



Certificate no.:
TAA00003KT

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Generator Automation System**

with type designation(s)

PTO SGS, PTI/PTO SGS, PTI/PTO/HDS SGS, DEP, SC

issued to

Wärtsilä Deutschland GmbH
Hamburg, Schleswig-Holstein, Germany

is found to comply with

DNV rules for classification – Ships Pt.6 Ch.5 Sec.21 Cyber security

Application:

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

This type approval covers security capabilities for DNV Cyber security profile level 1 (SP1) and IACS UR E27, subject to conditions stated in this certificate..

Issued at **Høvik** on **2025-05-23**

This Certificate is valid until **2027-05-22**.

for **DNV**

DNV local unit: **Hamburg – CMC North/East**

Approval Engineer: **Pål Børre Kristoffersen**

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 USD 300 000.

Product description

This Type Approval consists of the following systems:

Product name: Power Take Off Shaft Generator System (PTO SGS)

Product name: Power Take In / Power Take Off Shaft Generator System (PTI/PTO SGS)

Product name: Power Take In / Power Take Off / Hybrid Drive Shaft Generator Systems (PTI/PTO/HDS SGS)

Product name: Diesel Electric Propulsion (DEP)

Product name: Shore Connection (SC)

Product function:

A shaft generator PTO (Power Take-Off) system is a mechanism used on ships to generate electrical power from the main engine's shaft. It converts mechanical energy from the rotating shaft into electrical energy, which can be used to power onboard systems and equipment.

A shaft generator PTI/PTO (Power Take-In/Power Take-Off) system is a versatile mechanism used on ships. It allows the main engine's shaft to either generate electrical power (PTO mode) or receive electrical power to assist propulsion (PTI mode). In PTO mode, the system converts mechanical energy from the shaft into electrical energy for onboard use. In PTI mode, it uses electrical energy to provide additional propulsion power.

If the PTI/PTO system is equipped with Energy Storage Systems (ESS) in the DC-link of converter the system is called Hybrid Drive System (PTI/PTO/HDS).

A Diesel Electric Propulsion DEP system uses diesel engines to generate electricity, which then powers electric motors for ship propulsion.

A Shore Connection system allows ships to connect to shore-based electrical power while docked. This system provides electricity for onboard systems, reducing the need to run ship engines and generators.

Application/Limitation

This type approval covers cyber security capabilities at security profile 1 for the systems listed in Product description.

The type approved products shall be installed in restricted areas. Access to the components shall be restricted and controlled.

The type approved products shall be installed with the included firewall controlling all external communication.

This Type Approval (TA) does not cover remote maintenance solutions.

Any network connections to other ship functions shall be dedicated to this purpose. This includes Modbus TCP networks.

If the type approved product is used in applications subject to cyber security requirements by DNV rules for classification, correct configuration shall be verified by DNV.

Major changes affecting the type approved security capabilities shall be informed to DNV. Such modifications may require witnessing of type testing and update of this type approval certificate to reflect new products or versions listed in Product description.

Tests carried out

Tested in accordance with requirements for DNV rules Pt.6 Ch.5 Sec.21 security profile 1, edition July 2024. Relevant manuals and instructions of Wärtsilä's management system have been verified for compliance with IACS UR E27 chapter 5.

Marking of product

The product shall 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

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE