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 EXV 16.0006X	Issue No: 0	Certificate history: Issue No. 0 (2016-05-05)
Status:	**Current**	Page 1 of 4	
Date of Issue:	**2016-05-05**		

Applicant:

Hohner Automation Ltd
Units14-16
Whitegate Industrial Estate
Wrexham
LL13 8UG
United Kingdom

Electrical Apparatus: **DIN 19234 Shaft Encoder**

Optional accessory:

Type of Protection: **Intrinsic Safety "i"**

Marking:

Ex ia I Ma

Ex ia IIC T4 Ga

Ex ia IIIC T135°C Da
T_{amb} -40°C to +100°C *(equipment may be marked with any range within these limits)*

Approved for issue on behalf of the IECEx Certification Body: Sean Clarke CEng MSc MIET

Position: Certification Manager

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:

ExVeritas Limited
Units 16-18 Abenbury Way
Wrexham Ind. Est.
Wrexham LL 139UZ
United Kingdom

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Manufacturer: **Hohner Automation Ltd**
Units14-16
Whitegate Industrial Estate
Wrexham
LL13 8UG
United Kingdom

Additional Manufacturing location(s):

These products may be manufactured at any Hohner Automation Facility listed on Quality Assessment Report GB/SIR/QAR06.0038 that has been audited for the manufacture of the type of protection listed

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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2014-10 Edition:3.0	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/EXV/ExTR16.0006/00

Quality Assessment Report:

GB/SIR/QAR06.0038/08

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The DIN 19234 Shaft Encoder is used to indicate the angular movement of a shaft. Movement is detected optically by passing light produced by LEDs through a graduated disk that rotates with the shaft. The Encoder has three design options, each one containing one or more sets of identical printed circuit boards.

The circuitry is contained on an assembly comprising of either two printed circuit boards or three printed circuit boards housed in the encoder “Head”. Option one includes one set of boards which provides a maximum of two channels for detecting shaft movement. Option two includes up to two sets of boards providing a maximum of three channels. Option three includes up to three sets providing a maximum of six channels. The enclosure varies in size dependant on the design option. There are three options for making the external connections, integral cable, plug and socket or terminal/junction box.

Input parameters - *see additional equipment page*

CONDITIONS OF CERTIFICATION: YES as shown below:

1 - As light metal may be used in the construction of this equipment, for Ga/1G installations only, consideration should be given that in rare events, ignition sources due to impact and/or frictional sparks could occur.

2 - Some versions of the equipment are manufactured with an enclosure made from plastic materials. Under certain extreme conditions 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.

3 - For build option three all 6 channels must be referenced to a common return

4 - When the equipment is used in a Zone 0, the user should be aware of the potential for failure of the shaft and bearing resulting in frictional heating that could exceed the temperature class of the equipment. The user should periodically check the encoder bearing for signs of wear and heating.

Conditions of Manufacture

Each completed shaft encoder must be subjected to an electric strength test in accordance with IEC 60079-11: 2011 clause 6.3.13 with the test voltage of 500Vac (710Vdc) applied between the circuit enclosure for a minimum of 60s, or alternatively at 600Vac (852Vdc) for at least 1s.

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EQUIPMENT (continued):

Input parameters

Option One (For each channel)

Ui = 13.3V	Ii = 63mA	Pi = 0.270W	Ci = negligible	Li = negligible

Option Two - Encoder having 3 Channels (For each channel)

Ui = 13.3V	Ii = 19.1mA	Pi = 0.180W	Ci = negligible	Li = negligible

Or

Ui = 10.8V	Ii = 28mA	Pi = 0.180W	Ci =negligible	Li =negligible

Option Three - Encoder having 6 Channels (For each channel)

Ui = 13.3V	Ii = 21mA	Pi = 90mW	Ci =negligible	Li=negligible

Annex:

IECEx EXV 16.0006X Certificate Annex.pdf

Title:	Drawing No.:	Sheets	Rev. Level:	Date:
Hollow Shaft Encoder General Assembly	AS-HS-002-04	2 of 2	4	11 April 2016
Solid Shaft Encoder General Assembly	AS-SS-001-04	2 of 2	4	11 April 2016
DIN 19234 Circuit A – differential switching	DIN19234-001-04-CCT	1 of 2	2.0	11/04/2016
DIN 19234 Circuit B – differential switching	DIN19234-001-04-CCT	2 of 2	2.0	11/04/2016
IECEX & ATEX DIN19234 Label	IA-LB-DIN-03	1 of 1	3	11 April 2016

ExVeritas, Units 16-18, Abenbury Way, Wrexham Industrial Estate, Wrexham, United Kingdom LL13 9UZ.