

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Power supply unit

with type designation(s)
DOLPHIN PRO HD+

Issued to
Cats Power Design
Annecy, Haute Savoie, France

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Voltage output	24 V DC
Power	24V40A, 24V60A, 24V100A
Temperature class	A
Vibration class	A
Humidity class	B
Degree of protection	A

Issued at **Høvik** on **2019-10-01**

for **DNV GL**

This Certificate is valid until **2024-09-30**.

DNV GL local station: **France CMC**

Approval Engineer: **Nicolay Horn**

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Trond Sjøvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Battery charger of type DOLPHIN PRO HD+.

Type	Input voltage	Input current	Output	Enclosure
24V40A	1 ph 115 V AC, 60 Hz, ± 15 %	14 A	960 VA	IP 22
	1 ph 230 V AC, 50 Hz, ± 15 %	6 A	960 VA	IP 22
24V60A	1 ph 115 V AC, 60 Hz, ± 15 %	15 A	1440 VA	IP 22
	1 ph 230 V AC, 50 Hz, ± 15 %	9 A	1440 VA	IP 22
24V100A	1 ph 230 V AC, 50 Hz, ± 15 %	15 A	2400 VA	IP 22

Application/Limitation

End user responsible for correct enclosure protection (IP) wrt. to location.

Type Approval documentation

Technical info: "TECHNICAL MANUAL ^{EN} DOLPHIN PRO HD+ Battery Charger L"; Brochure from Reya SAS.

Drawings: Layout drawings "Dolphin pro 1500w-HD+", drawing number MEC-14-836 & "Dolphin pro 3000w-HD+", drawing number MEC-14841, both dated 2014-11-25.

Test reports: METRACEM test reports no. 1429004, dated 2014-10-31, 1428103 & 1428113, dated 2014-11-07, 1429014 dated 2014-11-12 and 1428603 dated 2014-12-04. SGS test report no. RES 130590 dated 2014-12-08. Sopavib test reports no. RE6425/1 dated 2014-09-23, RE6425/2 dated 2014-10-15 & RE6425/4 dated 2015-02-17

Tests carried out

Type tests in accordance with IEC 60335-1 & IEC 60335-2-29. Low temperature & Vibration tests in accordance with Sfc No. 2.4 Class A, Humidity / Damp heat tests in accordance with Sfc No. 2.4 Class B. EMC in accordance with Sfc No. 2.4 Class A.

Marking of product

DOLPHIN PRO HD+ – model no. – Charger input – Charger output.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routines (RT) checked (if not available RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey to be performed at 2 and 3.5 year and at renewal.

END OF CERTIFICATE