



CERTIFICATE NUMBER

DATE

06-GE157727-1-PDA

16 June 2011

ABS TECHNICAL OFFICE

ITALY TECH

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
ABB S.P.A. - ABB SACE DIVISION - SESTO S. GIOVANNI (MI)

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

PRODUCT: **Circuit Breaker**

MODEL: **EMAX**

This Product Design Assessment (PDA) Certificate 06-GE157727-1-PDA, dated 16/Jun/2011 remains valid until 15/Jun/2016 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

Giorgio Barbini
Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

ABB S.P.A. - ABB SACE DIVISION

ACCOUNTING SERVICES

VIA L. LAMA, 33

SESTO S. GIOVANNI (MI)

20099

Italy

Telephone: +39-035-395111

Fax: +39-035-395306

Email: antonio.pizzoti@it.abb.com

Product: **Circuit Breaker**

Model: **EMAX**

Intended Service:

Electrical Installation Protection for Marine and Offshore Equipment

Description:

Low Voltage Air Circuit Breakers; Models E1, E2, E3, E4, E6

Ratings:

See attachment

Service Restrictions:

Unit Certification is not required for this product. If the manufacturer or purchaser's request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

In case of use of fixed (non-withdrawable) versions, an isolation switch is to be fitted upstream of the circuit breaker (supply side), as per 4-8-3/5.3.3(c)

Notes / Drawings / Documentation:

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

Term of Validity:

This Product Design Assessment (PDA) Certificate 06-GE157727-1-PDA, dated 16/Jun/2011 remains valid until 15/Jun/2016 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

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STANDARDS

ABS Rules:

2011 Steel Vessel Rules 1-1-4/7.7 and 1-1-Appendix 3, 4-8-3/5.3.3

National:

UL 1066 - UL file E194191

International:

IEC 60947-2

Government Authority:

NA

EUMED:

NA



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Others:

NA



UL 1066		E1		E2				E3				E4				E6		
Levels of performance		B-A	N-A	B-A	N-A	S-A	H-A	N-A	S-A	H-A	V-A	S-A	H-A	V-A	L-A	H-A	V-A	L-A
Iu [A]	[A]	800	800	1600	800	800	800	2000	800	800	800	3200	3200	3200	3200	4000	4000	4000
	[A]	1200	1200		1200	1200	1200	2500	1200	1200	1200	3600	3600	3600	3600	5000	5000	5000
	[A]				1600	1600	1600		1600	1600	1600							
	[A]								2000	2000	2000							
	[A]								2500	2500	2500							
	[A]								3200	3200	3200							
Neutral	[%Iu]	100	100	100	100	100	100	100	100	100	100	50	50	50	50	50	50	50
	240 V [kA]	42	50	42	65	65	85	65	85	85	125	85	100	100	125	125	125	150
	480 V [kA]	42	50	42	50	65	85	50	65	85	125	65	85	100	125	85	125	150
	600 V [kA]	42	50	42	50	65	65	50	65	85	100	65	85	100	100	85	100	100
Rated short time current [kA]		42	50	42	50	65	65	50	65	65	85	65	85	100	100	100	100	100

