

# Operator Instructions for Wireless ATEX/IECEX Intrinsically Safe (Ex i) Load Pins



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## 1. OPERATING INSTRUCTIONS

### 1.1 Introduction

This manual refers to the LCM Systems range of ATEX and IECEx certificated intrinsically safe (Ex i) wireless load pins and load shackle pins. This and any reference documents should be read and understood before installing or operating any LCM systems ATEX/IECEx wireless load pin. All LCM Systems ATEX/IECEx wireless load pins will be accompanied by a general arrangement drawing or datasheet, calibration certificate, declaration of conformity and a copy of LCM Systems ATEX/IECEx certificates.

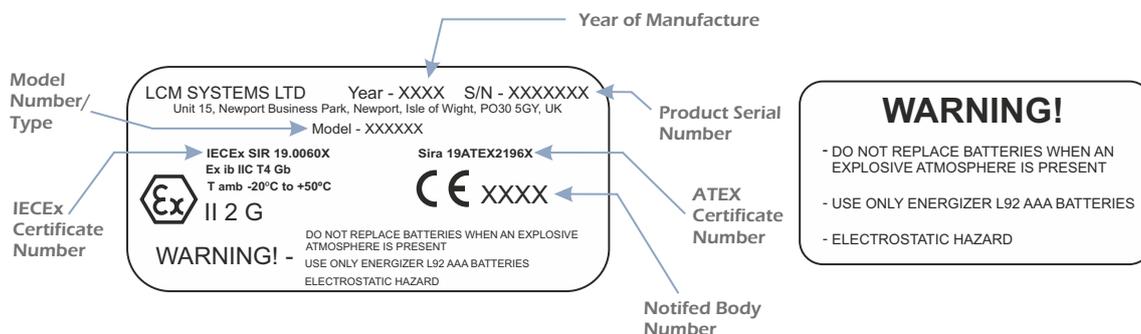
All Ex i load pins are designed and manufactured in accordance with Directive 2014/34/EU and the following standards: IEC 60079-0 and IEC 60079-11.

Our range of wireless products have been designed for hazardous area wireless communication between an Ex i wireless load pin and AHD-1-ATEX wireless handheld display. The Ex i wireless range of load pins can also be combined to communicate with safe area wireless systems via the standard (non hazardous area) T24 range of products. All standard T24 products can only be used in a safe area.

The Ex wireless products operate on the licence free 2.4 GHz band and are approved for FCC, IC and European use. The flexible transmission rates and low power usage allows for long battery life for remote modules. Free toolkit software provides simplified configuration of modules and other free software provides logging and visualisation functionality for Windows based devices.

### 1.2 Markings and labels

Each load pin/load shackle pin will have the serial number and the safe working load (SWL) engraved on it. Where applicable a load direction arrow and customer specific markings may also be engraved. ATEX/IECEx labels and additional warning labels are attached to the telemetry enclosure. See below for label details.



**Year:** Year the product is manufactured

**Product Serial Number:** Individual serial number allocated to each product

**Model/Type Number:** Load pin (all LCM System wireless load pin designs are done in accordance with certification drawing LCM4814-ATEX\_SHT3. LCM Systems allocate an individual model number for each new design i.e. LCMXXXX-ATEX (where X=0 to 9), example LCM5201-ATEX)

**Certificate Numbers:** IECEx SIR 19.0060X and Sira 19ATEX2196X

**Markings:**  
 II 2G  
 Ex ib IIC T4 Gb  
 T amb -20°C to +50°C

**Warnings:**  
 DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT  
 USE ONLY ENERGIZER L92 AAA BATTERIES  
 ELECTROSTATIC HAZARD



**Supplier:**

LCM Systems Ltd  
 Unit 15, Newport Business Park,  
 Barry Way, Newport  
 Isle of Wight PO30 5GY  
 United Kingdom

**Service:** (REPAIR, SUPPORT)

LCM Systems Ltd  
 Tel: +44(0)1983 249264  
 Fax: +44(0)1983 249266  
 e-mail: [sales@lcm systems.com](mailto:sales@lcm systems.com)

**1.3 Checks prior to installation**

To ensure safe and problem free installation of the load pin or load shackle, they must be properly transported/stored and must be installed and placed into operation by a competent person who is certified to install hazardous area products.

**Unpacking**

Before removing the load pin inspect the packaging for signs of damage and immediately inform the supplier if any damage is found. Unpack the load pin/load shackle carefully, taking care with larger load pins and load shackles not to damage the telemetry enclosure, and being alert to the possibility of damaging low range devices by mishandling. Please ensure that calibration and instruction data is not inadvertently discarded with packing material.

- ⦿ Inspect the wireless housing for signs of damage including any marks which may obscure the information on the labels.
- ⦿ Check the ambient temperature of the environment the load cell will be operating in does not exceed the certified -20°C to + 50°C range.
- ⦿ Check that the load pin is suitable for the environment with regards to IP rating (ingress protection) and corrosion resistance (high chloride environments).
- ⦿ Verify that the load pin certificate is in accordance with the hazardous area assessment as to EN60079-10-1 (current issue).
- ⦿ Check that the two Energizer L92 AAA batteries are correctly installed and that the two yellow clips on the wireless housing are closed and the battery cover is secure (batteries and battery holder has clearly marked (+) positive and (-) negative ends).
- ⦿ Check that the white silicone o-ring that forms the seal between the wireless housing and the battery is present and free of any foreign materials.



### 1.4 Installation & operation

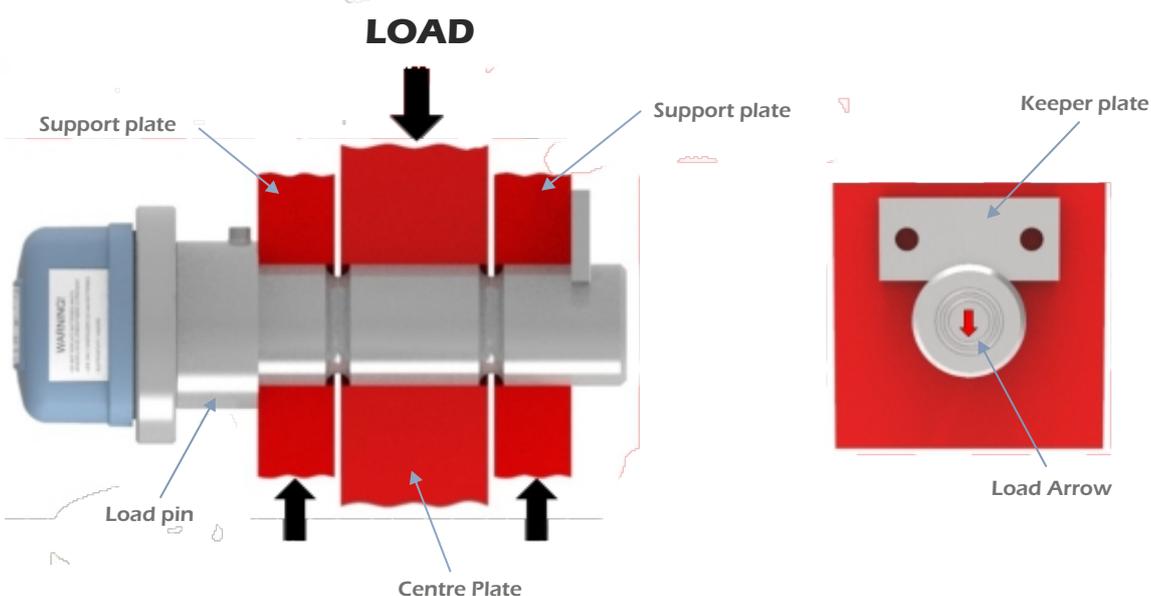
When installing a load pin various factors need to be considered which can influence the performance or accuracy of the load pin. The fit of the pin within a structure is important to the overall performance of the load pin. For an optimal performance, a H7, g6 clearance would normally be recommended, however this is not always achievable in the field and some slight loss of repeatability and linearity can normally be tolerated to achieve an "easy to fit" requirement. It is also important to understand that the telemetry unit needs a clear line of sight to the receiver to operate at its maximum range. The installer should also first read the T24 Telemetry User Manual which can be found at the following web address: <http://www.lcmsystems.com/T24>.

If installing a load shackle, because these are normally classified as portable devices, correct installation and use is critical to ensure product accuracy and safety. All load shackles are supplied with the express understanding that the user is thoroughly familiar with best practices for lifting using these devices. See overleaf for some general guidelines. Always refer to the shackle manufacturers instructions for safe use.

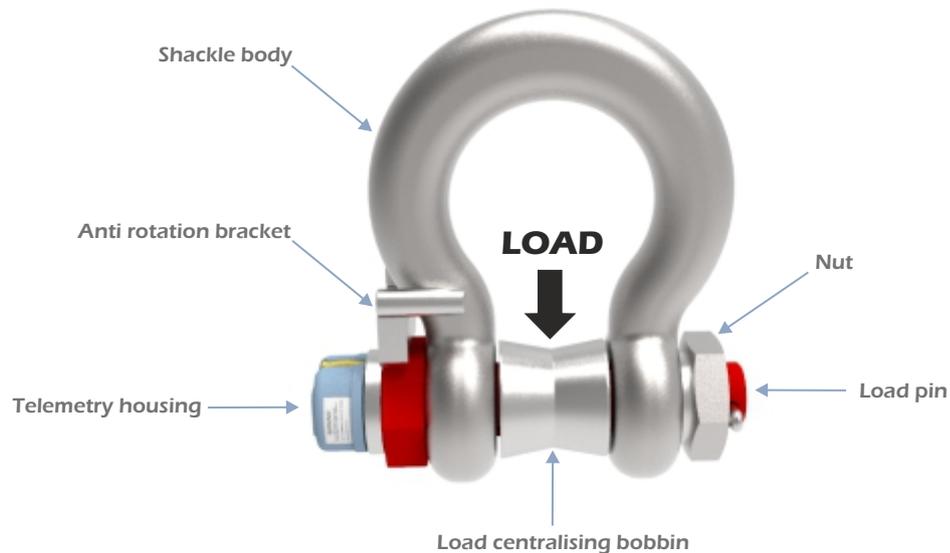
Please note that all load pin and load shackle installations in hazardous areas must be in accordance with the installation standard EN60079-14.

To avoid loss of accuracy during installation the following points should be followed:

- ⦿ Ensure the load direction arrow engraved on the load pin is aligned with the direction of load acting on the centre portion of the pin. See the below diagram for details. For shackle load pins the load can only be applied in one direction. See overleaf and section 1.7 for further details.
- ⦿ Ensure the pin is held captive to prevent movement in use by using a keeper plate/locking system.
- ⦿ A load measuring pin needs to be securely locked into position in order to fix its orientation with respect to its associated assembly. This needs to be fixed in both the axial and rotation modes to ensure that accurate and repeatable results are obtained from the system. See section 2.1 for examples of how a load pin can be secured in position.
- ⦿ To maintain the specified transmitter range, a clear line of sight between the transmitter and receiver is needed, and objects or structures should be kept a least one metre away from antennae (housed in the wireless enclosure) wherever possible.
- ⦿ Ensure that both the support plates/shackle body and the centre plate (or sheave/bobbin) do not bridge the grooves on the load pin. See below for an example of correct positioning. For load shackles, ensure the pin is retained in the shackle body as shown on the products general arrangement (GA) drawing.

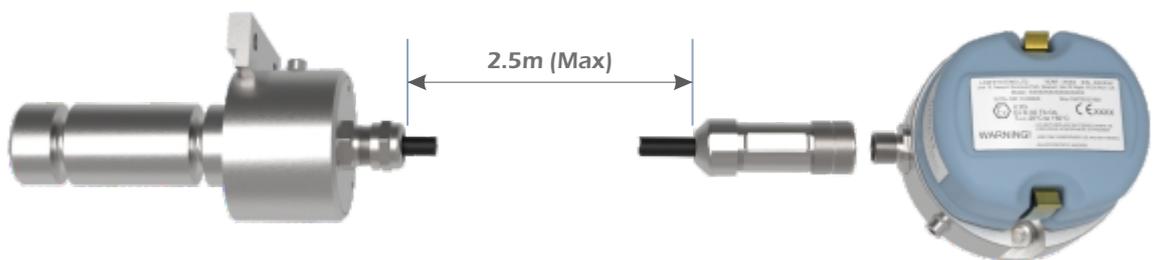


- ⦿ Ensure that the support plates are not misaligned as this will induce bending moments on the load pin which will adversely affect performance.
- ⦿ For shackle load pins, make sure that the shackle is supporting the load correctly (along the axis of the shackle body centerline). Avoid bending loads, unstable loads and do not apply overloads. Stop eccentric loading of the shackle by either using loose spacers or a load centralising bobbin.
- ⦿ Ensure that the shackle pin does not experience torque or bending forces during operation.



## 1.5 Separately mounted wireless enclosure

Where the physical dimension of a load pin are too small to accommodate the wireless enclosure, or where the location of the load cell means a clear line of sight to the receiver is not possible, then a separately mounted Ex wireless enclosure can be used. The attached load pin must be intrinsically safe certified and comply with the requirements on the Ex wireless enclosure certification drawing LCM4818-ATEX\_SHT1. The maximum permissible cable length between the load pin and the Ex wireless enclosure is 2.5 metres. Checks to the cable gland or connector supplied with the wireless enclosure should be performed in accordance with the operator instructions for cabled ATEX/IECEx intrinsically safe load pins.

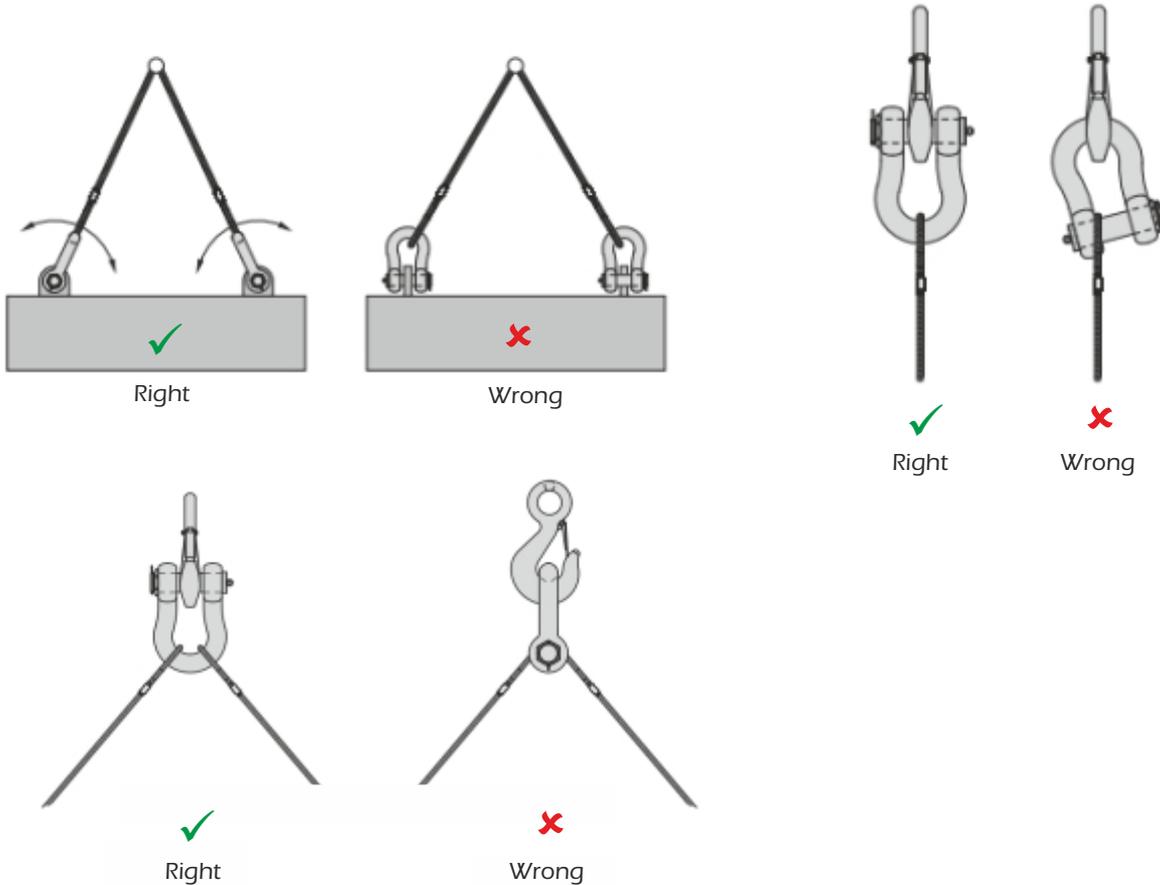


## 1.6 Telemetry unit set up and communication

The ATEX wireless product range uses high performance two-way radio communication. Each load pin fitted with the wireless module requires either an AHD-1-ATEX handheld display for hazardous area use or a base station and PC to communicate with (base station and PC must be located in the safe area). See the AHD-1-ATEX user manual and the T24 user manual for further details on LCM wireless products.

- ⦿ [www.lcm systems.com/T24](http://www.lcm systems.com/T24)
- ⦿ [www.lcm systems.com/AHD-1-ATEX](http://www.lcm systems.com/AHD-1-ATEX)

### 1.7 Correct load shackle installation



**Note:**

The forged and hand-made nature of shackles invariably means there are inconsistencies in the finished manufacture (large forgings may have a dimensional tolerance of +/-5%). This can have an effect on the performance/accuracy of the shackle load pin, for example, if the shackle pin is inserted into the opposite side of the shackle to which it was calibrated, or if a different shackle is used.

### 1.8 Checks after installation

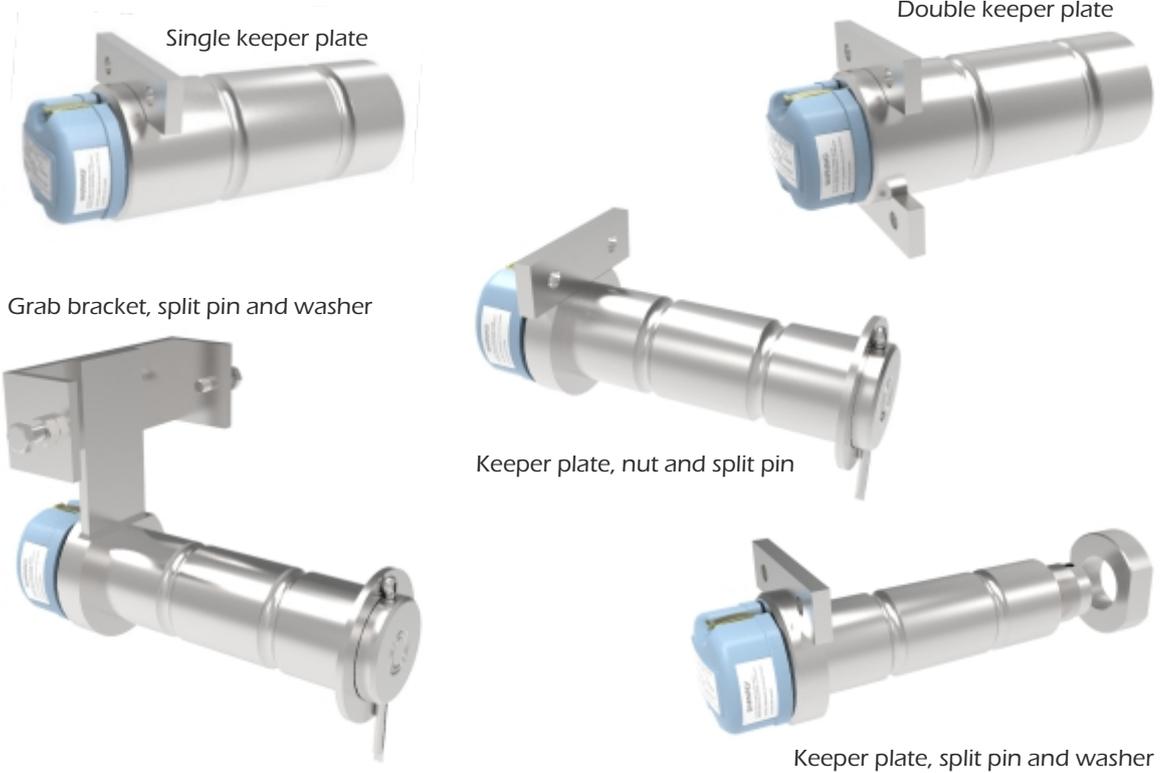
- ⦿ With the load pin/load shackle installed, check the pin output is not negative, as this may indicate the pin is incorrectly mounted or subject to miss-alignment forces. Refer back to sections 1.4 and 1.7 for details on correct positioning. Use the calibration certificate for reference of correct output at certain loads.
- ⦿ When applying load to the pin the output should increase. If this is not the case then check the following:
  - a. The grooves are not being bridged by either the support plates or the loading plate, sheave, etc.
  - b. The pin is fitted as calibrated.
  - c. The load arrow shown on the pin is aligned in the direction of the load acting on the center of the pin, or if a load shackle, that it is correctly loaded along the axis of the shackle body centerline.



## 2. LOAD PIN ANTI ROTATION

### 2.1 Load pin locking system configurations

Each load pin is supplied with a locking and anti-rotation system which secures the position and orientation of the load pin in relation to load being applied. This is critical to its correct operation. Locking and anti-rotation examples can be seen below.

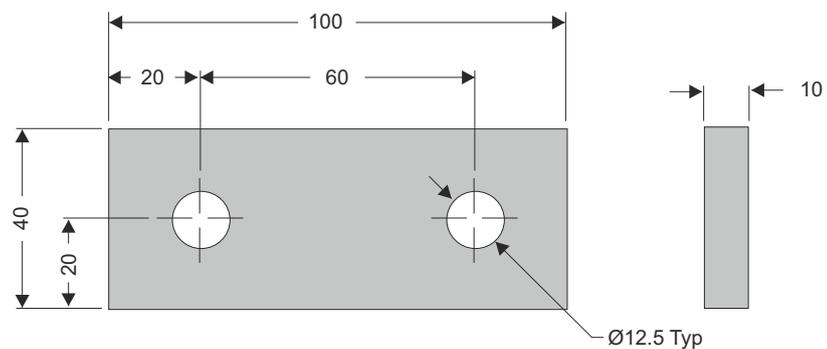


### 2.2 Installing a locking and anti rotation system

There are numerous variations of locking and anti-rotation methods for a load pin. The examples shown above are the most common methods and show that locking and anti-rotation can be achieved using dual systems (anti-rotation plate, split pin and washer etc.).

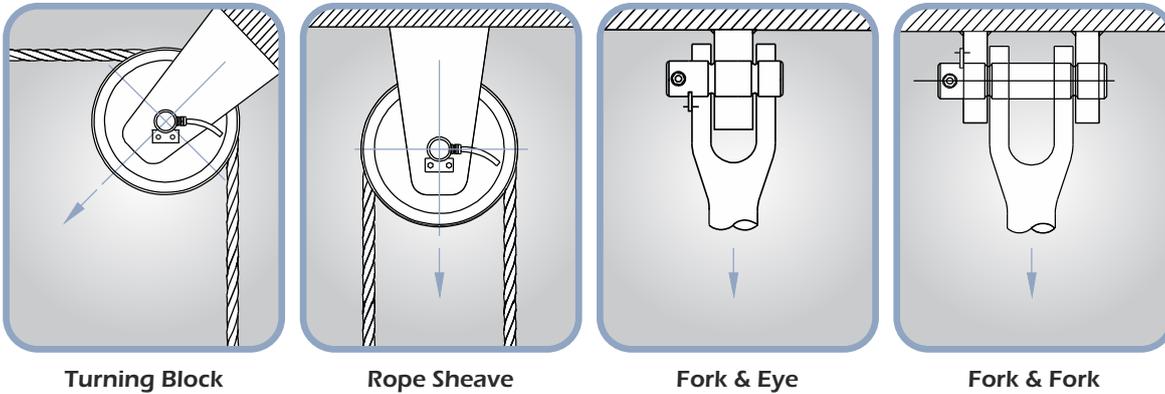
The example shown below shows a common anti-rotation/locking plate system (also known as a keeper plate). To correctly install a keeper plate appropriately sized retaining bolts should be fitted through the holes provided and screwed into tapped holes in the mating assembly.

In this example the holes have been drilled to accommodate M12 bolts. The use of the correct size bolts is critical to ensuring the correct orientation of the load pin.



**Please Note:** When a load pin is supplied with a threaded end and retaining nut, the nut should only be finger tight. Overtightening of retaining nuts will impact on the functionality of the load pin. Retaining nuts should be secured in position using either a split pin, locking washer, lock nut or circlip.

### 2.3 Typical load pin locations



## 3. ONGOING MAINTENANCE AND CARE

### 3.1 Warnings/Hazards

Load pins are highly stressed devices and commonly have safety factors between three and five times the rated capacity under static conditions. Fatigue applications and environmental factors can contribute to reducing this margin.

The user should determine media effects on the exposed load pin materials. Where a corrosive environment is present, load pins can often be manufactured from corrosion resistant materials or alternatively, isolation barriers can be employed between the corrosive environment and the load pin. The following points should be followed to avoid potentially hazardous situations:

- ⦿ During installation and maintenance appropriate PPE must be used to avoid the potential of a spark caused by electrostatic discharge.
- ⦿ Load pins are sealed units which should not be dismantled. Removing any parts except for when changing the batteries would affect the sealing of the load pin and therefore invalidate the hazardous area certification.
- ⦿ The accuracy of the system is dependent upon correct installation of the load pin.
- ⦿ Large load pins incorporate special lifting accessories. These should only be used in compliance with the manufacturers instructions.
- ⦿ Load pins must not be subjected to shock loads, such as using a hammer to force the load pin into position.
- ⦿ The load pin should never be placed in a potential explosive environment that the product is not suitably certified for (ATEX and IECEx only).
- ⦿ Fixing methods – keeper plates, split pins, washer and nuts must always be correctly installed.
- ⦿ Load pin material and any applied treatments (heat treatments etc.) should be verified as suitable for the environment before the load pin is installed. Some heat treatments which LCM use are not suitable for marine environments/high chloride (for example, 17-4PH heat treated to H900).
- ⦿ Avoid use within 20 to 30 minutes of rapid changes in temperature, for example moving the device from a cold vehicle to a warm room. The change in temperature can affect the accuracy of the device. The operating temperature is -10 to +50°C or 14 to 122°F.



### 3.2 Calibration

All LCM Systems load pins are calibrated in UKAS traceable test machines to best simulate normal loading conditions. When a load pin is supplied as the sensing element of a shackle, then that load pin will be calibrated in tension where possible.

LCM Systems endeavour to match the loading conditions that would be experienced in service, but it is not possible to totally simulate the on-site structure for every load pin manufactured. It is for this reason that for optimum system accuracy, a calibration in the final assembly is recommended. On-site calibration should be performed in accordance with the manual for the instrument the load pin is connected to.

**Note:**

As all load pins are subject to deterioration due to use, mistreatment, drift or ageing, calibration at regular intervals should be carried out to establish how the load cell is currently performing. Load pins can also become less reliable due to electrical influence, mechanical effects and instrumentation faults. Unless calibrations are routinely carried out, load measurement readings can become less accurate, with the user potentially being unaware that they are using compromised data.

Annual calibration is recommended as the standard interval to ensure that measurements are always as accurate as possible, which is particularly important if being used for safety critical applications. However, more frequently than one year may be advisable if the load pin is being used in a particularly harsh environment or arduous operational conditions (high vibration levels, excessive cyclic loading).

### 3.3 Inspection and repair

**Repair:** This equipment is certified for use in hazardous locations, therefore no modifications are allowed. Repairs must only be performed by LCM Systems personnel.

**Inspection:** All LCM System load pins should be subject to periodic inspection which should include, but is not exclusive to, the follow checks.

- ⦿ Perform a complete run through of the installation and operation section of this manual, sections 1.3 to 1.5.
- ⦿ Check output at zero load (check for a shift in zero offset. Verify against the calibration certificate).
- ⦿ Check that the labels are still firmly attached and the information is still readable.
- ⦿ Check for excessive wear on the load pins which could compromise performance or the IP rating.
- ⦿ Inspect the telemetry batteries to ensure they are the correct type and have been installed correctly. The battery holder shows pictorially the correct orientation.
- ⦿ Check for any signs of water ingress in the battery compartment and for any signs of battery corrosion.

### 3.4 Storage

When not in use load pins should be stored undercover in a dry environment (max humidity 95% non-condensing) at storage temperature of -20°C to +70°C.

## 4. DRAWINGS AND SPECIFICATIONS

Load measuring pins are designed for many diverse applications and as direct replacements for clevis or pivot pins already in service. Similarly, load measuring shackles can also be substituted for standard shackles already in use. For this reason accuracy can vary from application to application, and so the non-linearity and non-repeatability figures shown on our data sheets and GA drawings are expected values only. For actual figures refer to the calibration certificate.

#### 4.1 Load pin datasheets/GA drawings

All hazardous area wireless load pins are supplied to the specifications shown on the LPW, TELSHACK-B, TELSHACK-B-HL & TELSHACK-D datasheets. Alternatively, a general arrangement drawing is supplied to show the specification of non-standard customer designs.

#### 4.2 Typical load pin/shackle pin specification

Proof load	150% of rated load
Ultimate breaking load	300% of rated load
Non-linearity	<±1% of rated load (typically)
Non-repeatability	<±0.1% of rated load
Transmission distance	Up to 600 metres (clear line of sight)
Battery life	>300 hours typically (continuous use with 1.2Ah batteries)
Battery (standard) (ATEX)	2 x AAA Alkaline (supplied with 1.2Ah batteries) AAA L92 Lithium x 2 (supplied with 1.2Ah batteries)
Operating temperature range	-20 to +50°C
ATEX certification details	II 2G Ex ib IIC T4 Gb
Environmental protection level	IP67
Telemetry housing	Polyamide resin

**IF IN DOUBT ABOUT ANY ASPECT OF THE SELECTION,  
INSTALLATION OR USE OF AN INTRINSICALLY SAFE  
WIRELESS LOAD PIN, CONTACT LCM SYSTEMS FOR  
ADVICE BEFORE INSTALLING**



5. NOTICES

5.1 ATEX Certificates



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 19ATEX2196X** Issue: **0**

4 Equipment: **LCM4092 Wireless Telemetry Unit**

5 Applicant: **LCM Systems Ltd.**

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

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 2G  
Ex ib IIC T4 Gb  
Ta = -20°C to +50°C

Project Number 80005303

Signed: J A May

Title: Director of Operations

This certificate and its schedules may only be reproduced in its entirety and without change

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



## SCHEDULE

### EU-TYPE EXAMINATION CERTIFICATE

Sira 19ATEX2196X  
Issue 0

#### 13 DESCRIPTION OF EQUIPMENT

The LCM4092 Wireless Telemetry Unit is used in fixed installations for the wireless transmission of data from strain gauges. The equipment enclosure is comprised of an epoxy coated non-metallic enclosure, which is either connected directly to a load cell or via a metallic mounting disc or link cap. Within the enclosure is an Ex component certified telemetry transmitter module (Sira 15ATEX2334U). The module is powered by two series connected Ex ia certified AAA size cells (Baseefa 14ATEX0107U). Strain gauge connection is to a screw terminal block in the component certified module.

The use of the metallic mounting disc or link cap is dependent on the size and type of load cell. An alternative base plate may also be used for remote installation of the Telemetry Unit, with wired connection to the load cell strain gauges.

Output parameters at the strain gauge connections.

$U_o = 5.5V$        $I_o = 2.25A$        $P_o = 1.25W$        $C_o = 15\mu F$        $L_o = 1.38\mu H$

#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annex.

##### 14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	27 January 2020	R80005303A	The release of the prime certificate.

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

15.1 Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of the LCM4092 Wireless Telemetry Unit 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. In addition, the equipment shall only be cleaned with a damp cloth.

15.2 The batteries in the LCM4092 Wireless Telemetry Unit must not be changed when an explosive atmosphere is present.

15.3 Only Energizer L92 AAA size batteries are permitted for use in the LCM4092 Wireless Telemetry Unit.

#### 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.

This certificate and its schedules may only be reproduced in its entirety and without change by **CSA Group Netherlands B.V.**  
Utrechtseweg 310, Building B42,  
6812AR, Netherlands



## Certificate Annexe



**Certificate Number:** Sira 19ATEX2196X  
**Equipment:** LCM4092 Wireless Telemetry Unit  
**Applicant:** LCM Systems Ltd.

### Issue 0

Drawing	Sheets	Rev.	Date (Stamp Date)	Title
LCM4092-ATEX_SHT1	1 of 2	-Initial	10 Jan 20	General assembly
LCM4092-ATEX_SHT2	2 of 2	-Initial	10 Jan 20	Marking, IECEx/ATEX
LCM4814-ATEX_SHT3	1 of 1	-Initial	10 Jan 20	ATEX Telemetry load Pin versions A & B
LCM4815-ATEX_SHT3	1 of 1	-Initial	10 Jan 20	ATEX Telemetry load Link
LCM4816-ATEX_SHT2	1 of 1	-Initial	10 Jan 20	Column Load Cell
LCM4818-ATEX	1 of 1	-Initial	10 Jan 20	ATEX Telemetry Enclosure
LCM4814-ATEX_SHT4	1 of 1	-Initial	10 Jan 20	Ex Label (Intrinsic safety)

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 Utrechtseweg 310, Building B42,  
 6812AR, Netherlands

5.2 IECEx Certificate

		<h2 style="margin: 0;">IECEX Certificate of Conformity</h2>	
<p><b>INTERNATIONAL ELECTROTECHNICAL COMMISSION</b>  <b>IEC Certification System for Explosive Atmospheres</b>  <small>for rules and details of the IECEx Scheme visit <a href="http://www.iecex.com">www.iecex.com</a></small></p>			
Certificate No.:	<b>IECEX SIR 19.0060X</b>	Page 1 of 4	<a href="#">Certificate history:</a>
Status:	<b>Current</b>	Issue No: 0	
Date of Issue:	2020-01-27		
Applicant:	<b>LCM Systems Ltd</b> Unit 15, Newport Business park Barry way, Newport Isle of Wight PO30 5G United Kingdom		
Equipment:	<b>LCM4092 Wireless Telemetry Unit</b>		
Optional accessory:			
Type of Protection:	<b>Intrinsically Safe</b>		
Marking:	Ex ib IIC T4 Gb Ta = -20°C to +50°C		
Approved for issue on behalf of the IECEx Certification Body:	<b>Neil Jones</b>		
Position:	<b>Certification Manager</b>		
Signature: (for printed version)	_____		
Date:	_____		
1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting <a href="http://www.iecex.com">www.iecex.com</a> or use of this QR Code.			
Certificate issued by: <b>SIRA Certification Service</b> <b>CSA Group</b> Unit 6, Hawarden Industrial Park Hawarden, Deeside, CH5 3US United Kingdom			





## IECEX Certificate of Conformity

Certificate No.: IECEx SIR 19.0060X

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Date of issue: 2020-01-27

Issue No: 0

Manufacturer: LCM Systems Ltd  
Unit 15, Newport Business park  
Barry way, Newport  
Isle of Wight  
PO30 5G  
United Kingdom

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"  
Edition:6.0

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[GB/SIR/EXTR20.0013/00](#)

Quality Assessment Report:

[GB/SIR/QAR15.0012/04](#)



## IECEX Certificate of Conformity

Certificate No.: **IECEX SIR 19.0060X**

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Date of issue: 2020-01-27

Issue No: 0

### EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The LCM4092 Wireless Telemetry Unit is used in fixed installations for the wireless transmission of data from strain gauges. The equipment enclosure is comprised of an epoxy coated non-metallic enclosure, which is either connected directly to a load cell or via a metallic mounting disc or link cap. Within the enclosure is an Ex component certified telemetry transmitter module (Sira 15ATEX2334U). The module is powered by two series connected Ex ia certified AAA size cells (Baseefa 14ATEX0107U). Strain gauge connection is to a screw terminal block in the component certified module.

The use of the metallic mounting disc or link cap is dependent on the size and type of load cell. An alternative base plate may also be used for remote installation of the Telemetry Unit, with wired connection to the load cell strain gauges.

Output parameters at the strain gauge connections.

Uo = 5.5V  
Io = 2.25A  
Po = 1.25W  
Co = 15μF  
Lo = 1.38μH

### SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of the LCM4092 Wireless Telemetry Unit 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. In addition, the equipment shall only be cleaned with a damp cloth.
2. The batteries in the LCM4092 Wireless Telemetry Unit must not be changed when an explosive atmosphere is present.
3. Only Energizer L92 AAA size batteries are permitted for use in the LCM4092 Wireless Telemetry Unit.





## IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 19.0060X**

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Date of issue: 2020-01-27

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### Equipment (continued):

#### Conditions of Manufacture

1. The LCM4092 Wireless Telemetry Unit incorporates a previously component certified telemetry module (IECEx SIR 15.0123U). It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this device. The manufacturer shall inform Sira of any modifications to the device that may impinge upon the explosion safety design of the LCM4092 Wireless Telemetry Unit.
2. The LCM4092 Wireless Telemetry Unit may only be supplied by component certified AAA size cells (Baseefa 14ATEX0107U) It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this cell type. The manufacturer shall inform Sira of any modifications to the cell certification that may impinge upon the explosion safety design of the LCM4092 Wireless Telemetry Unit.

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### 5.4 About

LCM Systems is a specialist provider of standard and bespoke load cells, load pins, load shackles, load links and associated instrumentation, with over 30 years' experience in supplying innovative load measurement solutions to many different industries worldwide. Whatever the application and however demanding the environment, we can provide a system to meet your needs.





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