

TYPE APPROVAL CERTIFICATE**This is to certify:****That the DC Power Supply**with type designation(s)
PEL 230 series, PEL Neo series

Issued to

**Block Transformatoren-Elektronik GmbH
Verden, Germany**is found to comply with
DNV GL rules for classification – Ships**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:**

Temperature	A
Humidity	B
Vibration	A
EMC	A
Enclosure	A

This Certificate is valid until **2022-01-17**.Issued at **Hamburg** on **2016-11-30**DNV GL local station: **Bremerhaven**Approval Engineer: **Klaus-Peter Schröder**for **DNV GL**

**Duy Nam Le
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.

Product description

PEL 230 series: Rated input voltage: 100 ... 240V AC
Power (DC OK): LED green
Mounting position: Horizontal for Rail TS35
Terminal input/output: Spring-clamp terminals WAGO series 740, max. 2.5mm²

PEL Neo series: Rated input voltage: 100 ... 240V AC
Power (DC OK): LED green
Mounting position: Horizontal for Rail TS35
Terminal input/output: WAGO picoMAX eCOM 5.0 series 2092, max. 2.5mm²

PEL 230/12-2, PEL 230/12-4, PEL/12-6.5
Rated input current at nominal load: 0.4A, 0.5A, 0.9A (230V AC)
Rated output voltage: 12V DC +/-2%
Rated output current: 2A, 4A, 6.5A

PEL 230/18-1.1
Rated input current at nominal load: 0.4A (230V AC)
Rated output voltage: 18V DC +/-2%
Rated output current: 1.1A

PEL 230/24-1.3, PEL 230/24-2.5, PEL 230/24-4
Rated input current at nominal load: 0.5A, 0.6A, 0.9A (230V AC)
Rated output voltage: 24V DC +/-2%
Rated output current: 1.3A, 2.5A, 4A

PEL 0124-013-0, PEL 0124-025-0, PEL-0124-040-0
Rated input current at nominal load: 0.5A, 0.6A, 0.9A (230V AC)
Rated output voltage: 24V DC +/-2%
Rated output current: 1.3A, 2.5A, 4A

Application/Limitation

The output current will derate if operating is above 45°C. Derating with 3% /K >+45°C.

The Type Approval covers hardware listed under Product description.
When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL RU SHIP Pt.4 Ch.9 Sec. 1.

Type Approval documentation

Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, Edition November 2015.

Marking of product

The products to be marked with:

- manufacturer name
- device name
- FA number.

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)



Job Id:
Certificate No: **TAA00000KN**

- 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 at least every second year and at renewal of this certificate.
END OF CERTIFICATE