



Marine & Offshore

Certificate number: 19651/C0 BV

File number: ACE 14/906/02

Product code: 2523H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

SCHNEIDER ELECTRIC INDUSTRIES SAS

Grenoble Cedex 09 - FRANCE

for the type of product

BUSBAR TRUNKING SYSTEMS (BUS WAY)

CANALIS KBA, KBB, KBC, KN, KS and KTA, KTC

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.

IEC 61439-1 -2011-(ed.2), IEC 61439-6 -2012- -(ed.1).

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 25 Oct 2022

For Bureau Veritas Marine & Offshore,

At BV LYON, on 25 Oct 2017,

Jean-Marc Cabuzel



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 5 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

- Product model or type designation :

CANALIS KBA, KBB, KBC, KN, KS and KTA, KTC

- Product description:

CANALIS are Busbar Trunking Systems comprising the following product lines:

1.1 - KBA / KBB / KBC:

1.1.1 -KBA busbar trunking system for lighting distribution to be used with **KBC**

Rated characteristics of system:

Polarity type	: L+N / 3L+N (housing acts as PE)
Current (In)	: 20 and 40 A
Operational voltage (Ue)	: 230-400V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 690 V
Impulse withstand voltage (Uimp)	: 4 kV
Index of protection	: IP 55

1.1.2 -KBB busbar trunking system for lighting distribution to be used with **KBC**

Rated characteristics of system:

Polarity type	: L+N / 3L+N (casing acts as PE)
Current (In)	: 20 and 40 A
Operational voltage (Ue)	: 230-400V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 690 V
Impulse withstand voltage (Uimp)	: 4 kV
Index of protection	: IP 55

1.1.3 - KBC Tap-off Units to be used with **KBA and KBB:**

Rated characteristics of tap-off units:

Current (In)	: 10 to 16 A (15 A for three-phase switch-fuse)
Operational voltage (Ue)	: 230 to 400 V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 690 V (Except KBC 16DCF... and lighting control devices KBC 10D..2.. / 400 V)
Impulse withstand voltage (Uimp)	: 4 kV
Index of protection	: IP 55

1.2 -KN: Busbar Trunking system for low-power distribution comprising:

1.2.1 - Busbar trunking unit (straight lengths, elbows, fixing means, joints), busbar trunking unit with tap-off outlets, busbar trunking feeder units.

Rated characteristics of system:

Polarity type	: 3L+N (housing acts as PE)
Current (In)	: 40 to 160 A
Operational voltage (Ue)	: 500 V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 500 V
Impulse withstand voltage (Uimp)	: 6 kV
Index of protection	: IP 55

1.2.2 - Plastic tap-off units including connectors and disconnecter enclosures for modular devices (circuit-breakers, contactors), fuses or socket-outlets:

Rated characteristics of system:

Current (In)	: 16 to 63 A
Operational voltage (Ue)	: 500 V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 500 V
Impulse withstand voltage (Uimp)	: 6 kV
Index of protection	: IP 55

1.3 - KS: Busbar Trunking system for medium-power distribution comprising:

1.3.1 - Busbar trunking unit (straight lengths, elbows, tees, crosses, fixing means, joints), busbar trunking unit with tap-off, outlets, busbar trunking feeder unit, busbar trunking fire barrier unit.

Rated characteristics of system:

Polarity type	: 3L+PE / 3L+N+PE
Current (In)	: 100 to 1000 A
Operational voltage (Ue)	: 690 V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 500 V
Impulse withstand voltage (Uimp)	: 8 kV
Index of protection	: IP 55

1.3.2 - Steel tap-off units for circuit-breakers:

Rated characteristics:

Current (In)	: 160 to 400 A
Operational voltage (Ue)	: 690 V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 690 V
Impulse withstand voltage (Uimp)	: 8 kV
Index of protection	: IP 55

1.3.3 - Steel tap-off units for fuses:

Rated characteristics:

Current (In)	: 160 to 400 A
Operational voltage (Ue)	: 690 V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 690 V
Impulse withstand voltage (Uimp)	: 8 kV
Conditional short-circuit current (Icc)	: 120 kA
Index of protection	: IP 55

1.3.4 - Plastic tap-off units including connectors and disconnecter enclosures for modular devices (circuit-breakers, contactors), fuses or socket-outlets:

Rated characteristics:

Current (In)	: 16 to 100 A
Operational voltage (Ue)	: 690 V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 690 V
Impulse withstand voltage (Uimp)	: 8 kV
Index of protection	: IP 55

1.4 - KTA: Aluminium conductors based Busbar Trunking system for power distribution and high currents comprising:

Straight lengths, elbows, zeds, tees, busbar trunking unit with tap-off outlets, connection busbar trunking unit, fixing means.

Rated characteristics of system:

Polarity type	: 3L+PE / 3L+N+PE / 3L+N+PER (PER=Reinforced PE)
Current (In)	: 800 to 4000 A
Operational voltage (Ue)	: 1000 V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 1000 V
Impulse withstand voltage (Uimp)	: 12 kV
Index of protection	: IP 55

1.5 - KTC : Copper conductors based Busbar Trunking system for power distribution and high currents comprising:

Straight lengths, elbows, zeds, tees, busbar trunking unit with tap-off outlets, connection busbar trunking unit, fixing means.

Rated characteristics of system:

Polarity type	: 3L+PE / 3L+N+PE / 3L+N+PER (PER=Reinforced PE)
Current (In)	: 1000 to 5000 A
Operational voltage (Ue)	: 1000 V
Frequency	: 50-60 Hz
Insulation voltage (Ui)	: 1000 V
Impulse withstand voltage (Uimp)	: 12 kV
Index of protection	: IP 55

2. DOCUMENTS AND DRAWINGS:**For modification C0 version:****Schneider Electric:**

- Canalis KTA 800 - 4000 A Ref.: DEBU021EN, dated 01-2014
- Canalis KTC 1000 - 5000 A Ref.: DEBU024EN, dated 01-2014
- Canalis 20 to 1000 A Ref.: DEBU022EN, dated 05-2014

3. TEST REPORTS:**For A0 version:**

Certificates of conformity **Asefa:**

KBC: No. 016-07BT dated 2007-04-06 (Test Report: F01 2006-0692-00).

KTA: No. 013-07BT dated 2007-04-02 (Test Report: F01 2006-0746-01), No. 017-07BT dated 2007-04-20 (Test Report: F01 2006-0746-00).

KTC: No. 024-07BT dated 2007-05-11 (Test Report: F01 2006-0747-01), No. 023-07BT dated 2007-04-27 (Test Report: F01 2006-0747-00).

KS: No. 015-07BT dated 2007-04-03 (Test Report: F01 2006-0605-00), No. 005a-07BT dated 2007-03-02 (Test Report: F01 2006-0609-00), No. 004-07BT dated 2007-02-16 (Test Report: F01 2006-0609-00), No. 014-07BT dated 2007-04-05 (Test Report: F01 2006-0608-00).

Schneider Electric: Vibration test on KS busbar trunking elements, Report No: 2007-0262-02-A dated 07/06/07.

For modification C0 version:

- Ref: 122711-645930, dated 26 Mar 2014.
- Ref: 122711-645934, dated 03 Avr 2014.
- Ref: 122711-645936, dated 04 Avr 2014.
- Ref: 122711-645939, dated 04 Avr 2014.
- Ref: 122711-645941, dated 04 Avr 2014.
- Ref: 122711-645946, dated 22 Avr 2014.
- Ref: 122711-645950 dated 07 Avr 2014.
- Ref: 122711-645954 dated 07 Avr 2014.
- Ref: 122711-645959 dated 07 Avr 2014.
- Ref: 126231-652987, dated 28 Nov 2014.

- Ref WTD71-213-090_95, dated 05-02-1996

- Ref: FR 645933, dated 22 Avr 2014.
- Ref: FR 645935, dated 22 Avr 2014.
- Ref: FR 645938, dated 22 Avr 2014.
- Ref: FR 645940, dated 23 Avr 2014.
- Ref: FR 645942 dated 23 Avr 2014.
- Ref: FR 645948, dated 23 Avr 2014.
- Ref: FR 645951/M1, dated 16 Dec 2014.
- Ref: FR 645956, dated 23 Avr 2014.
- Ref: FR 645960, dated 23 Avr 2014.

- Ref: FR 14-004, dated 24 Jul 2015.
- Ref: FR 14-002a, dated 04 Apr 2015.

- Ref: 2007-0682-00-A, dated 07 Sep 2007.
- Ref: 2007-0262-00-A, dated 16 Jul 2007.

4. APPLICATION / LIMITATION:

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships and IEC 61439-1/6.

4.2 - Canalis busbar trunking systems are sized for an ambient temperature of 35°C. For an ambient temperature of 45°C, the trunking must be derated as per the data in the tables on the technical characteristics.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **SCHNEIDER ELECTRIC INDUSTRIES SAS** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **SCHNEIDER ELECTRIC INDUSTRIES SAS** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - **SCHNEIDER ELECTRIC INDUSTRIES SAS** has declared to Bureau Veritas the following production site(s):

(KN, KS, KDC, KDP, KBA, KBB Systems)
Schneider Electric France
6/8, rue de Bailly ZI de Saint-Apollinaire
21078 DIJON CEDEX

(KTA + KTC Systems)
Schneider Electric Hungaria
Hauszmann Alajos u. 3/B
HU - 1117 Budapest
HUNGARY
Site: H-3200 Gyöngyös, Kőkút u. 10.

6. MARKING OF PRODUCT:

- Maker's name or trade mark.
- Serial number of the units.
- Equipment type number or model identification under which it was type-tested.
- Rated voltage, rated current.

7. OTHERS:

7.1 - It is **SCHNEIDER ELECTRIC INDUSTRIES SAS - FRANCE** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate No. 19651/B0 BV issued on 10 Jun 2013 by the Society.

***** END OF CERTIFICATE *****