



MARINE DIVISION

Certificate number: 23330/A0 BV

File number: ACE2/163/1

Product code: 2631H

*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*

### ABB OY Low Voltage Switches

Vaasa - FINLAND

*for the type of product*

### SWITCHES (LOW VOLTAGE)

Switch-Disconnecter-Fuse OS315, OS400, OS600, OS630, OS800

#### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships  
IEC 60947-1, IEC 60947-3

*This certificate is issued to attest that BUREAU VERITAS 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: 30 Nov 2016**

**For BUREAU VERITAS,**

At BV HELSINKI, on 30 Nov 2011,

Tommy Andersson



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. 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 Division 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 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.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

**SWITCH-DISCONNECTOR-FUSE: OS315B\_\*, OS315D\_\*, OS400B\_\*, OS400D\_\*, OS400J\_\*, OS600J\_\*, OS630B\_\*, OS630D\_\*, OS800B\_\*, OS800D\_\*, OS800L\_\***

Product Type	OS315*	OS400*	OS630*	OS800*
Number of Poles	2, 3, or 4	2, 3, or 4	2, 3, or 4	2, 3, or 4
Rated Insulation Voltage $U_i$ (V)	1000	1000	1000	1000
Rated operational voltage $U_e$ (V)	690	690	690	690
Rated Frequency (Hz)	50-60	50-60	50-60	50-60
Rated Thermal and operational Current $I_{th}$ , (A) AC-20, DC-20 at 40°C	315	400	630	800
Utilization category	AC-21A, AC-22A, AC-23A		AC-21A, AC-22A, AC-23A (2 and 3 poles) AC-21B, AC-22B, AC-23B (4 poles)	AC-21A, AC-22A, AC-23A
Rated Operational Current $I_e$ (A)	315	400	630	800
Rated conditional short-circuit current $I_p$ (r.m.s.) (kA) Ref. to fuse type	415 V	80	80	80
	500 V	100	100	100
	600 V	100	100	
	690 V	80	80	50
	690 V			80
690 V			100	100
Remarks	Characteristics as per IEC 60947-3			

\* Extra information for options

### 2. DOCUMENTS AND DRAWINGS:

- IEC 60947 Series.
- Drawings and Specifications in document, 1SCC311013C0201

### 3. TEST REPORTS:

- Mechanical tests: TA2008-93 issued on 19/12/2008 by Vaasa University of Applied Sciences - Technology Research Center Technobothnia.
- Climatic tests: L09-011 issued on 04/05/2009 by ABB Oy, Testing Laboratory LSX
- CB test certificates n° FI 6263, issued on June 30th, 2010 by SGS Fimko Ltd.
- CB test certificates n° FI 6270, issued on June 30th, 2010 by SGS Fimko Ltd.

### 4. APPLICATION / LIMITATION:

- 4.1 - According to BV Rules for the Classification of Steel Ships.
- 4.2 - Environmental category EC: **31C**.
- 4.3 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

### 5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be manufactured, examined and tested by **ABB OY Low Voltage Switches** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **ABB OY Low Voltage Switches** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 - **ABB OY Low Voltage Switches** has declared to Bureau Veritas that the type of product described in this certificate may be manufactured at the following production site:

**ABB OY**  
**Low Voltage Products**  
**Strömberg Park, Muottitie 2A**  
**FI-65100 VAASA, FINLAND**

**6. MARKING OF PRODUCT:**

According to IEC 60947 specifications.

**7. OTHERS:**

This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the Switch Disconnectors at any time and that **ABB OY Low Voltage Switches, Vaasa - Finland**, will accept full responsibility for informing shipbuilders or their sub-contractors of the proper methods of use and general maintenance of the Equipment and the conditions of this approval.

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