

UT5000 Thickness Gauge

INSTRUCTIONS FOR SAFE OPERATION



Ref. ID 2310, Rev. A



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The CorDEX UT5000 thickness gauge is a gauge for measuring the wall thickness of pipes or tanks.

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

SAFETY INFORMATION

This instruction manual contains information and warnings that must be observed for safe operation under the conditions described.

FAULTS AND DAMAGE

If there are any grounds for believing the unit is no longer safe to use, it must be taken out of service and measures taken to prevent its further unintentional use. The safety of the unit may be impaired if, for example:

- External damage to the housing is visible
- The unit has not been stored correctly
- The unit has suffered transport damage

SAFETY REGULATIONS

When using the UT5000, the appropriate regulations must be observed to avoid incorrect operation of the unit.

ATTENTION!

Please make sure that the case is securely fastened when using the unit. The unit must not be opened in the hazardous area. Only probes intended for this instrument must be used.

BATTERIES

If you change the battery, make sure that the replacement is suitable for the purpose. The use of different batteries is strictly forbidden.

CALIBRATION

Calibration must be carried out by the manufacturer since the protective circuits must be checked after calibration for safety reasons.

2. EXCHANGING BATTERIES

Batteries are inserted into the compartment in the bottom side of the instrument.

To change the battery:

1. Half turn the screws on the compartment cover and then carefully lift the cover.
2. Make sure that the rubber sealing of the cover will not be damaged or removed from the guiding notch.
3. Insert the new battery.

WARNING - Ensure correct orientation according to the sketch on the battery cover to avoid internal damage to the tester.

When exchanging batteries, the memorized parameter and calibration values are deleted. Therefore, you need to execute a new calibration and enter the relevant parameters again after exchange of the batteries.

After battery replacement, switch the instrument on/off twice to reset it to a predefined operating status. All previous settings will be restored to the tester after connecting to the CorDEX CONNECT™ software, or the UT5000 Mini app.

Attention: Only use a 3.6V Lithium Thionyl Chloride Cell. The use of different batteries is strictly forbidden!


3. 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 device or personnel.

- Keep out of the reach of children.
- The UT5000 is a precision instrument. Do not drop it, strike it or use excessive force when handling.

MAINTENANCE

For safety critical maintenance, please refer to EN60079:17.

Model:	UT5000
ATEX Certificate No:	Baseefa11ATEX0114
IECEX Certificate No:	IECEX BAS 11.0094
Certificate Type:	 II 2G Ex ib IIC T4 Gb
USB Terminal parameter:	U_m 253V
Ambient Temperature:	T _{amb} -10°C to +50°C
Power Supply:	1x CorDEX Instruments Battery Part Number : CDX5000-327

EC DECLARATION OF CONFORMITY

	<p>We hereby confirm the conformity of the equipment listed below with the directives of the Council of the European Community. The safety and installation instructions of the product documentation must be observed.</p>
Model:	UT5000
European Standards and Directives:	EN/ IEC60079-0 & EN/ IEC60079-11



Certificate Number
Baseefa11ATEX0114

Issued 21 September 2011
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EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC

1 EC - Type Examination Certificate Number: **Baseefa11ATEX0114**

2 Equipment or Protective System: **Ultrasonic Thickness Gauge**

3 Manufacturer: **CorDEX Instruments Limited**

4 Address: **Middlesbrough, TS6 6HE**

5 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

6 Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

7 The examination and test results are recorded in confidential Report No.

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

9 **EN 60079-0:2009 EN 60079-11:2007**

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

Ⓔ II 2G Ex ib IIC T4 Gb (T_{amb} -10°C to +50°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **6684**
Project File No. **10/0917**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.



R S SINCLAIR
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On behalf of
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Baseefa is a trading name of Baseefa Ltd.
Registered in England No. 4305578. Registered address as above.

Certificate Number
Baseefa11ATEX0114



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Schedule

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Certificate Number Baseefa11ATEX0114

15 Description of Equipment or Protective System

The UT-5000 is battery powered hand held equipment designed to measure the thickness of materials in hazardous areas using non-destructive techniques. It comprises three printed circuit boards inside a main instrument case housed in a protective rubber over boot, a custom cable, and a dual element ultrasonic transducer.

The equipment is battery powered by a single primary cell. Only Tadiran SL-2780 Lithium Thionyl Chloride cells may be used. The battery is to be replaced only when in safe areas.

The USB connector is for use only in safe areas and has the terminal parameter $U_m = 253V$

16 Report Number

GB/BAS/ExTR11.0093/00 & GB/BAS/ExTR11.0094/00

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
CDX-5000-200	1 & 2	1.2	19/08/11	Display Board sch
CDX-5000-201	1	1.2	19/08/11	Keypad Schematic
CDX-5000-202	1 to 7	1.2	19/08/11	Processor Sch
CDX-5000-203	1 to 5	1.2	19/08/11	Ultrasound Sch
CDX-5000-204	1	1.2	19/08/2011	CorDEX Display Board
CDX-5000-205	1	1.2	19/08/2011	CorDEX Keypad Board (certification)
CDX-5000-206	1	1.2	19/08/2011	CorDEX Processor Board
CDX-5000-207	1	1.2	19/08/2011	CorDEX Ultrasound Board
CDX-5000-208	1 & 2	1.2a	15/07/2011	Display Board Fab
CDX-5000-209	1 & 2	1.2	02/08/2011	Keypad Board Fab
CDX-5000-210	1 & 2	1.2	08/07/2011	Processor Fab
CDX-5000-211	1 & 2	1.2a	15/07/2011	Ultrasound Fab
CDX-5000-216	1 & 2	2.0b	07/07/2011	Probe Assembly
CDX-5000-217	1	2.0b	07/07/2011	Probe Fab
CDX-5000-218	1	2.0B	22/08/2011	CorDEX Probe Board
CDX-5000-219	1	2.0b	19/08/11	Probe Schematic
CDX-5000-220	1	2.0b	15/07/11	Probe ExTC4/10 Assembly
CDX-5000-221	1	A	15/03/11	Probe Cable Assembly
CDX-5000-230	1	A	15/03/11	RFID Wire Assembly



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.:	IECEX BAS 11.0004	Issue No.:	0	Certificate history:	
Status:	Current				
Date of Issue:	2011-09-21	Page 1 of 3			
Applicant:	CorDEX Instruments Limited 1 Owens Road Skippers Lane Industrial Estate Middlesbrough TS6 6HE United Kingdom				
Electrical Apparatus:	UT-5000 Ultrasonic Thickness Gauge				
Optional accessory:					
Type of Protection:	Intrinsic Safety				
Marking:	Ex Ib IIC T4 Gb (Tamb -10°C to +50°C)				
Approved for issue on behalf of the IECEX Certification Body:	R S Sinclair				
Position:	Director				
Signature: (for printed version)	 _____				
Date:	22-7-11				

- This certificate and schedule may only be reproduced in full.
- This certificate is not transferable and remains the property of the issuing body.
- The Status and authenticity of this certificate may be verified by visiting the Official IECEX Website.

Certificate issued by:

Baseefa
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom



IEC		IECEX		IECEX Certificate of Conformity	
Certificate No.:	IECEX BAS 11.0094	Issue No.:	0		
Date of Issue:	2011-09-21			Page 2 of 3	
Manufacturer:	CorDEX Instruments Limited 1 Owens Road Skippers Lane Industrial Estate Middlesbrough TS6 0HE 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 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements				
IEC 60079-0 : 2007-10 Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements				
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"				
<i>This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.</i>					
TEST & ASSESSMENT REPORTS:					
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in					
<u>Test Report:</u> GB/BAS/ExTR11.0093/00	GB/BAS/ExTR11.0094/00				
<u>Quality Assessment Report:</u> GB/SIR/GAR10.0010/02					

IEC		IECEX		IECEX Certificate of Conformity	
Certificate No.:	IECEX BAS 11.0094	Issue No.:	0		
Date of Issue:	2011-09-21			Page 3 of 3	
Schedule					
EQUIPMENT:					
<i>Equipment and systems covered by this certificate are as follows:</i>					
The UT-5000 is battery powered hand held equipment designed to measure the thickness of materials in hazardous areas using non-destructive techniques. It comprises three printed circuit boards inside a main instrument case housed in a protective rubber over boot, a custom cable, and a dual element ultrasonic transducer.					
The equipment is battery powered by a single primary cell. Only Tadiran 5L-2780 Lithium Thionyl Chloride cells may be used. The battery is to be replaced only when in a safe area.					
The USB connector is for use only in safe areas and has the terminal parameter $U_m = 253V$					
CONDITIONS OF CERTIFICATION: NO					

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