
DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-9997

This Certificate consists of 3 pages

This is to certify that the
Constant Voltage Charger
with type designation(s)
CMV

Holder of certificate

Automatismes Energie Electronique Systèmes
Saint Priest Cédex, France

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application

| | |
|-------------------|---------------|
| Voltage output | 110 V DC |
| Power | 1980 / 3300 W |
| Temperature class | B |
| Vibration class | A |
| Humidity class | B |
| Enclosure class | A |

Place and date

Høvik, 2010-04-07

for DET NORSKE VERITAS AS

This Certificate is valid until

2014-06-30

Marit Laumann
Head of Section

Local Office
DNV Le Havre

Nicolay Horn
Surveyor

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

Cert. No.: E-9997
File No.: 822.20
Job Id: 262.1-005887

Name and place of manufacturer

259 allé Jacques MONOD
69792 Saint PRIEST
FRANCE

Product description

Battery charger in cubicle with battery for switchgear & automation application Including batteries of 12 V lead acid types. Equipped with automatic battery charging current limitation and automatic battery test.

| Type | Input Voltage | Output power | Batteries | Enclosure |
|---------------|---|--------------|-----------------|-----------|
| CMV 18.110 NS | 1 ph 230 V AC, $\pm 10\%$ * 47 Hz - 63 Hz, | 1980 W | 108 Vdc - 26 Ah | IP 23 |
| CMV 30.110 NS | 1 ph 230 V AC, $\pm 10\%$ * 47 Hz - 63 Hz, | 3300 W | 108 Vdc - 26 Ah | IP 23 |

* Others input voltage 400-440-460-480-690Vac single phase possible on request

Application/Limitation

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

The output current will be decreased if operating at 50 °C for longer periods or with restricted ventilation. Derating with 2.5 % / °C > 50 °C.

Supplier's installation instructions to be followed. End user is responsible for correct IP protection wrt. location and use. The installation and use shall be in accordance with DNV Rules.

Type Approval documentation

Technical data: A.E.E.S Technical Specification "MC186 – CMV 18 110 NS PbSE 30 54 110V DC UPS" and "MC186 – CMV 30 110 NS PbSE 30 54 rev. B, dated 2008-12-08, (part of part 3 of AEES booklet).

Drawing: A.E.E.S drawings nos. 33522 rev. B dated 1999-01-09, 6007687 rev. A Dated 2007-11-26 and 6009574 dated 2009-01-12 (part3 of AEES booklet).

Test reports: A.E.E.S Test certificate nos. Dev85-3.5 & 36079 dated 2010-02-23, Environne' Tech report no. AEES L1022 dated 1999-02-01 (part 5 of AEES booklet). AEMC test report no. L99005 dated 1999-01-20 (part6 of AEES booklet). AEES Routine test procedure / report no. PRECB146 dated 2004-11-09.

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Tests carried out

Type/ routine tests tests in accordance with IEC 00146-1-1, Dry heat & Humidity/ Damp heat in accordance with CN No. 2.4 Class B and Vibration & EMC in accordance with CN No. 2.4 Class A.

Marking of product

AEES – Type designation – Article no. – Project no. – Input – Output.

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