

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Peripheral Equipment**

with type designation(s)

TeSys™ island - Bus coupler (TPRBCEIP, TPRBCPFN), I/O Modules (TPRDG4X2, TPRAN2X1), Voltage Interface Module (TPRVM001)

issued to

Schneider Electric Industries SAS
Eybens, France

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.

Location classes:

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	A / IP20

Issued at **Høvik** on **2025-02-10**

This Certificate is valid until **2030-02-09**.

DNV local unit: **France CMC**

Approval Engineer: **Sonali Marathe**

for **DNV**



This document has been digitally signed and will therefore not have handwritten signature

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

TeSys island is a modular, multifunctional system providing integrated functions inside an automation architecture, primarily for the direct control and management of low-voltage loads. The physical TeSys island consists of a set of devices installed on a single DIN rail and connected together with flat cables providing the internal communication between modules. Nominal Power supply is 24V DC for all modules.

TeSys island Bus Couplers:

A Bus Coupler is always present in the island as the fieldbus communication interface. It controls all other modules of the island. It permits to exchange with all other devices in TeSys island through internal bus and also with external like PLC through industrial network.

Product Reference	Description	Hardware (name/version)	Firmware (name/version)	Software (name/version)
TPRBCEIP	Fieldbus protocol - EtherNet/IP - Modbus TCP	EP2	003.003.000	003.003.000
TPRBCPFN	Fieldbus protocol - PROFINET	EP2	003.003.000	003.003.000

TeSys island I/O module:

I/O modules are typically used to get data from sensors and to control devices.

Product Reference	Description	Hardware (name/version)	Firmware (name/version)	Software (name/version)
TPRDG4X2	Digital I/O module, providing 4 digital inputs and 2 digital outputs	KP3	01.00.51	01.00.51
TPRAN2X1	Analog I/O module, providing 2 analog inputs and 1 analog output	KP3	01.00.51	01.00.51

TeSys island Voltage Interface Module:

The voltage interface module (VIM) enables voltage, power, and energy monitoring for the TeSys island.

Product Reference	Description	Hardware (name/version)	Firmware (name/version)	Software (name/version)
TPRVM001	Voltage measurement range 100-690Vrms	KP3	01.00.51	01.00.51

Manufactured by

PT Schneider Electric Manufacturing Batam, Jl. Beringin Lot4 BIP, Mukakuning, Kabil, Sei Beduk, Batam, Indonesia

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.

Application/Limitation

Modules are approved for connection to 24V DC distribution systems but are not tested/approved for supply connection from battery systems.

Type Approval documentation

DNV No.	Document No.	Date	Title
43	SPEC23AA6566_V3	2024-12-06	ENV Test Report (TPRBCEIP, TPRVM001, TPRDG4X2, TPRAN2X1)
24	SPEC23AC4731_V1	2024-03-25	ENV Test Report (TPRBCEIP, TPRVM001)
25	SPEC22AA6577_V2	2024-03-18	EMC Test Report (TPRBCEIP, TPRDG4X2, TPRAN2X1, TPRVM001)
26	SPEC22AA6589_V2	2024-03-18	EMC Test Report (TPRBCEIP)
27	LVCATISL_EN	2023-09	Catalog TeSys island 2023
28	DOCA0270EN-02	2024-04	TeSys island - System, Installation, and Operation Guide
33	-	2024-11-21	Product datasheet - Bus coupler_TPRBCEIP
34	-	2024-11-21	Product datasheet - Bus coupler_TPRBCPFN
37	-	2024-11-21	Product datasheet - Analog I/O module_TPRAN2X1
36	-	2024-11-21	Product datasheet - Digital I/O module_TPRDG4X2
35	-	2024-11-21	Product datasheet - Voltage interface module_TPRVM001
32	MFR44097-05	2023-10	Manual - TPRBCEIP

DNV No.	Document No.	Date	Title
29	MFR44098-04	2023-10	Manual - TPRBCPFN
30	MFR44099-05	2023-10	Manual - TPRAN2X1 and TPRDG4X2
31	MFR44100-05	2023-10	Manual - TPRVM001

Type approval assessment report for Schneider Electric Industries S.A.S, DNV Batam, Indonesia 2024-10-30
Type approval assessment report for Schneider Electric Industries S.A.S, DNV France CMC 2024-12-09

Tests carried out

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

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number (including date of manufacture)
- 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