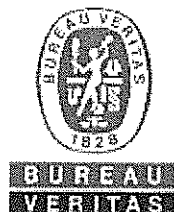


MARINE DIVISION

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Certificate number: 14777/A0 BV

File number : ACE2/17/12

Product code : 2633H

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

TYPE APPROVAL CERTIFICATE

as per Bureau Veritas Classification Rules

This certificate is issued to

ABB STOTZ KONTAKT GmbH
Heidelberg - GERMANY

for the type of product

CIRCUIT BREAKERS (LOW VOLTAGE)

Motor Protection Circuit Breaker type MS116 with accessories

Regulations and standards :

BV Rules for the Classification of Steel Ships.

IEC 60947-1, IEC 60947-2, IEC 60947-4-1, IEC 60947-5-1

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 of the Regulations and standards mentioned above.

This certificate is valid until : 05 Aug 2010

At Paris la Défense, on : 05 Aug 2005

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office : BV HAMBURG


J. BENOIT





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. 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 :

Motor Protection Circuit Breaker type MS116 with additional modules.

1.1 Range of application:

Type	Operational current range I _e [A]
MS 116 - 0.16	0.1 - 0.16
MS 116 - 0.25	0.16 - 0.25
MS 116 - 0.4	0.25 - 0.4
MS 116-0.63	0.4 - 0.63
MS 116 - 1.0	0.63 - 1.0
MS 116 - 1.6	1.0 - 1.6
MS 116 - 2.5	1.6 - 2.5
MS 116 - 4.0	2.5 - 4.0
MS 116 - 6.3	4.0 - 6.3
MS 116 - 10.0	6.3 - 10.0
MS 116 - 12.0	8.0 - 12.0
MS 116 - 16.0	10.0 - 16.0

1.2 Motor Protection Circuit Breaker type MS116 additional modules:

Motor Protection Circuit Breaker	MS 116	
Auxiliary Switch Modules	HKF1-11 HK1-11 HK1-20 HK1-02	1 normally open, 1 normally closed contact 1 normally open, 1 normally closed contact 2 normally open contacts 2 normally closed contacts
Signal Contact Modules	SK1-11 SK1-20 SK1-02	1 normally open, 1 normally closed contact 2 normally open contacts 2 normally closed contacts
Undervoltage Tripping Modules	UA1-24 UA1-48 UA1-60 UA1-110 UA1-208 UA1-230 UA1-400 UA1-415	24 V, 50 Hz 48 V, 50 Hz 60 V, 50 Hz 110 V, 50 Hz / 120 V, 60 Hz 208 V, 60 Hz 230 V, 50 Hz / 240 V, 60 Hz 400 V, 50 Hz 415 V, 50 Hz / 480 V, 60 Hz
Undervoltage Tripping Modules with auxiliary switches	UA1-HK-24 UA1-HK-48 UA1-HK-60 UA1-HK-110 UA1-HK-208 UA1-HK-230	24 V, 50 Hz 48 V, 50 Hz 60 V, 50 Hz 110 V, 50 Hz / 120 V, 60 Hz 208 V, 60 Hz 230 V, 50 Hz / 240 V, 60 Hz

	UA1-HK-400 UA1-HK-415	400 V, 50 Hz 415 V, 50 Hz / 480 V, 60 Hz
Current Working Tripping Modules	AA1-24 AA1-110 AA1-230 AA1-400	20 - 24 V, 50 / 60 Hz 110 V, 50 / 60 Hz 200 - 240 V, 50 / 60 Hz 350 - 415 V, 50 / 60 Hz

2. DOCUMENTS AND DRAWINGS :

ABB Catalogue N° 2CDC001002C0101 " ABB Motorschutzschalter Typenreihe MS bis 45kW (400 V AC), Schienensystem smissline-S."

3. TEST REPORTS :

PACONSULT test report N° 90/02 dated 11.11.2002.

4. APPLICATION / LIMITATION :

BV Rules for the Classification of Steel Ships.

5. PRODUCTION SURVEY REQUIREMENTS :

Arrangement shall be made for the Society's Surveyor to carry out, on a periodic basis, visit of the Manufacturer's premises and product audits.

6. MARKING OF PRODUCT :

According to IEC 60947-x

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 units at any time, and that **ABB STOTZ KONTACT GmbH, Heidelberg, GERMANY**, will accept the responsibility for informing shipbuilders or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

*** END OF CERTIFICATE ***