



Marine & Offshore

Certificate number: 78720/A0 BV

File number: MPA2402822

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

QUIMPER - FRANCE

for the type of product

BATTERY CHARGER ASSEMBLIES

CDS4 battery charger assemblies.

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships/Offshore Units/Naval Ships.

EC Code: 21

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: 19 Mar 2030

For Bureau Veritas Marine & Offshore,
At BV SAINT-NAZAIRE, on 19 Mar 2025,
Francois LOPINOT

This certificate was created electronically and is valid without signature



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 electronic version is available at: <https://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypec.jsp?id=tdcjmlpcmd>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

The **CDS4** battery charger is designed for simultaneous charging of 3 independent battery banks and support for various battery types including lead-acid and lithium-ion.

Model	Type	Input Voltage	Input Current	Output	Enclosure
12V/90A	CDS4-12/90	90 to 265VAC 1ph	6.0A at 230V	90A / 1282W	IP 23
24V/45A	CDS4-24/45	90 to 265VAC 1ph	6.0A at 230V	45A / 1282W	IP 23
24V/60A	CDS4-24/60	90 to 265VAC 1ph	9.0A at 230V	60A / 1710W	IP 23
24V/80A	CDS4-24/80	90 to 265VAC 1ph	11.0A at 230V	80A / 2280W	IP 23
24V/100A	CDS4-24/100	90 to 265VAC 1ph	15.0A at 230V	100A / 2850W	IP 23

2. DOCUMENTS AND DRAWINGS :

- Battery charger CDS4 Data Sheet, No. FC-CDS4-H-DNVGL-FR-G.
- User Manual CDS4 battery chargers, No. CDS4-1H-2H-D.
- Procedure de câblage, No. 13352FAB_C, dated 22-01-2024.
- Procedure de câblage, No. 17255FAB_C, dated 11-03-2022.
- Procedure d'assemblage, No. 13452-CERT_FAB_A, dated 02-03-2023.
- Procedure d'assemblage, No. 13472-CERT_FAB_I, dated 20-03-2023.
- Procedure d'assemblage, No. 13652-CERT_FAB_B, dated 14-03-2023.
- Procedure d'assemblage, No. 13672-CERT_FAB_M, dated 14-03-2023.

3. TEST REPORTS :

KENTA:

- Test Report No. 204 189, dated 24-04-2019.
- Test Report No. 204 190, dated 24-04-2019.
- Test Report No. 204 287, dated 07-09-2021.

ENAG:

- IEC 60335-2-29 Test Report No. 37152PV, dated 22-03-2019.
- IEC 60335-2-29 Test Report No. 36882PV, dated 06-02-2019.

4. APPLICATION / LIMITATION :

- 4.1 - BV Rules for the Classification of Steel Ships/Offshore Units/Naval Ships.
- 4.2 - Approval also valid for ships to be granted for the 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 in General Power Distribution Zones.
- 4.5 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.
- 4.6 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 9.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The above products are to be supplied by **ENAG** 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** 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** has declared to Bureau Veritas the following production site(s):

ENAG
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 :

It is ENAG's 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.

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