



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 06.0061X issue No.:3 Certificate history:
Status: **Current** Issue No. 3 (2009-12-7)
Date of Issue: **2009-12-07** Page 1 of 4 Issue No. 2 (2009-10-23)
Issue No. 1 (2007-6-1)
Issue No. 0 (2006-10-4)

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

Electrical Apparatus: **DIN19234 Shaft Encoder**
Optional accessory:

Type of Protection: **Intrinsically safe**

Marking: **Ex ia I Ma**
Ex ia IIC T4 Ga
Ex ia IIIC T100°C Da
(Ta = -40°C to +100°C)
Note: IEC 60079-0:2007 Edition 5 was used for guidance in respect of marking

Approved for issue on behalf of the IECEx
Certification Body:

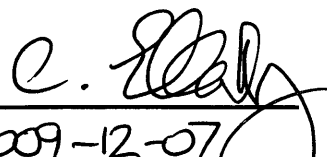
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Position:

Certification Officer

Signature:
(for printed version)

Date:


2009-12-07

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


SIRA
CERTIFICATION



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Manufacturer: **Hohner Automation**
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
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-11 : 2005 Edition: 1	Electrical apparatus for use in the presence of combustible dusts - Part 11: Protection by intrinsic safety 'iD'

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/ExTR06.0090/01
GB/SIR/ExTR07.0039/00
GB/SIR/ExTR09.0192/00

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 DIN19234 shaft encoder is used to indicate the angular movement of a shaft. Movement is detected optically by shining light produced by LEDs through a graduated disc that rotates with the shaft. The circuitry is contained on an assembly comprising three printed circuit boards, housed in a non-conducting holder, which is itself installed in an outer enclosure; this may be metallic (Group I and Group II) or plastic (Group II only). The equipment is supplied with a flying lead. The enclosure is generically defined and may vary in size and material: plastic and metallic enclosures are permitted but it is a condition of manufacture that plastic enclosures are not marked for Group I use. The encoder is intended to be powered from separate supplies. Each channel of the encoder has the following safety description (It is not necessary for the two supplies to be separate intrinsically safe circuits):

$U_i = 13.7 \text{ V}$
 $I_i = 63 \text{ mA}$
 $P_i = 0.283 \text{ W}$
 $C_i = 0$
 $L_i = 0$

The manufacturer shall note the Conditions of Manufacture detailed on associated drawings and ExTR.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. As the light metal alloy is used at the accessible surface of this equipment, in the event of rare incidents, ignition sources due to impact and friction sparks could occur. This shall be considered when the Encoders are being installed in locations that specifically require group II and I, categories 1G/Ga, M1/Ma equipment.
2. Some versions of the equipment are manufactured with an enclosure made from plastic materials. Under certain extreme circumstances, such parts may generate an ignition-capable level of electrostatic charge. Therefore, when the encoder is used for applications that specifically require group II, category 1 equipment, it shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. Additionally, the equipment shall only be cleaned with a damp cloth.



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

Issue 1 this Issue introduced the following change	
1.	The lower ambient temperature to be decreased from -20°C to -40°C, the marking is changed accordingly.
Issue 2 this Issue introduced the following change	
1.	Report number GB/SIR/ExTR06.0090/01 replaced GB/SIR/ExTR06.0090/00
Issue 3 – this Issue introduced the following changes:	
1.	The clarification that a flying lead or a plug and socket are permitted to be used.
2.	Following appropriate re-assessment to demonstrate compliance with later standards, IEC 60079-0: 2000 Edition: 3.1, IEC 60079-11: 1999 Edition: 4 and IEC 60079-26: 2004 Edition: 1 were replaced by those versions currently listed above, in addition, IEC 60079-0:2007 Edition 5 was used for guidance in respect of marking, as detailed below: Ex ia I Ma Ex ia IIC T4 Ga In line with the requirements of the current standards, a condition of certification relevant to the use of plastic was applied necessitating the application of an 'X' suffix in the certificate number.
3.	The light metal references on the drawings were modified and another condition of certification was introduced.
4.	The products were allowed to be used in the presence of combustible dust; the marking of the equipment now shows the following information Ex ia IIIC T100°C Da In consequence, the list of assessment standards now includes: IEC 61241-0:2004 IEC 61241-11:2005