



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA0000162
Revision No:
5

This is to certify:

that the **Electrical Parameter Transmitter**

with type designation(s)
LOCC-Box

issued to

Friedrich Lütze GmbH
Weinstadt, Germany

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	B/A*), see page 3
EMC	A
Enclosure	A

Issued at **Høvik** on **2024-09-20**

This Certificate is valid until **2029-06-06**.

for **DNV**

DNV local unit: **Augsburg**

Approval Engineer: **Jens Dietrich**

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

Microcompact load monitoring devices:

LOCC-Box-XX 7-xxxx

LOCC-Box: Product family name

XX: Function:

FB = load protection device, max. 10A, without communication interface

Net = load protection device, max. 10A, with communication interface

ES = LOCC-Box supply set (EKL + EB)

EKL = LOCC-Box supply terminal 10qmm

EB = LOCC-Box supply terminal, end block

xxxx: Options: 4 digits for software parameters or version

Accessories: Insulated jumper combs LOCC-Box-BKW 7-64xx, LOCC-Box-BKR 7-64xx, LOCC-Box-BKB 7-64xx.

Application/Limitation

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 Ships Pt.4 Ch.9 Control and Monitoring Systems. LOCC-Box units are no replacement for circuit protection.

*) If the insulated jumper combs are used environmental category for vibration is degraded to A.

Tests carried out

Applicable tests based on DNV CG-0339, August 2021.

Marking of product

Manufacturer, type designation, electrical characteristics, 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
- 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