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 SIR 08.0015X issue No.:0 Certificate history:

Status: **Current**

Date of Issue: **2008-06-11** Page 1 of 4

Applicant: **Hohner Automation Limited**
Units 14 - 16
Whitegate Industrial Estate
Wrexham LL13 8UG
United Kingdom

Electrical Apparatus: **WiFi Encoders/Sensors**
Optional accessory:

Type of Protection: **Intrisically Safe**

Marking: **Ex ia IIC T4 Ga (Ta -20°C to +49°C)**

Approved for issue on behalf of the IECEx Certification Body: C Ellaby

Position: Certification Officer

Signature:
(for printed version)

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.

Certificate issued by:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

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Manufacturer: **Hohner Automation Limited**
Units 14 - 16
Whitegate Industrial Estate
Wrexham LL13 8UG
United Kingdom

Manufacturing location(s):

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 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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:

GB/SIR/ExTR08.0070/00

Quality Assessment Report:
GB/SIR/QAR06.0038/00

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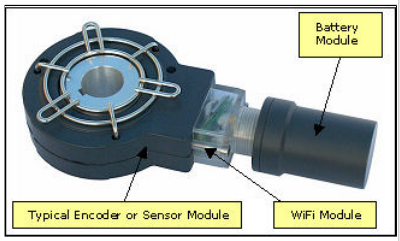
Schedule

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

The Hohner WiFi Shaft Encoder/Sensor Assemblies consist of three main sections, Battery module, WiFi transmitter module and Shaft Encoder/Sensor module

The Shaft Encoder/Sensor module can be one of six different types:

i 7-Bit Absolute Encoder (Series FPX)
ii 10-Bit Absolute Encoder (Series 08)
iii Incremental Shaft Encoder (Various types)
iv Multi-turn Shaft Encoder (Series 03)
v Fluid Sensor (Series E5Y)
vi Fuel Sensor (Series E5X)



CONDITIONS OF CERTIFICATION: YES as shown below:

1. The enclosure of the WiFi module is manufactured from plastics materials. Under certain extreme circumstances, such parts may generate an ignition-capable level of electrostatic charge. Therefore, the encoder shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces, particularly when it is used for zone 0 applications. Additionally, the equipment shall only be cleaned with a damp cloth.
2. As aluminium is used at the accessible surface of this equipment, ignition sources due to impact and friction sparks could occur, this shall be taken into account during the installation of the equipment.

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EQUIPMENT(continued):

The principal function of the Encoder/Sensor assemblies is to provide wireless transmission of data between the unit and a local receiver fitted in the safe area. The assemblies use the IEEE 802.15 protocol at a frequency between 2.4 to 2.527 GHz to transmit data wirelessly in binary packets at a data rate of 250 kbs.

Every time the encoder shaft moves, a pulse edge triggers a data transmission to the distant module. Data is read 100 times per second. If the incremental encoder spins to fast, the data transmission jumps from one counter content to another. Every data transmission contains the full 16-bit counter value.

The encoder/sensor module electronics are housed in a range of metallic enclosures with various dimensions and shaft sizes/orientations. The WiFi Module is housed in a MAKROLON® 2405, 2407 or 2456 plastic enclosure to permit radio signal interfacing and the battery module enclosure is constructed from either aluminium or stainless steel.

The encoder/sensor enclosures are generically defined and may vary in size. The general arrangement drawings (one for each generic type) are considered to have a minimum ingress protection rating of IP20 with the majority of enclosures providing a minimum of IP65. Furthermore, there are limits on the total amounts of magnesium, aluminium, titanium and zirconium as required by IEC 60079-0:2004.

The Applicant shall note the following condition of manufacture:

1. The maximum temperature of the shaft seal of each Shaft Encoder/Sensor Assembly shall be determined at the maximum operating speed and ambient temperature, this is to ensure that the T4 temperature class (135°C) will not be exceeded during field operation.