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 LCI 09.0010X issue No.:0 Certificate history:

Status: **Current**

Date of Issue: **2009-03-09** Page 1 of 4

Applicant: **ABB Inc.**
843, North Jefferson Street
Lewisburg, WV 24901
United States of America

Electrical Apparatus: **Gas Chromatograph Analyzer - PGC5000A, PGC5000B**
Optional accessory:

Type of Protection: **ib py/d e py or nA nL/d e nA nL**

Marking: **For zone 1 :**
For PGC5000A : Ex ib py IIB+H2 T4
For PGC5000B : Ex d e py IIB+H2, T4, T3 or T2
For zone 2 :
For PGC5000A : Ex nA nL IIB+H2 T4
For PGC5000B : Ex d e nA nL IIB+H2, T4, T3 or T2

Approved for issue on behalf of the IECEx Certification Body: Marc GILLAUX

Position: Ex Certification Manager

Signature:
(for printed version)

Date: 21/04/2009

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.

Certificate issued by:

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

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Manufacturing location(s):

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843, North Jefferson Street
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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 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2005-03 Edition: 3	Electrical apparatus for explosive gas atmospheres Part 15: Contruction, test and Marking of Type of Protection "n" electrical apparatus
IEC 60079-2 : 2001 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 2: Pressurized enclosures 'p'
IEC 60079-7 : 2006-07 Edition: 4	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:

FR/LCI/ExTR09.0011/00

Quality Assessment Report:
NL/KEM/QAR09.0015/00

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Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The controller compartment PGC5000A (which controls from one to four Isothermal Ovens type PGC5000B) houses a power supply and PCBs for the single board computer, oven controller and the front panel that employs an intrinsically safe circuit for the front panel mounted external keypad.

The type PGC5000B gas chromatograph is designed to operate automatically analyzing process streams and reporting the analysis of the analyzer. The type PGC5000B gas chromatograph communicates the analytical detection and analytical process scheduling back and forth to the type PGC5000A Master Controller by means of fiber optic CAN bus.

CONDITIONS OF CERTIFICATION: YES as shown below:

Ambient temperature : 0 to 50°C.

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EQUIPMENT(continued):

The PGC5000B module consists of the following three sections:

1.) The electronics compartment (located on the left side),

2.) The oven compartment (located on the right side) , houses, as dependant upon the configuration / analytical application, the isothermal air-mass heater type 800-2, pneumatic actuated sample valves, TCD detectors type 002A or type 865, FID detector type 799, methanizer / air cleanup type 805-5 or type 862, or the LSV vaporizer heater block type 791.

3.) The top compartment is exposed to hazardous atmosphere and houses the Electronic Pressure Control (EPC) type 801-2 and a manifold for incoming air as required for the air-operated solenoids and regulated purge air for the electronics and oven compartments.

PCG5000A : 120Vac / 240Vac, 50/60 Hz, 120VA
PCG5000B : 120Vac / 240Vac, 50/60 Hz, 1200VA

MARKING :

ABB Inc – Lewisburg - USA
Serial number / Year of manufacture
Certificate number
Ambient temperature : 0 to 50°C
WARNING – DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

For PGC5000A controller:
Type : PGC5000A
Ex ib py IIB+H2 T4
Protective gas : Continuous flow, air
Total internal free volume : 62L
Minimum air supply flow rate: 17.84 L/Min.
Minimum overpressure : 0.5 mbar
Maximum leakage flow rate : 21.66 L/Min
Maximum overpressure : 3.3 mbar
Purge wait time : 18.20 Min

or :
Ex ib nA nL IIB+H2 T4 (For zone 2)

For PGC5000B Oven Electronics :
Type : PGC5000B
Ex d e py IIB+H2, T4, T3 or T2
Protective gas : Continuous flow, air
Total internal free volume : 37.94L
Minimum air supply flow rate : 39.36 L/Min.
Minimum overpressure : 0.5 mbar
Maximum leakage flow rate : 79.00 L/Min
Maximum overpressure : 1.76 mbar
Purge wait time : 18.20 Min

or :
Ex d e nA nL IIB+H2, T4, T3 or T2 (For zone 2)

For PGC5000B Isothermal oven :
Type : PGC5000B
Ex d e py IIB+H2, T4, T3 or T2
Protective gas : Continuous flow, air
Total internal free volume : 36.81L

Minimum air supply flow rate: 106.47 L/Min.
Minimum overpressure : 0.5 mbar
Maximum leakage flow rate : 169.05 L/Min
Maximum overpressure : 2.33 mbar
Purge wait time : 18.20 Min

or :
Ex d e nA nL IIB+H2, T4, T3 or T2 (For zone 2)

ROUTINE VERIFICATIONS AND TESTS

For pressurized compartments including PGC5000A controller, PGC5000B Oven Electronics and PGC5000B Isothermal oven, heating device 800-2 :
- IEC60079-2 / §17.1 : The performance of safety devices shall be verified.
- IEC60079-2 / §17.2 : The measured flow rate shall be not greater than the maximum leakage flow rate specified by the manufacturer.
- EN60079-15 / §34.2 : Dielectric strength shall be verified by a test at the test voltage 1500 V r.m.s. and maintained for at least 1 min.

For heating device 800-2 :
- IEC60079-0 / §5 : Checking of the safety device and the tempearature class.
- IEC60079-7 / §7.2 : Dielectric strength shall be verified by a test at the test voltage 1500 V r.m.s. and maintained for at least 1 min.

For FID detector 799 :
- IEC60079-1 / §16 : Routine test under the pressure of 20 bar during at least 10 s without exceeding 1 minute (welded construction).