

1 EU - Type Examination Certificate

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

3 Certificate Number: ExVeritas 17ATEX0285 Issue: 1

4 Equipment: Galvanic Isolator Type 'IB' & 'SP-IB-XXX'
Galvanic Isolator type 'ID' & 'SP-ID-XXX'

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

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) GD

[Ex ia Ma] I

[Ex ia Ga] IIC

[Ex ia Da] IIIC

T_{amb} -40°C to +60°C

(equipment may be marked with any range within these limits)

13 Description of Equipment or Protective System

The galvanic isolation interfaces are designed to provide power and optically isolated signal inputs/outputs to a series of Hohner shaft encoders mounted in the hazardous gas or dust areas. The Interface is housed in a non-conducting, IP20 plastic enclosure. The interface circuitry is mounted on a single, double-sided, FR4, PCB, which is mounted within the plastic housing. The interfaces utilise a type 2b transformer and suitable opto-isolators that are rated for a maximum non-hazardous area fault voltage (Um) of up to 250 V.

There are four types of galvanic isolation interfaces, a type IB and type ID and type SP-IB-XXX and type SP-ID-XXX, which are intended to be used with ATEX approved, Hohner apparatus. All types are intended for use with incremental encoders, one has an Extended Line Driver Output (Type IB) and the other type has a Sink Open Collector Output (Type ID) to the safe area. SP-IB-XXX and SP-ID-XXX are special variants of 'IB' and 'ID', where 'XXX' are alpha numeric characters.

The galvanic isolation interfaces have the following safety description:

Non-Hazardous Area Terminals 1 through to 8

Um: 250 V

The interface, terminals 1 through to 8 are intended to be connected to equipment operating on a d.c. supply that has voltages up to 30 Vdc.

Hazardous Area Terminals A through to H

Uo = 27.8 V Io = 98 mA Po = 680 mW Ci = 12 nF

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R1026/A/1	06/03/2017	0	Initial issue of the Prime Certificate
R1026/A/1	25/01/2021	1	Certificate transferred from ExVeritas 2585 to ExVeritas 2804 Report and certificate numbers remain unchanged.

14.2 Compliance Drawings:

Issue 0

Title:	Drawing No.:	Sheets	Rev. Level:	Date:
IB/ID Galvanic Isolator Schematic	IB/ID Schematic	1 of 1	1.0	05/04/2011
IB/ID Galvanic Isolator Assembly	IB/ID Assembly	1 of 1	1.1	21/08/2017
IB/ID Galvanic Isolator BOM	IB/ID Drawing BOM	1 of 1	2.0	21/08/2017
IB/ID Galvanic Isolator Label	IB/ID Label	1 of 1	1.1	18/08/2017
IB/ID Galvanic Isolator Artwork	IB/ID PCB	1 to 3	1.0	22/08/2017
B5520 Final Assembly	B5520	1 of 1	2	15/03/2011
B5520 PCB Assembly	PCA1001	1 of 1	1	28/09/2010
B5520 PCB & Transformer Assembly	PCA 1002	1 to 2	2	28/09/2010
Bobbin Wound	WBS 1192	1 to 2	1	28/09/2010

15 Conditions of Certification

15.1 Special Conditions for Safe Use

- None

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15.2 Conditions for Use (Routine tests)

Each manufactured sample of the Type 2b transformers (B5520) shall be subjected to an electric strength test using a test voltage of 2500 V rms applied between the input and output windings as per clause 11.2 of EN6079-11. Additionally, the transformers shall be subjected to an electric strength test using a voltage of 1500 Vrms between all windings and the screen.

Alternatively, A voltage of 20% higher may be applied for 1s. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5mA.

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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