



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.: issue No.:

Status:

Date of Issue: Page 1 of 4

Applicant: **ABB Oy Motors**
Strombergin Puistotie 5A
FIN - 65101 VAASA
Finland

Electrical Apparatus: **Asynchronous motor - M3GP160 ..., M3GP180 ... (Generation H)**
Optional accessory:

Type of Protection: **Ex nA and/or Ex tD**

Marking: **Ex nA II T3 or T2
Ex tD A21/A22 T85°C to T150°C**

*Approved for issue on behalf of the IECEx
Certification Body:*

Marc GILLAUX

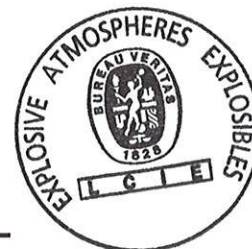
Position:

Ex Certification Manager

*Signature:
(for printed version)*



Marc GILLAUX



Date:

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:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France





IECEx Certificate of Conformity

Certificate No.: IECEx LCI 09.0012

Date of Issue: 2009-03-13

Issue No.: 0

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Manufacturer: **ABB Oy Motors**
Strombergin Puistotie 5A
FIN - 65101 VAASA
Finland

Manufacturing location(s):

ABB Oy Motors
Strombergin Puistotie 5A
FIN - 65101 VAASA
Finland

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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-15 : 2005-03 Edition: 3	Electrical apparatus for explosive gas atmospheres Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*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:

FR/LCI/ExTR09.0012/00

Quality Assessment Report:

FR/LCI/QAR07.0001/00



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Motor with type of protection by enclosure "tD" and/or non sparking "nA" with IP5X or IP6X.

The type designation of the motors is a combination of letters and numbers according to following definition :
For instance : M3GP 160 MLC 4

- M3: Motor serie ,
- G : Ex 'nA' ou Ex 'tD'
- P or C: P for Process Industry or C for High Speed Application
- 160: Shaft high acc. to IEC,
- ML: Frame mounting dimensions acc. to IEC 60072-1,
- C: Output determination,
- 4: Pole number.
- H: Generation Code marked as digit 14 of Product Code

CONDITIONS OF CERTIFICATION: NO



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EQUIPMENT(continued):

Specific parameters of the mode(s) of protection concerned :

Network voltage supply : between 190 V and 800 V

Tolerances according to :

- IEC 60034-1 ($\pm 5\%$) for motors stamped in multivoltages use (eg : 380 V - 420 V)
- IEC 60038 ($\pm 10\%$) for motor stamped in single voltage use (eg : 400 V /690 V).

Frequency : 50 Hz or 60 Hz or variable frequency

Duty : S1

Ambient temperature between -55°C and $+80^{\circ}\text{C}$

Electrical and mechanical variations are defined within the descriptive documents established by the manufacturer (3GZF500916-226 Rev A) :

- Motors designed with same nominal flux within a tolerance of $\pm 3\%$, and same frequency
- Output power other than listed
- Pole number between 2 and 20
- Intermittent duty: S2 to S10
- Flying leads are allowed
- Thermal sensor for bearing certified Category 2
- Closed N-end without fan is allowed (IC410)

In case of variable frequency, the motors may be equipped with internal temperature protection to ensure the insulation class. The motors must be supplied according to the manufacturer's specifications stated on name plate to ensure the surface temperature. The relevant instructions for use on variable frequency stated by the manufacturer have to be respected.

Ambient temperature between -20°C to -55°C is allowed without adding heating elements or other heating system.

Ambient temperature between $+40^{\circ}\text{C}$ and $+80^{\circ}\text{C}$ is allowed under the respect of the specifications stated in the descriptive file of the manufacturer.

Pre-purging before starting the motor is not necessary for Ex nA protection.

In addition to the type of protection 'Ex nA' and/or 'Ex tD', the terminal box may be protected by 'Ex e'.

The marking shall be :

- ABB OY
- Address
- Type M3GP/GC...
- Serial number
- Year of construction
- Ex nA II T3 or T2
- Ex tD A21/A22 T85°C to T150°C
- Certificate number
- Electrical characteristics
(UN ... V, IN ... A, PN ... kW, F ... Hz, tr/min ..., Cos ..., ...)
- Ambient temperature ... °C if $> 40^{\circ}\text{C}$ or $< -20^{\circ}\text{C}$

For 3D category motors, a warning label will be fixed :

- After de-energizing, delay 60 min before opening
- or
- Do not open when an explosive dust atmosphere is present.

For the motors driven by converters a second name plate will be fixed on the motors mentioning the voltage, current and/or load conditions in function of the frequency range, as well as the relevant converter characteristics. The surface temperature class may be protected by embedded thermal sensors for type of protection Ex tD.