Certificate No:
TAE00004AW

TYPE APPROVAL CERTIFICATE

This is to certify:

That the UPS

with type designation(s)
RT DELTA

Issued to
Anda-Olsen AS
Ålesund, **Norway**

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.

Issued at **Høvik** on **2021-07-13**

This Certificate is valid until **2026-07-12**.
DNV local station: **Ålesund**

Approval Engineer: **Nicolay Horn**

for **DNV**

Digitally Signed By: Alonso Pontes, Marta
Location: DNV Høvik, Norway

Marta Alonso Pontes
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

DELTA RT: UPS for general emergency equipment, equipped with battery.

Model	RT 1K	RT 2K	RT 3K
Rating	1 kVA / 0.9 kW	2 kVA / 1.8 kW	3 kVA / 2.7 kW
Input			
Nominal Voltage (V)	200 / 208 / 220/ 230 /240 (200 & 208 derated to 90 %)		
Voltage range	175 -200 (full range) / 120 – 175 (70 – 100 % load)		
Frequency (Hz)	40 -70		
Power factor	0.9		
Output			
Output voltage (V)	200 / 208 / 220/ 230 /240 (200 & 208 derated to 90 %)		
Frequency (Hz)	50 / 60 ± 0.05		
Voltage harmonic distortion	3 % (linear load)		
Overload capacity	< 105 % continues / 105 - 125% 1 min / 125 - 150% 15 sec.		
Batteries			
Type	12V/9Ah Sealed lead-acid battery		
Battery voltage (V)	24 DC	48 DC	72 DC
Typical backup time	6.5 min.	7 min.	
Charge current (A)	1.5	2	
Recharge time	3 hours to 90 %		
Environmental conditions			
Operating temperature	0 to +50°C (When the operating temperature is 40 -50 °C derate to 80 %		
Relative humanity	5 to 95 % (non condensing)		
Dimensions			
Overall dimensions (HxWxD) mm	440 x 335 x 89		

Classification according to DNV GL-CG-0339	
Temperature class	A
Vibration class	A
Humidity class	A
Enclosure class	IP23
EMC class	A

Application/Limitation

End user is responsible for correct enclosure protection (IP) with respect to location.

To be installed in climatically controlled areas.

Type Approval documentation

Technical info:
Anda Olsen Electrical data sheet ANDA RT 1 -3 kVA rev. 2 dated 2021-06-23.

Test Reports:
Nemko test report no. 21041.00 issued 2021-05-25. Anda Olsen Type Test Report AC PRO Series UPS dated 2021-01-18. TÜV Rheinland test reports nos. 11039866 002 dated 2017-12-14, 11039520 003 dated 2017-12-19 and 11040187 003 dated 2017-12-19.

Tests carried out

Type tests in accordance with IEC 62040-1 and 3, EMC (Class A), Vibration, Damp heat (Class A no condensation) and Dry heat (Class A) in accordance with DNVGL-CG-0339 December 2019.

Marking of product

ANDA Olsen – RT DELTA – technical data

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 periodical assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routines (RT) checked (if not available tests, 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.

Periodical assessment shall be performed at 2 and 3.5 year and at renewal.

END OF CERTIFICATE