



Certificate No:
TAA000038M

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Network and Communication Components

with type designation(s)

PAS400 series, PAS600 series and PAS800 series Ecostruxure Panel Server

Issued to

Schneider Electric Private Limited
Bangalore, Karnataka, India

is found to comply with

DNV 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.

Temperature D

Humidity B

Vibration A

EMC A

Enclosure Required protection according to relevant rules shall be provided upon installation on board

Issued at **Hamburg** on **2023-01-25**

This Certificate is valid until **2027-12-18**.

for **DNV**

DNV local unit: **India CMC & NB**

Approval Engineer: **Jens Dietrich**

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



Form code: TA 251

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Product description

Gateway communication modules

Ecostruxure Panel Server Entry PAS400

1 RJ45 port (10/100 BASE-T Ethernet)
WiFi operating frequency: 2.4 and 5GHz
Power supply: 110-277VAC ($\pm 10\%$).

Ecostruxure Panel Server Universal PAS600 series

PAS600:

2 RJ45 ports (10/100BASE-T Ethernet), upstream MODBUS TCP/IP and Wi-Fi connectivity,
WiFi operating frequency: 2.4GHz;
Downstream connectivity: MODBUS TCP/IP, MODBUS serial line
2 Digital inputs, WiFi external antenna, power supply 110...277VAC/DC ($\pm 10\%$);

PAS600T: Same as PAS600, power supply 110...240VAC/DC ($\pm 10\%$);

PAS600L: Same as PAS600, power supply 24VDC.

Ecostruxure Panel Server Advanced PAS800 series

PAS800:

2 RJ45 ports (10/100BASE-T Ethernet), upstream MODBUS TCP/IP and Wi-Fi connectivity,
WiFi operating frequency: 2.4GHz and 5GHz;
Downstream connectivity: IEEE 802.15.4, MODBUS TCP/IP, MODBUS serial line
2 Digital inputs, WiFi external antenna, IEEE 802.15.4 antenna, data logging, power supply 110...277VAC/DC ($\pm 10\%$);

PAS800L: Same as PAS800, power supply 24VDC;

PAS800P: Same as PAS800, PoE, with input range 37–57VDC.

Maximum radio-frequency power transmitted:

Wi-Fi: ≤ 100 mW

IEEE 802.15.4: ≤ 10 mW.

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, 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 rules for classification of ships Pt.4 Ch.9 Control and monitoring systems and Pt.6 Ch.5 Sec.21 Cyber security.

The electromagnetic interference of the wireless communication has not been tested and is not covered by this certificate. The wireless communication is not to be used for safety related functions. It needs to be safeguarded that the transmitting frequencies do not interfere with ship-borne equipment.

Product certificate

If specified in the applicable rules the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program.

Tests carried out

Applicable tests according to DNV CG-0339, August 2021.

Marking of product

Label: Schneider Electric (France), place of production (India), type designation, power ratings, serial 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)
- 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



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- 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