DNV·GL

Certificate No:
TAA00002YB

TYPE APPROVAL CERTIFICATE

This is to certify:

That the DC Power Supply

with type designation(s)
Series Power Mini (PM), Series Power Compact (PC)

Issued to
Block Transformatoren-Elektronik GmbH
Verden, Germany

is found to comply with
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.

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**A, B***
Enclosure	**A**

***Not for all models. Provisions under Application/Limitation to be observed**

Issued at **Hamburg** on **2021-02-15**
This Certificate is valid until **2021-05-31**.
DNV GL local station: **Hamburg – CMC North/East**

for **DNV GL**

Approval Engineer: **Dariusz Lesniewski**

Joannis Papanuskas
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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.

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Product description

Series PM/PC: Single phase, primary switched mode power supplies
Input rated voltage: 100…240VAC
Status display: LED green
Mounting position: Horizontal for standard rail DIN TH 35
Protection Index: IP 20
Terminal input/output: Push-In terminals (WAGO Serie 721)
Housing Serie PM: Plastic (Lexan 500R)
Housing Serie PC: Metal, Front of housing Plastic (Lexan 500R)

PC-1024-050-0: Uninterruptible power supply
(Output voltage is buffered with an external battery module)

Filter HFE 156-230/10:
Type of filter: EMI Filter
No. of phases: 1
Rated voltage: 250V
Rated current: 10A

Series Power Mini (PM)
PM-0112-020-0 [EMC class A, B*]
Output rated voltage: 12V DC
Output rated current: 2A
PM-0112-040-0 [EMC class A, B*]
Output rated voltage: 12V DC
Output rated current: 4A
PM-0112-070-0 [EMC class A, B*]
Output rated voltage: 12V DC
Output rated current: 7A
PM-0124-010-0 [EMC class A, B*]
Output rated voltage: 24V DC
Output rated current: 1A
PM-0124-020-0 [EMC class A, B*]
Output rated voltage: 24V DC
Output rated current: 2A
PM-0124-038-0 [EMC class A, B*]
Output rated voltage: 24V DC
Output rated current: 3.8A
PM-0124-040-0 [EMC class A]
Output rated voltage: 24V DC
Output rated current: 4A
PM-0148-020-0 [EMC class A]
Output rated voltage: 48V DC
Output rated current: 2A

Series Power Contact (PC)
PC-0124-050-0 [EMC class A, B*]
Output rated voltage: 24V DC
Output rated current: 5A
PC-0124-100-0 [EMC class A]
Output rated voltage: 24V DC
Output rated current: 10A
PC-0124-200-0 [EMC class A]
Output rated voltage: 24V DC
Output rated current: 20A
PC-0112-150-0 [EMC class A]
Output rated voltage: 12V DC

Output rated current: 15A
PC-0148-050-0 [EMC class A, B*]
Output rated voltage: 48V DC
Output rated current: 5A
PC-0148-100-0 [EMC class A]
Output rated voltage: 48V DC
Output rated current: 10A
PC-1024-050-0 [EMC class A]
Output rated voltage: 24V DC
Output rated current: 5A

Application/Limitation
*EMC location class B only in conjunction with the filter HFE 156-230/10.

Type Approval documentation

Tests carried out
Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product
The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment
The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:
- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the 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