# TYPE APPROVAL CERTIFICATE

Certificate No:
**TAE000002C**
Revision No:
**2**

## This is to certify:

**That the Electric Bus Bar**

with type designation(s)
**Smissline TP**

Issued to
**ABB Switzerland Ltd. Low Voltage Products**
**Schaffhausen, SH, Switzerland**

is found to comply with
**DNV rules for classification – Ships, offshore units, and high speed and light craft**

## Application :

**For installation inside switchgear and controlgear assemblies. This panel bus bar system is not to be connected directly to main bus bars in the main- and emergency switchboards. If used, separate short-circuit protection is required.**

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

Issued at **Høvik** on **2023-06-30**

This Certificate is valid until **2028-06-29**.
DNV local unit: **Augsburg**

Approval Engineer: **Marcin Tobiasz**

for **DNV**

Digitally Signed By: Elter, Frederik Tore
Location: DNV Høvik, Norway

**Frederik Tore Elter**
**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.

## Product description

Bus bar system with feeders, adapters and terminals. Without devices as motor starters, circuit-breakers and residual operated circuit-breakers.

Type: Smissline TP

| | |
|---|---|
| Rated insulation Voltage: | 690 V |
| Rated operating Voltage: | 690 V |
| Ambient air temperature: | 60 °C max. |
| Rated operating Current: | 100A, mid feeding 160 or 200 A<br>Auxiliary feeding: 40 A |
| Degree of Protection: | IP 20B |
| Rated short time withstand current Icw: | 10 kA / 300 ms<br>4 kA / 50 ms for auxiliary circuit |
| Rated peak withstand current Ipk: | 35 kA |
| Rated conditional short circuit current (max 160 A): | 50 kA |
| Rated peak fused short circuit current: | 105 kA |

| **Type Designation (excerpt)** | **Identification No.** |
|---|---|
| Bus Bar system 3p +N+aux. bars: | ZLS 905Exx |
| Additional Bus Bar + N+PE: | ZLS 926/28 |
| Bus-bar 100A: | ZLS 200 |
| Standard feeder unit 50mm2: | ZLS 924 |
| Feeder unit 95 mm2 L1, L2, L3: | ZLS 250/1/2/3 |
| Adapter 32 A L1, L2, L3, N: | ZLS 970/971 |
| Adapter 63 A L1, L2, L3, N: | ZLS 972/973 |

## Application/Limitation

For installation inside switchgear and control gear assemblies.

The type approval contains parts and accessories as shown in the catalogue together with the parts listed in test reports. An item that is not a part of the test reports is not covered by the type approval.

This panel bus bar system is not to be connected directly to main bus bars in the main- and emergency switchboards. (If used, separate short-circuit protection is required.)

This type approval does not cover installation. Use and installation of the system must always be in accordance with the Rules.

## Type Approval documentation

List of documentation:
ABB catalogue 2CCC451059C0203 Bus-bar system – Smissline TP Technical system for energy Distribution (parts).

VDE Test Reports Nos. 190026-CC2-1 and 190026-CC2-2 dated 2014-11-06
ABB test report No. P1319 dated 2005-04-05 (vibration).

## Tests carried out

Dielectric, insulation, temperature rise, short-circuit, voltage impulse, mechanical according to IEC 61439-1 & 2, vibration test according to DNV.

## Marking of product

ABB – Smissline TP – type designation

## Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and 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