

Type Approval Certificate Extension

This is to certify that Certificate No. 04/00064 (E2) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	ABB Oy - Drives
PLACE OF PRODUCTION	Hiomotie 13 00381 Helsinki Finland
DESCRIPTION	Electronic Frequency Converters
TYPE	ACS800-01/-04 frames R2-R6 with option +C132.
APPLICATION	Marine and offshore use in environmental categories ENV1 and ENV2 as defined in LR Test Specification No. 1:2002
SPECIFICATIONS	Manufacturer's Specification

Certificate No.	10/20030 (E3)
Issue Date	15 September 2010
Expiry Date	06 July 2014
Sheet	1 of 2

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS


Jörn Brüggemann
Hamburg Plan Approval Centre
Lloyd's Register EMEA

RATINGS

Nominal Current Rating @ 45°C	Light Overload Current Rating @ 45°C	Heavy Overload Current Rating @ 45°C	Mains Supply Voltage Rating Frequency 48~63 Hz
4.8-192 A	4.5-175 A	3.2-134 A	208 ~ 240 V AC ± 10%
4.8-276 A	4.5-271 A	3.2-222 A	380 ~ 415 V AC ± 10%
4.7-276 A	4.3-271 A	3.2-222 A	380 ~ 500 V AC ± 10%
12-180 A	10.9-171 A	8.1-140 A	525 ~ 690 V AC ± 10%

OTHER CONDITIONS

Installation of this equipment for marine applications on LR classed ships is to be in accordance with the applicable Lloyd's Register Rules and Regulations.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. ETS 23662-10 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 04/00064 (E2) to which this extension should be attached.

Certificate No. 10/20030 (E3)
Issue Date 15 September 2010
Expiry Date 06 July 2014
Sheet 2 of 2


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Marine Design Appraisal Document

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Date
15 September 2010

Quote this reference on all future communications
HPC 0920063/23662-10/MG/JB

THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2002
ISSUED TO: ABB OY- DRIVES, HELSINKI, FINLAND
FOR: ELECTRONIC FREQUENCY CONVERTERS
TYPE APPROVAL CERTIFICATE NO. 10/20030 (E3)

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System, 2002 and this Design Appraisal Document forms part of the certificate.

ADDITIONAL APPROVAL DOCUMENTATION

LR6606	Approval Services - Request for Quotation	26.06.2008
unnumbered	ACS800-01+C132 Ratings, 4 pages	-
3AFE - 00581162.DOC	New Marine Types, Acceptance Report + Attachment	12.05.2008
3AFE 6888 9979 - 00574200.DOC	R5-POWEX/500V, 19 pages	17.08.2007
3AFE 6894 2748	POWEX R5 EMISSION; Type Test Report, 7 pages	18.03.2008
T08-560A-EMC	Test Report Product Compliance EMC, 15 pages	23.04.2008
VTT-06037-07	Research Report, 10 pages	02.07.2007
3AFE 00584525.DOC	New Marine Types, Acceptance Report + Attachment	12.05.2008
3AFE 00582079.DOC	R6 POWEX2/500V, 18 pages	26.03.2008
3AFE 6899 8905 00584482.DOC	Conducted Emission Powex, Type Test Report, 2 pages	31.03.2008
3AFE 6899 8905 00584482.DOC	Conducted Emission Powex, Type Test Report, 8 pages	31.03.2008
T08-540A-EMC	Test Report Product Compliance EMC, 19 pages	10.04.2008
NO. VTT-S-01192-07	Research Report, 15 pages	02.02.2007

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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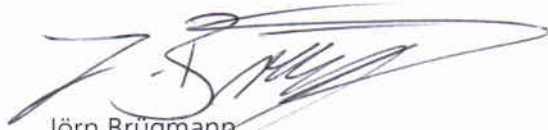
Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.



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Part 2

Electronic Frequency Converter (Part 2)

Producer/Licence No.	Type	Technical Details				Category/ Additional Tests	Remarks	Cert. No.
		Nominal Current Rating @ 45°C	Light Overload Current Rating @ 45°C	Heavy Overload Current Rating @ 45°C	Mains Supply Voltage Rating Frequency 48~63 Hz			
ABB Oy - Drives Hiomatie 13 00381 Helsinki Finland	Electronic Frequency Converters.	4.8-192 A	4.5-175 A	3.2-134 A	208~240 V AC ± 10%	ENV1 ENV2 (2002)	Expires: 6 July 2014 Installation of this equipment for marine applications on LR Classed ships is to be in accordance with the applicable Lloyd's Register Rules and Regulations.	10/20030 (E3) OK. 213 16. 29. 10
	<u>Types:</u>	4.8-276 A	4.5-271 A	3.2-222 A	380~415 V AC ± 10%			
	ACS800-01 with option +C132.	4.7-276 A	4.3-271 A	3.2-222 A	380~500 V AC ± 10%			
	ACS800-04 with option +C132.	12-180 A	10.9-171 A	8.1-140 A	525~690 V AC ± 10%			