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 10.0105X issue No.:0	Certificate history:
Status:	Current	
Date of Issue:	2010-11-09	Page 1 of 4

Applicant:

Hohner Automation Limited
Whitegate Industrial Estate
Wrexham
North Wales
LL11 8UG
United Kingdom

Electrical Apparatus: **Type 4-20mA ABS Absolute Shaft Encoder**
Optional accessory:

Type of Protection: **Intrinsically Safe and Dust**

Marking: **Ex ia IIC T4 Ga and**
Ex ia I Ma
Ta = -20°C to +60°C
Ex iaD 20 T135° Da
Tamb -20°C to +60°C when Pi =0.7W or
Tamb -20°C to +40°C when Pi =0.76W
IEC 60079-0:2007 Edition 5 (used for guidance in respect of marking)

Approved for issue on behalf of the IECEx Certification Body: D R Stubbings BA MIET

Position: Certification Manager

Signature:
(for printed version)

Date: 2010-11-09

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 Limited
Whitegate Industrial Estate
Wrexham
North Wales
LL11 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 pressence 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/ExTR10.0259/00

Quality Assessment Report:
GB/SIR/QAR06.0038/03

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Schedule

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

The Type 4-20 mA ABS Absolute Shaft Encoder is designed 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. User connections are by means of an external plug-and-socket.

Refer to EQUIPMENT (continued) for full description

The Manufacturer shall comply with the following condition of manufacture:

1. The assembled apparatus shall be subjected to a routine test voltage of 500V rms for 1 minute. There shall be no flashover or breakdown of insulation and the maximum current flowing shall not exceed 5 mA, in accordance with IEC 60079-11:2006 clauses 6.3.12 and 10.

CONDITIONS OF CERTIFICATION: YES as shown below:

1 Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. This is particularly important if the equipment is installed in a zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth

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EQUIPMENT(continued):

The circuit comprises two PCBs, the top board being mainly at the supply voltage and the lower board being exclusively powered from the nominally 5 V rail. The assembly is contained within a metallic enclosure with an ingress protection rating of at least IP54.

The equipment is a 2-wire device, utilising pins 1 and 2, with the following safety description applicable to gases in a 60°C ambient or dusts in a 40°C ambient.

Ui	=	28 V
Ii	=	150 mA
Pi	=	0.76 W
Ci	=	12 nF
Li	=	0

Or the following lower parameters are applicable when the equipment is used in a hazardous dust atmosphere at ambient temperatures up to and including 60°C.

Ui	=	28 V
Ii	=	100 mA
Pi	=	0.7 W
Ci	=	12 nF
Li	=	0

The screen may be connected to pin 4, which is galvanically isolated from the enclosure. Pin 3 is not used.

There are two builds, differing in the shaft type and the physical arrangement of the PCBs:

10-bit hollow shaft encoder10-bit solid shaft encoder