



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **E-11495**

Holder of Certificate

Eaton Industries France SAS
MONTBONNOT SAINT MARTIN, France

This is to certify that the
UPS

with type designation(s)
EX 2200 RT 3U, EX 3000 RT 3U

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application
UPS for use in ships and offshore units

Høvik, 2012-01-18
for **Det Norske Veritas AS**

This Certificate is valid until
2015-12-31

Marit Laumann
Head of Section

DNV local office:
Le Havre

Nicolay Horn
Surveyor

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

UPS for computer services. Including batteries of 72 V lead acid types. Online double conversion with automatic by-pass and power factor correction. Temperature compensated charging. Can be equipped with EMI marine filter 66886.

Type	Input Voltage (without using batteries)	Input Current	Batteries Back up time (50/70% of power rating)	Enclosure
EX 2200 RT 3U Marine	1 ph 100 - 284 V AC, 40 to 70 Hz	Max 11,6 A - 200 V AC Nom 9,6 A - 230 V AC	17 min / 12 min* 85 min / 60 min** 285 min / 200min**	IP 20
EX 3000 RT 3U Marine	1 ph 100 - 284 V AC, 40 to 70 Hz	Max 15,7 A - 230 V AC Nom 13 A - 230 V AC	15 min / 10 min* 60 min / 40 min** 190 min / 150min**	IP 20

*with one external battery **with 4 external batteries

Classification according to DNV Sfc 2.4

Temperature class	A
Vibration class	A
Humidity class	A
Enclosure class	A

Manufactured by

Lianzheng Electronic (Shenzhen) Co LTD
4 LiuFANG RD, BLK 67, BAO'AN
Shenzen Guangdong
CHINA

Responsibility

The Holder of certificate takes the responsibility that both design and production are in compliance with the Rules and standards listed on page 1 and 2 of this Type Approval Certificate.

Application/Limitation

For supply to a single consumer, or supply to several of non important consumers.

The output current will be decreased if operating above 40° C for longer periods or with restricted ventilation. Derating with 2.5 % / °C above 40 °C.

Correct IP degree to be depending of use and location with ref. to DNV Rules section 10 table B1.

Applicable for bridge installation in accordance with Class requirements. Use together with equipment that requires MED certificate /wheelmark is not reviewed and may require additional tests.

Type Approval documentation

Tests carried out

Environmental testing according to DNV Standard for Certification No. 2.4 (2006-04): Power supply variation, Vibration cl. A, Dry heat, Damp heat cl. A, Cold test, Inclination, Insulation, EMC tests: Fast transients, Slow transients, Conducted radio frequency, Radiated radio frequency, Electrostatic discharge immunity, Conducted emissions, radiated emissions.

EMC in accordance with CN No. 2.4 Class B / IEC 60945.

IEC 62040-1 (2008): Uninterruptible power systems (UPS) - Part 1: General and safety requirements for UPS.

Marking of product

EATON – Model designation – Serial no. – Made in China – Battery voltage and Ah capacity – Mains Voltage and Current – Output Voltage, Current, frequency & power.

Certificate Retention Survey

The scope of the retention/renewal survey 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 survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and 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 least every second year.

END OF CERTIFICATE