

1 EU - Type Examination Certificate

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: ExVeritas 16ATEX0155X Issue: 1

4 Equipment: DIN 19234 Shaft Encoder

5 Manufacturer: Hohner Automation Ltd

6 Address: Units 14-16
Whitegate Industrial Estate
Wrexham,
LL13 8UG, UK

7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 ExVeritas, Notified Body number 2804 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the Directive

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with the following Standards and section 16 of this certificate:

EN 60079-0: 2013

EN60079-11: 2012

EN60079-26:2015

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design, construction, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment shall include the following:



I M1

II 1 G D

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)

On behalf of ExVeritas



Peter Lauritzen
Managing Director

13 Description of Equipment or Protective System

The DIN 19234 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 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

Option One (For each channel)

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

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

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

Or

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

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

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

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R918X/A/1	02/06/2016	0	Initial issue of the Prime Certificate
R918X/A/1	25/01/2021	1	Certificate transferred from Ex Veritas 2585 to Ex Veritas 2804 Report and certificate numbers remain unchanged. Label drawing has also been updated, no change to type of protection.

14.2 Compliance Drawings:

Issue 0

Title:	Drawing No.:	Sheets	Rev.	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

Issue 1

Title:	Drawing No.:	Sheets	Rev.	Date:
IECEX & ATEX DIN 19234 Label	IA-LB-DIN-04	1	4	11/10/2019

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15 Conditions of Certification

15.1 Special Conditions for Safe Use

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

15.2 Conditions for Use (Routine tests)

Each completed shaft encoder must be subjected to an electric strength test in accordance with EN/IEC 60079-11: 2012/2011 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.

16 Essential Health and Safety Requirements

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.1

The manufacturer shall inform the Notified Body of any modifications to the design of the product described by this schedule.

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