



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx VTT 13.0017X	Issue No: 3	<u>Certificate history:</u> Issue No. 3 (2017-03-22) Issue No. 2 (2015-05-20) Issue No. 1 (2014-11-03) Issue No. 0 (2014-02-12)
Status:	Current	Page 1 of 4	
Date of Issue:	2017-03-22		
Applicant:	ABB Oy Motors and Generators Strömbergin puistotie 5A FI-65320 Vaasa Finland		
Equipment:	Range of cage induction motors; types M3AA 90..., M3AA 100..., M3AA 112..., M3AA 132..., M3AA 160..., M3AA 180..., M3AA 200..., M3AA 225..., M3AA 250..., and M3AA 280...		
Optional accessory:			
Type of Protection:	Ex ec, Ex tb and Ex tc		
Marking:	Ex ec IIB/IIIC T3 Gc Ex tb IIB/ IIIC T125°C Db or Ex tc IIB/ IIIC T125°C Dc		

Approved for issue on behalf of the IECEx
Certification Body:

Martti Sirola

Position:

Senior Expert

Signature:
(for printed version)

Date:

2017-03-22

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

VTT Expert Services Ltd.
Kivimiehentie 4, Espoo
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Finland



VTT EXPERT SERVICES LTD



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Manufacturer: **ABB Oy Motors and Generators**
Strömbergin puistotie 5A
FI-65320 Vaasa
Finland

Additional Manufacturing location(s):

ABB Sp. z o.o
ul. Placydowska
95-070 Aleksandrow Lodzki
Poland

ABB Logistics Center Europe GmbH
Bräuckerweg 132
58708 Menden
Germany

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[FI/VTT/ExTR14.0001/03](#)

Quality Assessment Report:

[FR/LCI/QAR08.0003/08](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description of Equipment

The M3AA range of motors are three phase squirrel cage induction motors of a closed type with cast aluminium frame. The main terminal box is integrated in motors with shaft height 90...180 and separate with shaft heights 200...280.

Technical data

The Certificate is valid for the range of induction motors having shaft heights 90, 100, 112, 132, 160, 180, 200, 225, 250, and 280 and the electrical values within the following limits:

- Nominal voltage 190 V...690 V (shaft heights 90...132) and 190 V...800 V (shaft heights 160...280)
- Output power: 0.37...90 kW
- Frequency: 50 Hz or 60 Hz or variable frequency
- Duty: S1, S2, S6 or S9
- Degree of protection: IP55 or IP65 for Ex ec and Ex tc motors and IP65 for Ex tb motors
- Cooling method: IC411 or IC418

SPECIFIC CONDITIONS OF USE: YES as shown below:

The allowed ambient temperature range of a motor depends on the design and auxiliary devices. The allowed ambient temperature range of each motor is marked on the rating plate. The marked ambient temperature is always within the range of -40 °C...+60 °C (shaft heights 90...132) or -20 °C...+60 °C (shaft heights 160...280).

Depending on the design, the equipment group of the Ex ec motors may be IIB or IIC or for Ex tc/tb motors IIIB or IIIC. The equipment group of each motor is marked on the rating plate.

The special conditions in the Certificates of the separately certified auxiliary devices shall be conformed to.

The motors marked "Ex ec IIC", "Ex tb" or "Ex tc" may present a potential electrostatic charging hazard due to paint; the manufacturer's instructions shall be followed in order to minimize the risk of electrostatic discharge.

For motors with shaft height 90...132 a double fan cover shall be used when cooled by a fan - IC411 (TEFC).

If the motor is intended for VSD supply, the motor will be marked accordingly and the following conditions apply:

- 1) The motors can be used in frequency converter supply with the converter types ACS 550, ACS 580, ACS 800 or ACS 880 series manufactured by ABB Ltd or a comparable converter in reference to the output voltage and current specifications. The comparable converter shall be DTC or PWM type.
- 2) The allowed speed and torque range of each motor is marked on the rating plate and all manufacturer's instructions shall be followed.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Updated to the latest standards of IEC 60079-7 ('nA' to 'ec') and IEC 60079-31.

Motors with shaft heights 160...280 added.

Certificate revised and List of Auxiliary devices added.

Annex:

[ANNEX A to certificate IECEx VTT 13.0017X Issue 3.pdf](#)

ANNEX A. List of Auxiliary Devices

Component	Manufacturer	Marking	Certificate	Standards and editions	IECEx		
					ec	tb	tc
Cable glands: Type C2, C6	Cable Management Products Ltd, ABB UK Ltd	Ex d IIC Gb Ex e IIC Gb Ex tb III C Db IP66/68	IMQ 14 ATEX 013 X IECEx IMQ 14.0005X	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-1 : 2014-06 Edition: 7.0 IEC 60079-31 : 2013 Edition: 2 IEC 60079-7 : 2006-07 Edition: 4	x	x	x
Blanking element VD07-xxxx	Ouneva Oy	Ex eb IIC Gb Ex tb III C Db	VTT 15 ATEX 054X IECEx VTT 15.0017X	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-31 : 2013 Edition: 2 IEC 60079-7 : 2015 Edition: 5.0	x	x	x
Cable glands ADE	Crouse-Hinds by EATON - COOPER CAPRI S.A.S.	Ex db IIC Ex eb IIC Ex nRc IIC Ex tb III C IP66 Ex db I Ex eb I	INERIS 12 ATEX 0032X IECEx INE 12.0025X	IEC 60079-0 : 2011 Edition: 6 IEC 60079-1 : 2007-04 Edition: 6 IEC 60079-15 : 2010 Edition: 4 IEC 60079-7 : 2006-07 Edition: 4 IEC 60079-31: 2008 Edition: 1	x	x	x
Stopping plug Ex d	Peppers Cable Glands Ltd	Ex d IIC Gb Ex e IIC Gb Ex nR IIC Gc Ex tb IIIC Db Ex d I Mb Ex e I Mb	SIRA 09 ATEX 1320X IECEx SIR 09.0131X	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-1 : 2007-04 Edition: 6 IEC 60079-15 : 2010 Edition: 4 IEC 60079-31 : 2013 Edition: 2 IEC 60079-7 : 2006-07 Edition: 4	x	x	x
Aux. terminals: 264-120	WAGO Kontakttechnik GmbH & Co. KG	Ex e IIC Gb	PTB 98 ATEX 3129 U IECEx PTB 04.0003U	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-7 : 2006-07 Edition: 4	x	x ¹⁾	x ²⁾
Aux. terminal box with terminals DTS XBxxx(A)-YYYYY	DTS	Ex e IIC Gb Ex tb IIIC Db	LCIE 11 ATEX 3051 X IECEx LCI 11.0046X	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-31 : 2008 Edition: 1 IEC 60079-7 : 2006-07 Edition: 4	x	x	x
PT100 bearing: TT4-X-PT	Tewa Temperature Sensors Ltd.	Ex mb IIC T4 Gb Ex mb III C T135 °C Db	OBAC 15 ATEX 0042X IECEx OBAC 15.0001X	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-18 : 2009 Edition: 3	x	x	x
PT100 in winding	Tewa Temperature Sensors Ltd.	Ex e II Gb	OBAC 14 ATEX 0505U IECEx OBAC 15.0002U	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-7 : 2006-07 Edition: 4	x	x ¹⁾	x ²⁾
Cable conduit system XESX conduit and EXPQ/EXBQ fittings	Cable Management Products Ltd (A Thomas & Betts Company)	Ex e IIC Gb Ex tb IIIC Db	SEV 05 ATEX 0105 Baseefa 08 ATEX0003X/1 IECEx BAS 08.0001X	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-31 : 2008 Edition: 1 IEC 60079-7 : 2006-07 Edition: 4	x	x	x

Component	Manufacturer	Marking	Certificate	Standards and editions	IECEx		
					ec	tb	tc
Anticondensation heater: RSV	Flexelec S A	Ex e IIC Gb	Sira 02 ATEX 3410 U and amendment 01 IECEx SIR 10.0151U	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-7 : 2006-07 Edition: 4	x	x ¹⁾	x ²⁾
Speed encoder: EEx HOG 161	Baumer Hübner GmbH	Ex d e IIC T6 Gb	TÜV 02 ATEX 1921 X and amendments IECEx TUN 12.0029X	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-1 : 2007-04 Edition: 6 IEC 60079-7 : 2006-07 Edition: 4	x	x ¹⁾	x ²⁾
Speed encoder: Type 84190... 84192	Leine & Linde AB	Ex db IIC T6...T4 Ex tb IIIC T85 °C...T135 °C	SP 07 ATEX 3635 X IECEx SP 06.0001X	IEC 60079-0 : 2011 Edition: 6 IEC 60079-1 : 2014 Edition: 7 IEC 60079-31 : 2013 Edition: 2	x	x	x
Dome head stopping plug	Cable Management Products Ltd (A Thomas & Betts Company)	Ex db eb I Mb Ex db eb IIC Gb Ex tb III C Db	Baseefa 08 ATEX 0325X IECEx BAS 08.0108X	IEC 60079-0 : 2011 Edition: 6.0 IEC 60079-1 : 2014-06 Edition: 7.0 IEC 60079-31 : 2013 Edition: 2 IEC 60079-7 : 2015 Edition: 5.0	x	x	x

¹⁾ Auxiliary devices that are placed **completely** within an Ex tb enclosure are suitable for Ex tb motors.

²⁾ Auxiliary devices that are placed **completely** within an Ex tb or Ex tc enclosure are suitable for Ex tc motors.

According to ExTAG DS 2012/008 also other equivalent IECEx certified cable glands, stopping plugs and thread adaptors may be used.