

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Electrical Parameter Transmitter**with type designation(s)
LCON, LOCC-Box

Issued to

**Friedrich Lütze GmbH
Weinstadt, Germany**

is found to comply with

**GL Rules for Classification and Construction VI - Additional Rules and Guidelines Part 7 -
Guidelines for the Performance of Type Approvals Chapter 2 - Test Requirements for
Electrical/Electronic Equipment and Systems****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed
by DNV GL.
Environmental Cat. D, EMC2**Issued at **Hamburg** on **2017-06-07**This Certificate is valid until **2022-06-06**.DNV GL local station: **Hamburg Control Systems**for **DNV GL**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.



Product description

Microcompact load monitoring devices:

LOCC-Box-XX 7-xxxx

LOCC-Box: Product family name

X: Function:

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

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

SC = load protection device, max. 5A, without communication interface

SCNet = load protection device, max. 5A, with communication interface

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

EKL = LOCC-Box supply terminal 10qmm

DKL = LOCC-Box supply terminal 10qmm, with outage

EB = LOCC-Box supply terminal, endblock

xxxx: Options: 4 digits for software parameters or version

Microcompact analogue measuring signal converters, limit switches, splitters:

LCON XXXX YYYY-YYYYZ-xx

LCON: Product family name

X: Function:

TA = Temperature Analogue Converter

TA NTC = Temperature Analogue Converter for NTC sensors

AA = Analogue Analogue Converter

TLS = Temperature Limit Switch for NTC sensors

TLS NTC = Temperature Limit Switch

ALS = Analogue Limit Switch

AASP = 2x Analogue Analogue Splitter

AALS = Analogue Analogue Converter + Limit Switch

Y: D = selectable range via DIP switch

FDT = selectable range via FDT (software)

DFDT = selectable via DIP switch and FDT (software)

80621 = Code for housing and Power DC 24V

Z: 0 = Screw terminal

1 = Spring terminal

xx: Options: 2 digits for software parameters or version

Application/Limitation

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 Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

LOCC-Box units are no replacement for circuit protection.

Tests carried out

Applicable tests based on GL VI-7-2, edition 2012.

Marking of product

Manufacturer, type designation, electrical characteristics, serial number.

END OF CERTIFICATE