DNV·GL

Certificate No:
TAE00003AJ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Power supply unit

with type designation(s)
ELC X4B-40, ELC X6B-60, ELC X8B-80, ELC X12B-110, ELC X16B-140, ELC X24B-210, ELC X36B-300

Issued to
eta plus electronic gmbh
Nürtingen, Germany

is found to comply with
USCG Federal Register 46 CFR part 162, subpart 162.060-30
Resolution MEPC.279(70) – Annex Part 3
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Voltage output	**Up to 3000 V**
Power	**Up to 36 kW**
Temperature class	**B**
Vibration class	**A**
Humidity class	**B**
EMC class	**A**
Degree of protection	**B / IP44**

Issued at **Høvik** on **2019-05-15**
This Certificate is valid until **2024-05-14**.
DNV GL local station: **Augsburg**

Approval Engineer: **Siri Tag**

for **DNV GL**

Jan Tore Grimsrud
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.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Product description

Electronic Ballast for UV Lamps

Type designations:
ELC X4B-40
ELC X6B-60
ELC X8B-80
ELC X12B-110
ELC X16B-140
ELC X24B-210
ELC X36B-300

Application/Limitation

ELC X4B-40:
- Supply voltage (input): AC 440 V 50/60 Hz
- Power consumption: < 4300 W
- Supply voltage (output - UV lamp): 400 V
- Rated power (output - UV lamp): 800 W - 4000 W

ELC X6B-60:
- Supply voltage (input): AC 440 V 50/60 Hz
- Power consumption: < 6450 W
- Supply voltage (output - UV lamp): 600 V
- Rated power (output - UV lamp): 840 W - 6050 W

ELC X8B-80:
- Supply voltage (input): AC 440 V 50/60 Hz
- Power consumption: < 8550 W
- Supply votage (output - UV lamp): 800 V
- Rated power (output - UV lamp): 1600 W - 8000 W

ELC X12B-110:
- Supply voltage (input): AC 440 V 50/60 Hz
- Power consumption: < 12500 W
- Supply voltage (output - UV lamp): 1100 V
- Rated power (output - UV lamp): 2400 W - 12000 W

ELC X16B-140:
- Supply voltage (input): AC 440 V 50/60 Hz
- Power consumption: < 16900 W
- Supply voltage (output - UV lamp): 1400 V
- Rated power (output - UV lamp): 3200 W - 16000 W

ELC X24B-210:
- Supply voltage (input): AC 440 V 50/60 Hz
- Power consumption: < 25000 W
- Supply votage (output - UV lamp): 2100 V
- Rated power (output - UV lamp): 4800 W - 24000 W

ELC X36B-300:
- Supply voltage (input): AC 440 V 50/60 Hz
- Power consumption: < 37500 W
- Supply votage (output - UV lamp): 3000 V
- Rated power (output - UV lamp): 7200 W - 36000 W

Communication interface: PROFIBUS, MODBUS
Control signals: Safety NC, Safety Ready IN, UV Select NO, UV Ready NO
Degree of protection: IP54

Type Approval documentation

Tests carried out

Applicable tests according to:
Class guideline, DNVGL-CG-0339, November 2016.
USCG Federal Register 46 CFR part 162, subpart 162.060-30.

Marking of product

Eta Plus – Serial number - XX kW – 440 VAC – XX V

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are 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 Routine Tests (RT) checked (if not available tests according to 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 is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE