



Marine & Offshore

Certificate number: 04682/G0 BV

File number: ACE 08/160/01

Product code: 2898H

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

ENAG S.A.
QUIMPER - FRANCE

for the type of product

BATTERY CHARGER ASSEMBLIES

Types: CRM Series & CRT Series.

Requirements:

BV Rules for the Classification of Steel Ships.

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 will expire on: 06 Mar 2023

For Bureau Veritas Marine & Offshore,

At BV SAINT-NAZAIRE, on 06 Mar 2018,

Francois Lopinot



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. 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:

24VDC Battery charger - Types:

CRM Series - Supply with Single Phase Transformer, 220VAC or 380 VAC

CRT Series - Supply with 3-Phase Transformer, 220 VAC or 380 VAC.

1.1 - Models

CRM Type	Series Current	CRT Type	Series Current
CRM 20	20A	CRT 50	50A
CRM 25	25A	CRT 60	60A
CRM 30	30A	CRT 80	80A
CRM 40	40A	CRT 100	100A
CRM 50	50A	CRT 150	150A
CRM 60	60A	CRT 200	200A
CRM 80	80A	CRT 250	250A
CRM 100	100A		
CRM 125	125A		

This batteries chargers may be associated with an under and over voltage relay, a failure D.C. charging current relay and an earth monitoring relay.

2. DOCUMENTS AND DRAWINGS:

ENAG:

Lettre, Chargeurs CRM/CRT ENAG dated 17/12/2012

Manuel, Ref. 00550DFD dated 18/08/2004

Dossier de Fabrication, Ref. 00550FAB

Nomenclature Ref. 00550NFB dated 18/08/2004

Fiches d'Etat Produit: Chargeur Ref. 00550ET Rev. E, Carte de Régulation CHN8C Ref. 00247ET Rev. D dated 07:08/2007.

3. TEST REPORTS:

3.1 - Test report N°: - 1-138 CETEB/ME issued by D.C.N. Brest.

3.2 - KENTA Test Report N° 203 892 EMC dated June 2007.

4. APPLICATION / LIMITATION:

4.1 - BV Rules for the Classification of Steel Ships.

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

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The **CRM and CRT** Battery Chargers are to be supplied by **ENAG S.A.** 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 - **ENAG S.A.** 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 - For information, **ENAG S.A.** has declared to Bureau Veritas the following production site(s):

ENAG S.A.
31 rue Marcel Paul, Z.I. Kerdroniou Est
29000 QUIMPER - FRANCE

6. MARKING OF PRODUCT:

- Maker's name or trade mark,

- Serial number of the units,

- Equipment type number or model identification under which it was type-tested.

7. OTHERS:

7.1 - It is **ENAG S.A.** 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 N° 04682/F0 BV issued on 04 Jan. 2013 by the Society.

*** END OF CERTIFICATE ***