



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 19ATEX2173X** Issue: **0**

4 Equipment: **LCM range of load cells**

5 Applicant: **LCM Systems Ltd.**

6 Address: **Unit 15,
Newport Business Park,
Barry Way,
Newport PO30 5GY
United Kingdom**

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

8 **CSA Group Netherlands B.V.**, notified body number **2813** 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 IEC 60079-0:2018 EN 60079-11:2012

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 2 GD
Ex ib IIC T4 Gb
Ex ib IIIC T135°C Db
Ta = -20°C to +70°C

Project Number 70095218

Signed: J A May

Title: Director of Operations

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CSA Group Netherlands B.V.
Utrechtseweg 310, Building B42,
6812AR, Netherlands



SCHEDULE

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Sira 19ATEX2173X
Issue 0

13 DESCRIPTION OF EQUIPMENT

The range of load cells is designed to convert an applied load into a proportional output signal.

The load cells in the range are comprised of a stainless steel body containing a strain gauge bridge and an optional Ex component certified signal conditioning unit on a single printed circuit board (ICA5ATEX). Electrical connections are made via cable gland or multi-pin bulkhead connector. The internal access to the enclosures may be via threaded cap, or bolted cap, both types are fitted with elastomeric sealing rings.

The range consists of the following types:

- a. **Type LCM4814 Load Pin**
 - i. Radial with the option of using a ICA5ATEX conditioning PCB
 - ii. Axial with the option of using a ICA5ATEX conditioning PCB
 - b. **Type LCM4815 Load Link**
 - i. Axial with the option of using a ICA5ATEX conditioning PCB
 - ii. Radial with the option of using a ICA5ATEX conditioning PCB
 - c. **Type LCM4816 Column Load Cell**
 - i. Radial with the option of using a ICA5ATEX conditioning PCB
 - d. **Type LCM4817 Diaphragm Load Cell**
 - i. Compression with the option of using a ICA5ATEX conditioning PCB
 - ii. Tension/compression with the option of using a ICA5ATEX conditioning PCB
- a. The LCM 4814 Load Pins comprise a stainless steel body containing a strain gauge bridge and an optional Ex component certified signal conditioning unit printed circuit board. Electrical connections are made via a cable gland.
 - b. LCM 4815 Load Links comprise a stainless steel body upon which is mounted a strain gauge bridge and an optional Ex component certified signal conditioning unit, printed circuit board. Electrical connections are made via a cable gland.
 - c. LCM 4816 Compression load cells comprise a stainless steel body upon which is mounted a strain gauge bridge and an optional Ex component certified signal conditioning unit printed circuit board. Electrical connections are made via a cable gland or a bulkhead connector.
 - d. LCM4817 Tension/compression load cells comprise a stainless steel body upon which is mounted a strain gauge bridge and an optional Ex component certified signal conditioning unit printed circuit board. Electrical connections are made via a cable gland or a bulkhead connector.

The electrical parameters for all types in the range are:

$U_i = 28V$, $I_i = 100mA$, $P_i = 0.7W$, $C_i = 49.39nF$, $L_i = 20\mu H$

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

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14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	27 January 2020	R70095218A	The release of the prime certificate.

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

15.1 When fitted with a Mantracourt type ICA5ATEX PCB strain gauge amplifier PCB the LCM range of load cells must be supplied by an Ex certified barrier with a minimum source resistance of 300Ω.

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.

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Certificate Annexe



Certificate Number: Sira 19ATEX2173X
Equipment: LCM range of load cells
Applicant: LCM Systems Ltd.

Issue 0

Drawing	Sheets	Rev.	Date	Title
LCM4814-ATEX_SHT1	1 of 1	Initial	10 Jan 20	ATEX LOAD PIN (Radial)
LCM4814-ATEX_SHT2	1 of 1	Initial	10 Jan 20	ATEX LOAD PIN (Axial)
LCM4815-ATEX_SHT1	1 of 1	Initial	10 Jan 20	ATEX Load Link, (Radial)
LCM4815-ATEX_SHT2	1 of 1	Initial	10 Jan 20	ATEX Load Link, (Axial)
LCM4816-ATEX_SHT1	1 of 1	Initial	10 Jan 20	Column Load Cell (GA),
LCM4817-ATEX_SHT1	1 of 1	Initial	10 Jan 20	Diaphragm Load Cell (tension)
LCM4817-ATEX_SHT2	1 of 1	Initial	10 Jan 20	Diaphragm Load Cell (Compression)
LCM4814-ATEX_SHT4	1 of 1	Initial	10 Jan 20	Ex Label (Intrinsic safety)
4814-ATEX_SHT5	1 of 1	A	28 Jan 20	Cable Exits (connectors)

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