

INSTRUCTIONS FOR SAFE OPERATIONS

LM3000

EXPLOSION PROOF
LASER DISTANCE METER



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READ THIS FIRST

The LM3000 is an explosion-proof laser measurement device suitable for use in hazardous areas (Ex zones: potentially explosive environments).

Read and understand all Warnings and Cautions before using this product.

Liability

The technical specification of the camera complies with relevant European Ex standards (EN 60079-0 and EN60079-1).

The user is solely responsible for ensuring the equipment is suitable for the intended purpose and environments.

CorDEX Instruments will not be liable for any injury or damage resulting from unauthorized adjustments to, or dismantling of, the camera or for use with inappropriate applications or environments.

Trademark Information

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation. Pentium® is a registered trademark of Intel Corporation. Macintosh is a trademark of Apple Computer, Inc. SD™ is a trademark.

Other names and products may be trademarks or registered trademarks of their respective owners.

Product Information

Product design and specifications are subject to change without notice. This includes primary specifications, software, software drivers, and user’s manual. The User Manual is a general reference guide for the product.

The manufacturer assumes no liability for any errors or discrepancies in the user manual.

SPECIAL CONDITIONS FOR SAFE USE

(as defined by clause 29.2 (i) of EN 60079-0)

The conditions referenced in this section relate specifically to hazardous area applications and must be followed.

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

Flamepath	Maximum Gap (mm)	Minimum L (mm)
Main body/cover	0.04	11.0
Main body/battery pack	0.04	10.0
Front Lens/main body	0.1	13.8
Top lens/main body	0.1	13.8

- This equipment must only be used where there is a low risk of mechanical impact.
- The equipment is manufactured in aluminium alloy, in Group I applications this equipment must not be utilised where there is a risk of thermite reaction frictional ignition.
- The LaserMETER 3000XP must only be recharged in a non-hazardous area.
- Extreme Care should be taken to ensure that no damage occurs to the flamepath between battery and casing. Ensure dowel location pins are engaged fully before tightening locking screws.

- LaserMETER 3000XP incorporates a protected battery system with a replaceable fuse. This Fuse is only to be replaced with CorDEX Instruments Type CDX2341-120 fuse. Failure to do so will void the certification.
- Ensure that the LaserMETER 3000XP battery pack is secured using the screws provided. If the screws are lost, only replace with screws of the correct size and type. If in doubt, contact your nearest CorDEX Instruments representative.
- The LaserMETER 3000XP is manufactured from aluminium alloy with less than 7% magnesium by weight and incorporates toughened glass windows. This should be taken into account when considering the end use application.
- The LaserMETER 3000XP cannot be maintained in the field and must be returned to the manufacturer should repair or maintenance be required.

OPERATIONAL CAUTIONS

The cautions contained in this section do not relate specifically to safe use in hazardous area applications but should be followed to help prevent damage to the camera or personnel.

- Do not fire the Laser close to anyone's eyes. This might cause damage to the person's eyesight.
- Keep out of the reach of children.
- A Laser is a precision instrument. Do not drop it, strike it or use excessive force when handling the Laser. This might cause damage to the device.
- Do not wrap the Laser or place in cloth blankets.

CERTIFICATION

Model	LaserMETER 3000XP	
Certificate No.	Sira 08ATEX1293X	IECEX SIR 10.0133X
Certificate Type	  I/II M2/2 G Ex d I / Ex d IIC T4	
Ambient Temperature	Tamb -20°C to +50°C	
Power Supply	Battery Pack CDX2341-007	

EC DECLARATION OF CONFORMITY

CorDEX

CorDEX Instruments Ltd
Unit 1, Owens Road
Skippers Lane Industrial
Estate,
MIDDLESBROUGH,
TS6 6HE

Declaration No. SO/ 4

EC-Type Examination Certificate: Sira10ATEX1283X

**EC Declaration of Conformity
in accordance with EEC ATEX Directive 94/9/EC**

We,

CorDEX Instruments Ltd.

Hereby declare that the products described below

Product: Laser Distance Meter
Model: LM 3000XP

are in conformity with the essential health and safety requirements of Council Directive 94/9/EC relating to equipment intended for use in potentially explosive atmospheres (ATEX Directive) I/II M2/2 G Ex d I/IIC T4 (Ta = -20°C to + 50°C) equipment, by the application of the following Standards:-

EN 60079-0:2006 Electrical apparatus for explosive gas atmospheres. General requirements
EN 60079-1:2007 Explosive atmospheres. Equipment protection by flameproof enclosures "d"

and are subject to the procedure set out in Annex VII of Directive 94/9/EC and these procedures are in conformity with the requirements of EN 13980:2002 under the supervision of Notified Body Number 0518, SIRA Certification Service, Rake Lane, Eccleston, Chester, CH4 9JN, England.

It is ensured through internal measures that the products conform at all times to the requirements of the current EEC Directives and relevant standards.

Signature:  Authorised Person

Position: Director on behalf of CorDEX Instruments Ltd

Date: 07/10/2014

Product Serial number



Better:Better_Work:CorDEX:03_CorDEX_Products:CorDEX_Products_LM3000:CorDEX_ECDeclaration:EC Declaration of Conformity (LM3000XP) Rev D.docx

ATEX CERTIFICATE

1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 10ATEX1283X** Issue: **0**4 Equipment: **Laser Distance Meter LM3000XP**5 Applicant: **CorDEX Instruments Limited**6 Address:
Unit 6 Farfield
Main Road
Wykeham
Scarborough
YO13 9QD

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 Article 9 of Directive 94/9/EC of 23 March 1994, 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:

IEC 60079-0:2004 Ed 4 IEC 60079-1:2007 Ed 6

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC 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:

I/II M2/2 G
Ex d I/IIC T4 Ta = -20°C to +50°C

Project Number 22395

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

Form 9400 Issue 1

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Sira Certification Service

Rake Lane, Eccleston, Chester, CH4 9JN, England

Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: info@siracertification.com
Web: www.siracertification.comD R Stubbings BA MIET
Certification Manager**SCHEDULE****EC TYPE-EXAMINATION CERTIFICATE****Sira 10ATEX1283X**
Issue 013 **DESCRIPTION OF EQUIPMENT**

The LM3000XP is a flameproof enclosure containing a laser distance meter. The device comprises a main enclosure with a bolt on external battery pack and a non-metallic overmoulding.

The main enclosure comprises three main parts the body, the battery pack and the cover. These are all cast in aluminium 6082T6 and subsequently machined. The main body incorporates a void provided for the installation of the laser distance meter. The end of the main body is machined to allow the installation of a rectangular toughened glass laser window, the joint between the glass window and the main body forming a spigotted flamepath. The window is secured in place by means of a steel retaining plate which in turn is secured by four M3 x 10 mm hexagonal socket cap head screws, the heads of these screws being protected by their location behind the external overmoulding.

The top part of the main enclosure is provided with a cover, the joint between the cover and main body forming a flanged flamepath. The cover is secured to the main body by nine M3 x 8 mm hexagonal socket cap head screws, the heads of these screws being protected by their location in appropriate counter bored holes. The top of the cover is machined to allow the installation of a toughened glass, LCD viewing window, the joint between the glass window and the main body forming a spigotted flamepath. The window is secured in place by means of a steel retaining plate which in turn is secured by four M3 x 10 mm hexagonal socket cap head screws, the heads of these screws being protected by their location behind the external overmoulding.

Located on the side of the main enclosure is a detachable battery pack. The battery pack comprises an aluminium housing contain two rechargeable AAA size batteries and associated circuitry. The joint between the battery pack and the front cover forms a flanged flamepath. The battery cover is secured by six M4 x 12 mm hexagonal socket cap head screws, the heads of these screws being protected by their location in appropriate counter bored holes.

All fasteners are stainless steel to ISO 4762, grade A2-70.

The assembly is provided externally with a permanent, non-metallic, anti-static protective overmoulded case.

14 **DESCRIPTIVE DOCUMENTS**14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Sira Reports and Certificate History**

Issue	Date	Report number	Comment
0	15 November 2010	R22395A/00	The release of the prime certificate.

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Form 9400 Issue1

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Sira Certification Service

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IECEx CERTIFICATE
OF CONFORMITY

SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 10ATEX1283X
Issue 0

- 15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)
- 15.1 In accordance with clause 5.1 of EN 60079-1, the critical dimensions of the flamepaths are:

Flamepath	Maximum Gap (mm)	Minimum L (mm)
Main body/cover	0.04	11.0
Main body/ battery pack	0.04	10.0
Front lens/main body	0.1	13.8
Top lens/main body	0.1	13.8

- 15.2 This equipment shall only be used where there is a low risk of mechanical impact. The equipment is manufactured in aluminium alloy, in Group I applications this equipment must not be utilised where there is a risk of thermite reaction frictional ignition.
- 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 CERTIFICATION**
- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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Sira Certification Service

Rake Lane, Eccleston, Chester, CH4 9JN, England

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				IECEx Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres <small>for rules and details of the IECEx Scheme visit www.iecex.com</small>					
Certificate No.:	IECEx SIR 10.0133X		Issue No.:	0	
Status:	Current		Certificate history:		
Date of Issue:	2010-12-08		Page 1 of 3		
Applicant:	CorDEX Instruments Ltd Unit 6 Farfield Main Road Wykeham Scarborough YO13 9QD United Kingdom				
Electrical Apparatus:	Laser Distance Meter LM3000XP				
Optional accessory:					
Type of Protection:	Flameproof				
Marking:	Ex d IIC T4 Ta = -20°C to +50°C				
Approved for issue on behalf of the IECEx Certification Body:	D R Stubbings BA MIET				
Position:	Certification Manager				
Signature: (for printed version)					
Date:	2010-12-08				
<p>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 the Official IECEx Website.</p>					
Certificate issued by:	SIRA Certification Service Rake Lane Eccleston Chester CH4 9JN United Kingdom				
					



IECEX Certificate
of Conformity

Certificate No.:IECEX SIR 10.0133X

Date of Issue:2010-12-08

Issue No.:0

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Manufacturer:

CorDEX Instruments Ltd
Unit 6 Farfield
Main Road
Wykeham
Scarborough
YO13 9QD
United Kingdom

Manufacturing location(s):

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 electrical apparatus 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 : 2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition: 4.0

IEC 60079-1 : 2007-04 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition: 6

This Certificate does not indicate compliance with electrical 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/ExTR10.0275/00](#)

Quality Assessment Report:

[GB/SIR/QAR10.0010/00](#)



IECEX Certificate
of Conformity

Certificate No.:IECEX SIR 10.0133X

Date of Issue:2010-12-08

Issue No.:0

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Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The LM3000XP is a flameproof enclosure containing a laser distance meter. The device comprises a main enclosure with a bolt on external battery pack and a non-metallic overmoulding.
For a full description refer to the Annex

CONDITIONS OF CERTIFICATION: YES as shown below:

1	In accordance with clause 5.1 of IEC 60079-1, the critical dimensions of the flamepaths are:															
	<table><tr><td>Flamepath</td><td>Maximum Gap (mm)</td><td>Minimum Gap (mm)</td></tr><tr><td>Main body/cover</td><td>0.04</td><td>11.0</td></tr><tr><td>Main body/battery pack</td><td>0.04</td><td>10.0</td></tr><tr><td>Front lens/main body</td><td>0.1</td><td>13.8</td></tr><tr><td>Top lens/main body</td><td>0.1</td><td>13.8</td></tr></table>	Flamepath	Maximum Gap (mm)	Minimum Gap (mm)	Main body/cover	0.04	11.0	Main body/battery pack	0.04	10.0	Front lens/main body	0.1	13.8	Top lens/main body	0.1	13.8
Flamepath	Maximum Gap (mm)	Minimum Gap (mm)														
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Main body/battery pack	0.04	10.0														
Front lens/main body	0.1	13.8														
Top lens/main body	0.1	13.8														
2	This equipment shall only be used where there is a low risk of mechanical impact. The equipment is manufactured in aluminium alloy, in Group I applications this equipment must not be utilised where there is a risk of thermite reaction frictional ignition.															

Annexe: IECEx SIR 10.0133X Issue 0 Annex.pdf

