# EU Type Examination Certificate CML 24ATEX2221X Issue 0

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

2 Equipment **Load Cells type LCM593x**

3 Manufacturer **LCM Systems Ltd.**

4 Address **Unit 15, Newport Business Park**
**Barry way, Newport**
**Isle of Wight**
**PO30 PGY**
**United Kingdom**

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Eurofins CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, 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 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 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-11:2012

10 The equipment shall be marked with the following:


II 1 G D

Ex ia IIC T4 Ga

Ex ia IIIC T135°C Da

Ta= -20°C to +70°C

## 11 Description

The Load Cells type LCM593x are a range of load cells comprising one or two resistive strain gauges in Wheatstone Bridge arrangements, mounted on stainless-steel load pins, with either an integral cable, or a bulkhead connector. The cells may contain either one or two bridge circuits.

The following models are available:

| Model number | Type | Number of circuits |
|---|---|---|
| LCM5933 | Load pin | 1 or 2 |
| LCM5934 | Column load cell | 1 or 2 |
| LCM5935 | Load link | 1 or 2 |
| LCM5936 | Diaphragm load cell | 1 or 2 |

Intrinsic safety is achieved by limiting energy storage and discharge, and by connecting to the non-hazardous area via intrinsically safe interface devices. The equipment has the following input parameters:

| Single circuit versions | Dual circuit version (per circuit) |
|---|---|
| Ui = 10V | Ui = 10V |
| Ii = 100mA | Ii = 100mA |
| Pi = 0.65W | Pi = 0.32W |
| Ci = NOTE 1 | Ci = NOTE 1 |
| Li = NOTE 1 | Li = NOTE 1 |

NOTE 1 – the equipment itself has no internal capacitance nor inductance. Where the equipment is supplied with an integral cable, the cable parameters are:

$C_c$ = 0.25nF/m

$L_c$ = 0.68µH/m

## 12 Certificate history and evaluation reports

| Issue | Date | Associated report | Notes |
|---|---|---|---|
| 0 | 29 Apr 2025 | R17943A/00 | Issue of prime certificate |

Note: Drawings that describe the equipment or component are listed in the Annex.

## 13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

i. The equipment shall be capable of withstanding an electric strength test using a test voltage of 500 Vac applied between the circuit and earth for 60 s. Alternatively, a voltage of 20% higher may be applied for 1 s. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.

## 14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

i. The user shall ensure that all barriers connected to the equipment are connected to a common 0V and that the sum of the current and power of the barriers connected to each individual bridge circuit, shall not exceed the stated permitted input parameters.

ii. The equipment may be provided with an integral cable. The user shall take into account the capacitance and inductance of the cable.

iii. When installed in hazardous dust environments, under certain extreme circumstances, the non-metallic label of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.

# Certificate Annex

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|---|---|
| **Certificate Number** | **CML 24ATEX2221X** |
| **Equipment** | **Load Cells type LCM593x** |
| **Manufacturer** | **LCM Systems Ltd.** |

The following documents describe the equipment or component defined in this certificate:

**Issue 0**

| Drawing No | Sheets | Rev | Approved date | Title |
|---|---|---|---|---|
| LCM5933-ATEX | 1 of 3 | A | 29 Apr 2025 | Ex Load Pin |
| LCM5933-ATEX | 2 of 3 | A | 29 Apr 2025 | Ex Load Pin |
| LCM5933-ATEX | 3 of 3 | A | 29 Apr 2025 | Ex label (Intrinsic safety ia) |
| LCM5934-ATEX | 1 of 2 | A | 29 Apr 2025 | Ex Column Load Cell |
| LCM5934-ATEX | 2 of 2 | A | 29 Apr 2025 | Ex Column Load Cell |
| LCM5935-ATEX | 1 of 2 | A | 29 Apr 2025 | Ex Load Link |
| LCM5935-ATEX | 2 of 2 | A | 29 Apr 2025 | Ex Load Link |
| LCM5936-ATEX | 1 of 2 | A | 29 Apr 2025 | Ex Diaphragm Load Cell |
| LCM5936-ATEX | 2 of 2 | A | 29 Apr 2025 | Ex Diaphragm Load Cell |