



**[1] TYPE EXAMINATION CERTIFICATE****[2] Equipment Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC****[3] Type Examination Certificate Number: Nemko 04ATEX3449****[4] Equipment: Asynchronous motors****[5] Applicant: ABB Automation Technologies AB  
LV Motors****[6] Address: Öljansgränd 10  
SE-721 70 Västerås  
Sweden****[7] This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.****[8] Nemko AS, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 3 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II to European Union Directive 94/9/EC of 23 March 1994.****[9] The examination and test results are recorded in confidential report 22852Ex01-03 no.****[10] Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:**

CENELEC EN 60079-15: 2003  
CENELEC EN 50014: 1997 +A1:1999, A2:1999  
CENELEC EN 50281-1-1: 1998  
IEC 60079-15: 2001  
IEC 61241-0:2004  
IEC 61241-1:2004  
CENELEC EN 61241-1:2004

**[11] If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.****[12] This TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC.  
Further requirements of the Directive apply to the manufacturing process and supply of this equipment.  
These are not covered by this certificate.****[13] The marking of the equipment shall include the following:**

 II 3 G    EEx nA II T3  
 II 3 D    T125°C

**Ex tD A22 T125°C**

Oslo, 2005-02-11

**Rolf Hoel  
Certification Department***This certificate and its schedules may only be reproduced in its entirety and without any change***Postal address:  
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+47 22 96 05 50****Enterprise number:  
NO 974404532**

## [14] Schedule

### [15] TYPE EXAMINATION CERTIFICATE No Nemko 04ATEX3449

#### [16] Description of Equipment

This Certificate covers a series of non-sparking and IP55 dust protected asynchronous motors with aluminium housing.

Duty type: S1.

Motors at intermitted duty: S2 ... S8, S10 according to the specification stated in the descriptive documents are accepted.

Ambient temperature is between -20°C and 40 °C, but operation at 40 to 60° C is permissible provided that documented tests are carried out to ensure conformity as described in the descriptive documents.

Motors with frequency converter must be supplied and loaded according to the manufacturers Technical Description, 3GZV100054 clause 9.2.5.

A second rating plate will be mounted on the motor, mentioning the voltage, current and load conditioning in function of the frequency range, as well as the relevant converter characteristic.

#### Ingress Protection Code

IP55 according to EN 60529.

Type designation	Pole	Speed r/min	Output kW	Voltage V	Freq. Hz
M3AA112M	2	2860-3460	4-4.6	380-420-440	50-60
M3AA112MB	2	2855-3455	5.5-6.4	380-420-440	50-60
M3AA112M	4	1455-1760	4-4.6	380-420-440	50-60
M3AA112M	6	940-1140	2.2-2.5	380-420-440	50-60
M3AA112M	8	695-850	1.5-1.7	380-420-440	50-60
M3AA132SA	2	2900-3500	5.5-6.4	380-420-440	50-60
M3AA132SB	2	2915-3515	7.5-8.6	380-420-440	50-60
M3AA132S	4	1460-1760	5.5-6.4	380-420-440	50-60
M3AA132M	4	1450-1750	7.5-8.6	380-420-440	50-60
M3AA132S	6	960-1160	3-3.5	380-420-440	50-60
M3AA132MA	6	960-1160	4-4.6	380-420-440	50-60
M3AA132MB	6	955-1155	5.5-6.4	380-420-440	50-60
M3AA132S	8	720-870	2.2-2.5	380-420-440	50-60
M3AA132M	8	720-870	3-3.5	380-420-440	50-60
M3AA160MA	2	2930-3530	11-12.5	380-415-440	50-60
M3AA160M	2	2920-3520	15-17.5	380-415-440	50-60
M3AA160L	2	2920-3520	18.5-21	380-415-440	50-60
M3AA160M	4	1465-1750	11-12.5	380-415-440	50-60
M3AA160L	4	1455-1755	15-18	380-415-440	50-60
M3AA160M	6	970-1170	7.5-8.6	380-415-440	50-60
M3AA160L	6	970-1170	11-12.5	380-415-440	50-60
M3AA160MA	8	715-865	4-4.6	380-415-440	50-60
M3AA160M	8	710-865	5.5-6.3	380-415-440	50-60
M3AA160L	8	715-860	7.5-8.6	380-415-440	50-60
M3AA180M	2	2930-3530	22-26.5	380-415-440	50-60
M3AA180M	4	1470-1770	18.5-22	380-415-440	50-60
M3AA180L	4	1470-1765	22-26	380-415-440	50-60
M3AA180L	6	970-1175	15-17	380-415-440	50-60
M3AA180L	8	720-870	11-13	380-415-440	50-60
M3AA200MLA	2	2955-3555	30-35	380-415-440	50-60
M3AA200MLB	2	2950-3550	37-43	380-415-440	50-60
M3AA200MLC	2	2950-3550	45-52	380-415-440	50-60
M3AA200MLB	4	1475-1775	30-35	380-415-440	50-60
M3AA200MLA	6	985-1185	18.5-21	380-415-440	50-60

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Type designation	Pole	Speed r/min	Output kW	Voltage V	Freq. Hz
M3AA200MLA	8	740-890	15-17	380-415-440	50-60
M3AA200MLB	8	735-885	18.5-21	380-415-440	50-60
M3AA225SMB	2	2960-3560	45-52	380-415-440	50-60
M3AA225SMC	2	2960-3565	55-63	380-415-440	50-60
M3AA225SMA	4	1480-1785	37-42	380-415-440	50-60
M3AA225SMB	4	1480-1785	45-52	380-415-440	50-60
M3AA225SMC	4	1480-1785	55-63	380-415-440	50-60
M3AA225SMB	6	985-1185	30-34	380-415-440	50-60
M3AA225SMC	6	985-1185	37-42	380-415-440	50-60
M3AA225SMA	8	730-880	18.5-21	380-415-440	50-60
M3AA225SMB	8	730-880	22-25	380-415-440	50-60
M3AA250SMA	2	2970-3570	55-63	380-415-440	50-60
M3AA250SMB	2	2970-3570	75-86	380-415-440	50-60
M3AA250SMA	4	1480-1780	55-63	380-415-440	50-60
M3AA250SMB	4	1480-1780	72-82	380-415-440	50-60
M3AA250SMA	6	985-1185	37-42	380-415-440	50-60
M3AA250SMB	6	985-1185	45-52	380-415-440	50-60
M3AA250SMA	8	735-885	30-34	380-415-440	50-60
M3AA250SMB	8	735-885	37-42	380-415-440	50-60
M3AA280SMA	2	2970-3570	75-86	380-415-440	50-60
M3AA280SMA	4	1480-1780	72-82	380-415-440	50-60
M3AA280SMA	6	985-1185	45-52	380-415-440	50-60
M3AA280SMA	8	735-885	37-42	380-415-440	50-60
M2AA112M	2	2850-3450	4-4.6	380-420-440	50-60
M2AA112M	4	1435-1740	4-4.6	380-420-440	50-60
M2AA132SA	2	2855-3465	5.5-6.4	380-420-440	50-60
M2AA132SB	2	2855-3455	7.5-8.6	380-420-440	50-60
M2AA132S	4	1450-1750	5.5-6.4	380-420-440	50-60
M2AA132M	4	1450-1750	7.5-8.6	380-420-440	50-60
M2AA160MA	2	2915-3510	11-13	380-415-440	50-60
M2AA160M	2	2900-3505	15-17.5	380-415-440	50-60
M2AA160L	2	2915-3515	18.5-21	380-415-440	50-60
M2AA160M	4	1460-1765	11-13	380-415-440	50-60
M2AA160L	4	1460-1760	15-17.5	380-415-440	50-60
M2AA180M	2	2925-3525	22-25.5	380-415-440	50-60
M2AA180M	4	1460-1760	18.5-21	380-415-440	50-60
M2AA180L	4	1460-1760	22-25.5	380-415-440	50-60
M2AA200LA	2	2945-3545	30-35	380-415-440	50-60
M2AA200L	2	2945-3545	37-42	380-415-440	50-60
M2AA200L	4	1470-1770	30-35	380-415-440	50-60
M2AA225M	2	2940-3550	45-52	380-415-440	50-60
M2AA225S	4	1475-1775	37-43	380-415-440	50-60
M2AA225M	4	1475-1775	45-52	380-415-440	50-60
M2AA250M	2	2960-3565	55-63	380-415-440	50-60
M2AA250M	4	1475-1775	55-63	380-415-440	50-60

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**[17] Report No. 22852Ex01-03****Descriptive Documents**

<b>Name/Title</b>	<b>Drawing No.</b>	<b>Rev.</b>	<b>Date</b>	<b>Sheets</b>
Technical file for ATEX Certification M2AA 112	3GZV 100055-9	0	2004.07.08	1
Technical file for ATEX Certification M2AA 132	3GZV 100055-10	0	2004.07.08	1
Technical file for ATEX Certification M2AA 160	3GZV 100055-11	0	2004.07.08	1
Technical file for ATEX Certification M2AA 180	3GZV 100055-12	0	2004.07.08	1
Technical file for ATEX Certification M2AA 200	3GZV 100055-13	0	2004.07.08	1
Technical file for ATEX Certification M2AA 225	3GZV 100055-14	0	2004.07.08	1
Technical file for ATEX Certification M2AA 250	3GZV 100055-15	0	2004.07.08	1
Technical file for ATEX Certification M3AA 112	3GZV 100055-1	0	2004.07.08	1
Technical file for ATEX Certification M3AA 132	3GZV 100055-2	0	2004.07.08	1
Technical file for ATEX Certification M3AA 160	3GZV 100055-3	0	2004.07.08	1
Technical file for ATEX Certification M3AA 180	3GZV 100055-4	0	2004.07.08	1
Technical file for ATEX Certification M3AA 200	3GZV 100055-5	0	2004.07.08	1
Technical file for ATEX Certification M3AA 225	3GZV 100055-6	0	2004.07.08	1
Technical file for ATEX Certification M3AA 250	3GZV 100055-7	0	2004.07.08	1
Technical file for ATEX Certification M3AA 280	3GZV 100055-8	0	2004.07.08	1

**[18] Special Conditions for Safe Use**

None

**[19] Essential Health and Safety Requirements**

See item 10

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**SUPPLEMENT 1 TO EC-TYPE EXAMINATION CERTIFICATE****[15] EC-TYPE EXAMINATION CERTIFICATE No Nemko 04ATEX3449****[16] Description of Equipment or Protective System**

This Certificate is extended to include the used of three new Frequency converters, a new alternative Grounding device, and a new IP code.

**Frequency Converters**

The following frequency converters has been type tested according to the derating curve in the Technical files, and can be used with these motors:

ABB ACS 800

ABB ACS 550

ABB ACS 350

**Ingress Protection Code**

The use of Protection class **IP 56** or **IP 66** for frame size 112-180 is allowed if the design for IP65 acc. to the assembly drawings 3GZV100056-3GZV100067 is used

For frame size 200-280 **IP55** apply

**Grounding**

A new alternative External grounding device, size M20 is added.

**Type Designation**

M2AA112-250 / M3AA112-280

**[17] Report No. 67153****Descriptive Documents**

Name/Title	Drawing No.	Rev.	Date	Sheets
Technical Description ATEX M2AA112 – 250 and M3AA112 - 280	3GZV100054	1	2006-05-19	11
Grounding Base	3GZV 334 001-178	0	06 week 20	1

**[18] Special Conditions for Safe Use**

None

**[19] Essential Health and Safety Requirements**

See item 10

Oslo, 2006-05-23



**p.p. Rolf Hoel**  
**Certification Department**

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