1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 16ATEX1294X** Issue: **0**

4 Equipment: **Electronic Line Break (ELB)**

5 Applicant: **Rotork Fluid Systems** **Rotork Controls Inc.**

6 Address:

9 Brown Lane West Holbeck Leeds LS12 6BH United Kingdom	675 Mile Crossing Blvd Rochester New York 14624 United States of America

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 60079-0:2012+A11 EN 60079-1:2014

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 2G
Ex db II① T4 Gb
① Can be either IIC or IIB as required
Ta = (-②°C to +③°C)
②down to -50°C, ③up to 60°C

Project Number 70097116

C Ellaby
Deputy Certification Manager

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Sira Certification Service
Unit 6 Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom
Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: ukinfo@csagroup.org
Web: www.csagroupuk.org

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 16ATEX1294X**
Issue 0

13 **DESCRIPTION OF EQUIPMENT**

The Electronic Line Break (ELB) is a self-contained electronic pipeline monitoring system to continuously monitor pipeline dynamics and provide early detection of pipeline breaks and initiate automatic actuator movement to an emergency position based on user defined parameters.

The ELB comprises an electrical control and terminal enclosures attached via a common back housing casting.

The electrical enclosure is formed by a cover which connects to the back housing casting by means of a spigoted flamepath joint and is secured by four M8 capscrews. The electrical enclosure contains three monitoring and control PCBs and an optional networking system PCB. The electrical enclosure cover is provided with a toughened glass window potted into the end which permits viewing of an internal LCD device, and also has non-penetrative local controls mounted below the window.

The terminal enclosure is formed by a cover which connects to the back housing casting by means of a spigoted flamepath joint and is secured by three M5 capscrews. The terminal enclosure provides electrical field wiring terminals.

The back housing casting is manufactured in aluminium alloy and provides the back housing for the two enclosures, all of which are designed to satisfy the requirements for flameproof equipment. The back casting provides five threaded M25 entry facilities, one into the terminal enclosure and four into the electrical enclosure. The volumes of the terminal enclosure and the electrical enclosure are separated by a potted, cable feed-through bushing.

14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Sira Reports and Certificate History**

Issue	Date	Report number	Comment
0	18 December 2017	R70097116A	The release of the prime certificate.

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

15.1 This equipment shall be positioned such that risk of impact to the window is low.

15.2 This equipment includes external, non-metallic parts, including the outer protective coating; therefore, cleaning shall only be carried out with a damp cloth.

15.3 The fastener grades securing the cover are indicated in the table below, if these fasteners are replaced in service the correct fastener grade must be used.

Location	Fastener grade
Electrical cover/ back housing	Stainless steel A4-80
Terminal cover/ back housing	High tensile carbon steel 12.9

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15.4 In accordance with clause 5.1 of EN 60079-1, the critical dimensions of the flamepaths are:

Flamepath	Flamepath Dimension (mm)	
	Gap	Length
Electrical cover/ back housing	0.15	26.0
Terminal cover/ back housing	0.15	12.5
Cable feed through bush/back housing	0.15	25.0

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.

17.3 Each enclosure shall be subjected to a routine overpressure test in accordance with the tables below for the design option and ambient temperature range stated. In all cases the pressure shall be maintained for at least 10 s as required by clause 16 of EN 60079-1. There shall be no permanent deformation or damage to the enclosure.

IIB Applications (below -20°C to -50°C) to +70°C

Equipment	Test Pressure	
	bar	lbf/in2
Cable feedthrough bushing, Robnor Resins Ltd PX700/BK	19.49	282.68

This test may be conducted on a 'batch testing' basis in accordance with clause 16.6 of IEC 60079-1 if required.

IIC Applications (below -20°C to -50°C) to +70°C

Equipment	Test Pressure	
	bar	lbf/in2
Back housing, electrical enclosure Aluminium Alloy to BS1490. Grade: LM25TF, heat treated(or equivalent)	26.67	216.98
Electrical Cover Window Borosilicate or Soda lime toughened to BS EN 12150 Loctite ® 5615	26.67	216.98
Cable feedthrough bushing, Robnor Resins Ltd PX700/BK	26.67	216.98

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Certificate Annexe

Certificate Number: **Sira 16ATEX1294X**

Equipment: **Electronic Line Break (ELB)**

Applicant: **Rotork Fluid Systems**

Issue 0

Drawing	Sheets	Rev.	Date(Sira stamp)	Title
HPU-A1505	1 to 6	3-0	07 Dec 17	Certification Drawing, Electronic Line Break (ELB)- ATEX & IECEx
2023399	1 of 1	0-0	07 Dec 17	Procedure, Loom Transfer Bush Potting
RS448	1 to 2	1	07 Dec 17	Window Bonding Procedure

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