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CONFORMITÉ EUROPÉENNE

EU - TYPE EXAMINATION CERTIFICATE

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Product or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU – Annex III

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EU - Type Examination Certificate No.: **TRAC14ATEX0023X (incorporating variation V1)**

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Product: **42xx Series Strain Gauge Enclosures,
4255, 4256 & 4257**

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Manufacturer: **LCM Systems Limited,**

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

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

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Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report **TRA-023079-33-00A**.

9

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012

EN 60079-7:2007

EN 60079-31:2009

Except in respect of those requirements listed at section 18 of the schedule.

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
If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

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This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

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The marking of this product shall include the following:

 **II 2 G Ex d IIC T6 Gb**

II 2 D Ex tb IIIC T85°C Db IP6x Tamb -20 °C to +55 °C

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.

S.P. Winsor

S P Winsor, Certification Manager

Issue date: 2020-11-20

Page 1 of 7

CSF355-NL 5.0

13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

14 CERTIFICATE NUMBER TRAC14ATEX0023X (incorporating variation V1)

15 Description of Product

The 42xx series is a range of flameproof EPL Gb and dust ignition protected EPL Db strain gauge load measuring device enclosures which are constructed from either 304 or 316 stainless steel or stronger material dependent upon the application and utilise, cylindrical, threaded and welded flameproof joints. The range comprises of 4255 Load Measuring Pin, 4256 Link Load Cell and 4257 CPA Compression Load Cell.

All enclosures are supplied either with a suitably ATEX certified bulkhead connector or a cable and cable entry device already fitted.

Electrical Rating 0-27Vdc.

4255 Load Measuring Pin

The load pin is cylindrical in construction and varies in both internal and external dimensions dependent upon the application but has an internal volume ranging between 5 and 500cm³. Fitted at the load measuring end of the enclosure is either a M16, M22, M30 or M50 threaded end cap. At the opposite end is an electronics enclosure in which the signal conditioning board and connections are mounted. This end is fitted either with an M16, M22, M30 or M50 threaded end cap or alternatively a 16mm or 30mm non-threaded end cap which forms a cylindrical joint with the enclosure. The non-threaded end cap is secured by four M3 x 10 cap head screws. The electronics end cap is tapped with either an M12, M16, M20 or M25 thread to allow the fitment of a cable gland or approved flameproof bulkhead connector.

4256 Link Load Cell

The link load cell is a three part construction and varies in both internal and external dimensions dependent upon the application but has an internal volume ranging between 40 and 500cm³. The three main parts are, the amplifier cap, the load cell element and the plug cap. The amplifier cap and plug cap form a cylindrical flamepath with the load cell element and secured together with M6 pan head screws fitted within the enclosure.

The end of the plug cap is fitted with an M50 threaded end cap which allows access to the M6 pan head screws. At the amplifier cap end, in which the signal conditioning board and connections are mounted, is fitted either with an M16, M22, M30 or M50 threaded end cap or alternatively a 16mm or 30mm non-threaded end cap which forms a cylindrical joint with the enclosure. The non-threaded end cap is secured by four M3 x 10 cap head screws. The amplifier end cap is tapped with either an M12, M16, M20 or M25 thread to allow the fitment of a cable gland or approved flameproof bulkhead connector.

4257 CPA Compression Load Cell

The CPA compression load cell consists of three main parts, the first of which is the load cell element which fits inside a cylindrical cover which is closed at both ends with a welded joint. Fitted on the side of the cover is the amplifier boss which is again cylindrical in construction. The amplifier boss can house the signal conditioning board and connections mounted within it and has a threaded end cap which has either an M16, M22, M30 or M50 thread. The side wall of the amplifier boss is threaded to allow the fitting of a cable gland or approved flameproof bulkhead connector.

A list of controlled Manufacturer's Documents is given in Appendix A to this schedule

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

CERTIFICATE NUMBER TRAC14ATEX0023X (incorporating variation V1)

16 Test Report No. (as added for this issue of the certificate): None.

17 Specific Conditions of Use

1. The M3 fasteners used to secure the end caps shall be high tensile stainless steel fasteners with a minimum grade of A2-70 or A4-70
2. The M6 fasteners used internally to secure the link load cell shall be stainless steel grade A2 or A4.
3. No modifications shall be made to the flamepaths of the equipment without consultation with the manufacturer.



Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

18 Essential Health and Safety Requirements (Directive Annex II)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

19 Drawings and Documents

The list of controlled technical documentation is given in Appendix A to this schedule.

20 Routine Tests

1. Each CPA Compression load cell to be subjected to a routine over pressure test of at least 13.98 Bar.

21 Specific Conditions for Manufacture

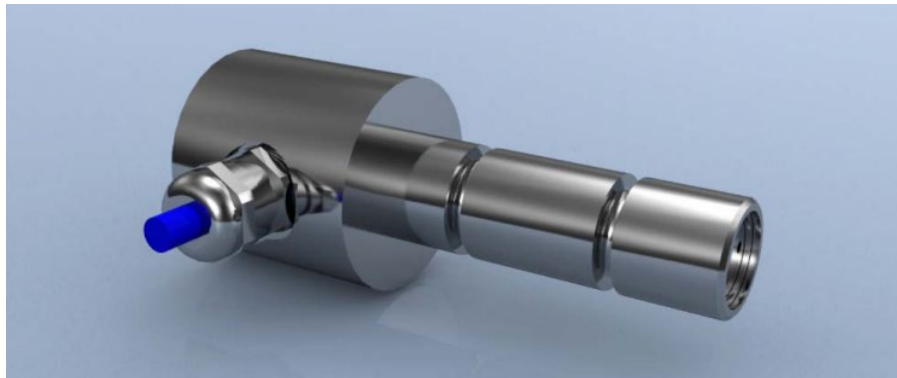
1. All equipment must be supplied either with suitable ATEX certified bulkhead connectors or cables and cable entry devices fitted.

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

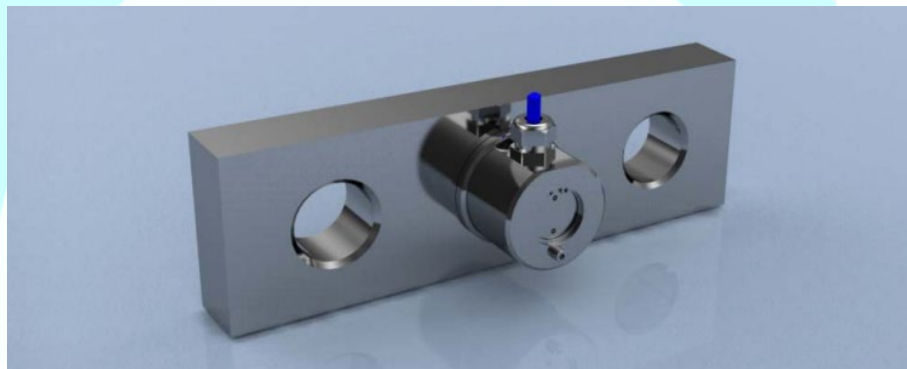
CERTIFICATE NUMBER TRAC14ATEX0023X (incorporating variation V1)

22 Photographs

4255 Load Measuring Pin



4256 Link Load Cell



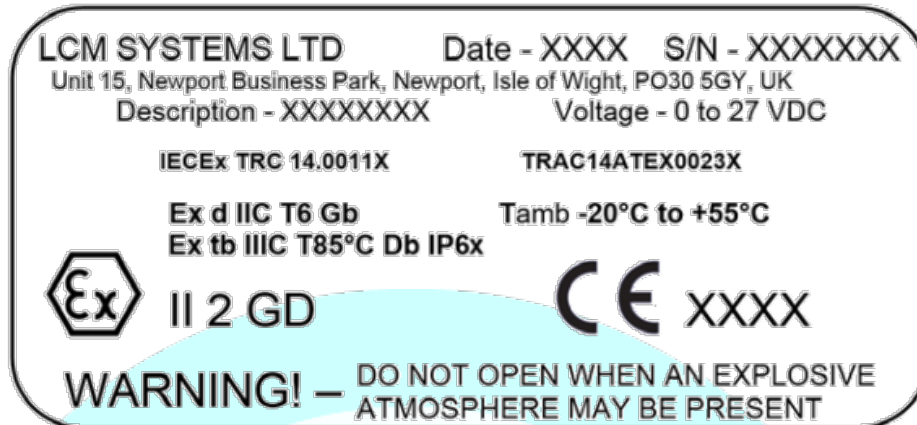
4257 CPA Compression Load Cell



SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

CERTIFICATE NUMBER TRAC14ATEX0023X (incorporating variation V1)

23 Details of Markings



NOTE – Description completed with one of the following types and drawing numbers

LOAD CELL TYPE	Drawing No.
LOAD PIN	4255
LINK LOAD CELL	4256
CPA LOAD CELL	4257

24 Certificate History

Original certificate	2014-10-03	First issue. This certificate was originally issued by Notified Body number 0891 under Directive 2014/34/EU. The technical file has been transferred to Element Notified Body number 2812 without further assessment or evaluation.
Variation V1	2020-11-20	

25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

26 Notes to this certificate

Element Materials Technology certification reference: ERO041508P27 (NR-LCMQ-0001).

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

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. Variation certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

CERTIFICATE NUMBER TRAC14ATEX0023X (incorporating variation V1)

27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

- (i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.
- (ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).



SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE**CERTIFICATE NUMBER TRAC14ATEX0023X (incorporating variation V1)****APPENDIX A - TECHNICAL DOCUMENTS**

Title:	Drawing No.:	Rev. Level:	Date:
LOAD PIN	LCM4255_SHT 1 of 2	A	2014-08-01
LOAD PIN	LCM4255_SHT 2 of 2	A	2014-08-01
Link Load Cell	LCM4256_SHT 1 of 2	A	2014-08-01
Link Load Cell	LCM4256_SHT 2 of 2	A	2014-08-01
CPA Load Cell	LCM4257	A	2014-08-01
M50 END CAP	4255/1	A	2014-08-01
M30 END CAP	4255/2	A	2014-08-01
M22 END CAP	4255/3	A	2014-08-01
M16 END CAP	4255/4	A	2014-08-01
16mm End Cap	4255/5	A	2014-08-01
30mm End Cap	4255/6	A	2014-08-01
30mm End Cap	4255/7	A	2014-08-01
30mm End Cap	4255/8	A	2014-08-01
ATEX & IECEx Label	4255/9	A	2014-07-30
Link Plug Cap Ø45	4256/1	A	2014-08-01
Link Amp Cap Ø45	4256/2	A	2014-08-01
Link Amp Cap Ø45	4256/3	A	2014-08-01
Link Plug Cap Ø57	4256/4	A	2014-08-01
Link Amp Cap Ø57	4256/5	A	2014-08-01
Link Amp Cap Ø57	4256/6	A	2014-08-01
CPA Amp Cap	4257/1	A	2014-08-01
Instruction Manual (5 sheets)	QMS REC 6	01	2014-07-24