---

Trademarks

Products covered by this certificate are identified by the designation of TRON or Jotron followed a description.

Jotron: Tron SART 20 –Search and Rescue Transponder (COSPAS-SARSAT)

Type approval documentation

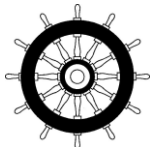
Document	Document no.	Rev.	Do.
Manual, Jotron AS: Technical Manual, 84150_TM_SART20_B	84150	24.08.2008	002
Principle Diagrams, Jotron AS: Transceiver board, TRON SART20, KP-82617_top, rev. 0719, X-82617_bottom, rev. 0719	KP-82617, X-82617	0719	003
Block Diagrams, Jotron AS: Transceiver board TRON SART20, E-82617, rev. 0719, FD-83010, rev. 19	E-82617, FD-83010	0719	004
Circuit Diagrams, Jotron AS: Transceiver board TRON SART20, E-82617, rev. 0719	E-82617	0719	005
Documents, Jotron AS: Part/Component list, Label Layout	---	---	006
Report, Jotron: Test report of 6 February 2008, rev A, project no. SART_MK2_200502, Test of receiver front end protection, thermal shock and water tightness, drop onto hard surface. All tests supervised by Nemko AS.	SART_MK2_200502	A	007
Statement, Jotron AS: Statement OEM MED-B Certification	---	7.03.2012	008
Document, Nemko Comlab: Test plan no. 93193/5, of 1 October 2007		1.0	010
Report, Nemko Comlab: Test report no. 93193/10, of 11 March 2008, IEC 61097-1:1992, Radar Transponder – Maritime search and rescue (SART) – Operation and performance requirements, methods of testing and required results	93193/10	11.03.2008	011
Report, Nemko Comlab: Test report no. 93193/11, of 11 March 2008, IEC 60945:1996 and IEC 60945 ed. 4:2002, Parts of clause 9 and 10,	93193/11	11.03.2008	012

Document	Document no.	Rev.	Do.
Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required results (Third edition, 1996-11; Fourth edition, 2004)			
Report, Nemko Comlab: Test report 93193/12, of 11 March 2008, IEC 61097-1:1992, Radar Transponder – Maritime search and rescue (SART) – Operation and performance requirements, methods of testing and required results (First edition, 1992-07)	93193/12	11.03.2008	013
Report, Nemko AS: Amendment to Test report 93193/12, of 10 March 2011, Comparison and evaluation of changes between IEC 1097-1(1992) and IEC 61097-1(2007)	---	10 March 2011	014
Report, Nemko Comlab: Test report no. 93193/12, of 11 March 2008, IEC 60945:1996 and IEC 60945 ed.4:2002, Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required results (Third edition, 1996-11; Fourth edition, 2002-08)	93193/12	11.03.2008	015
Statement, Jotron AS: Statement SOLAS 74 Reg. III/26 and ITU-R M.628-5 (03/2012) conformity statement	---	24.04.2020	016
Manual, Jotron AS: User Manual, 84145_UM_SART20_K	84145	29.10.2014	017

Limitations/restrictions

9 GHz radar transponder TRON SART20 to be used on vessels and life rafts in the maritime service

TRON SART20 performs a secondary alarm when search and rescue units are searching for a life raft/lifeboat in distress.



"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 -----