1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 11ATEX6274X** Issue: **1**

4 Equipment: **Intrinsically safe flow sensor DLS-00x**

5 Applicant: **Hohner Automation Ltd**

6 Address: Whitegate Industrial Estate
Wrexham LL13 8UG
UK

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

8 Sira Certification Service, notified body number 0518 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 13463-1:2009 (EN 60079-14:2008 was also used for reference)

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 1G
Ex ia IIC T4 Ga
Ta = -20°C to +60°C

This certificate covers the mechanical aspects of the equipment but recognises that it incorporates electrical equipment that is certified in its own right, and is therefore marked accordingly for clarity. This associated electrical equipment is identified in the associated report.

Project Number 70072118

N Jones
Certification Manager

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 11ATEX6274X**
Issue 1

13 **DESCRIPTION OF EQUIPMENT**

The DLS-00x is a sensing device comprised of an optical encoder fitted to a rotating shaft that has an arm attached, which is kept under tension via a spring contained in two round spring housings fitted on the opposite side of the main block. The shaft and spring housing are stainless steel. This rotating assembly is fitted onto a main block, which is cast or machined from solid stainless steel and rotates via bushings. The entire assembly is bolted to a base plate made of stainless steel. This base plate has various mounting holes for fastening to a closed pipe return line or an open trough return line. A paddle is attached to the arm in order to allow it to move with the drilling fluids, thus rotating the encoder shaft.

The device produces an electrical signal directly proportional to the height of a liquid (usually drilling fluid or mud) flowing through a closed or open trough pipe or conduit. As the mud level increases beyond the lowest point of the paddle plate component of the flow line sensor, the entire arm (wherein the plate is connected) is deflected upwards. As the arm is pivoted on a main shaft, the deflection causes an angular movement of the shaft. Finally, with an absolute encoder mounted on this shaft, this angular displacement (or partial rotation) is translated into an electronic signal. The arm and shaft has a maximum angular displacement of 90 degrees and thus the absolute encoder is specified to have its full span (20 mA) equivalent to a full 90 degree turn.

The DLS-00x assembly uses the following Intrinsically Safe certified part:

Shaft Encoder: Manufactured by Hohner Automation Ltd., EC-Type Examination Certificate number SIRA 01ATEX2189X coded "Ex ia IIC T4" (Ta = -20°C to +60°C)

Variation 1 - This variation introduced the following changes:

i. The replacement of drawing EX-AS-DLS-01 Rev. 01 with EX-AS-DLS-02 Rev.02.
ii. Changes to the product description to add additional descriptive text, as a result of these changes the Certificate number has an 'X' suffix and Specific Conditions for Use were added.

14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Sira Reports and Certificate History**

Issue	Date	Report number	Comment
0	09 November 2011	R25064A/00	The release of the prime certificate.

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 11ATEX6274X**
Issue 1

Issue	Date	Report number	Comment
1	13 September 2016	R70072118A	This Issue covers the following changes: • EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. *(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)* • The introduction of Variation 1.

15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

15.1 It is the user's responsibility to ensure that the equipment is connected to earth appropriately.

15.2 It is the responsibility of the user to ensure that the Shaft Encoder certification is complied with and that it is supplied from an intrinsically safe source in accordance with Sira 01ATEX2189X.

15.3 It is the responsibility of the user to maintain the integrity and effectiveness of the bushing for this equipment; refer to maintenance instructions in the User's Manual.

15.4 At regular intervals and as specified by the manufacturer, appropriate maintenance / cleaning cycles shall be carried out to ensure dust/debris deposits do not accumulate between moving parts of the equipment.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

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Certificate Annexe

Certificate Number: **Sira 11ATEX6274X**

Equipment: **Intrinsically safe flow sensor DLS-00x**

Applicant: **Hohner Automation Ltd**

Issue 0

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
EX-BOM-DLS-01	1 of 1	01	09 Nov. 11	DLS-00X Bill of materials
EX-LB-DLS-01	1 of 1	01	09 Nov. 11	Dragon Flow line sensor markings
EX-CON-DLS-01	1 of 1	01	09 Nov. 11	Dragon Flow line control drawing
EX-AS-DLS-01	1 of 1	01	09 Nov. 11	DLS Flow Sensor Assembly Drawing

Issue 1

Drawing	Sheets	Rev.	Date(Sira stamp)	Title
EX-AS-DLS-02	1 of 1	02	31 Mar 16	Assembly for DLS Flow Sensors
EX-LB-DLS-02	1 of 1	02	01 Apr 16	Dragon Flow line sensor markings

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