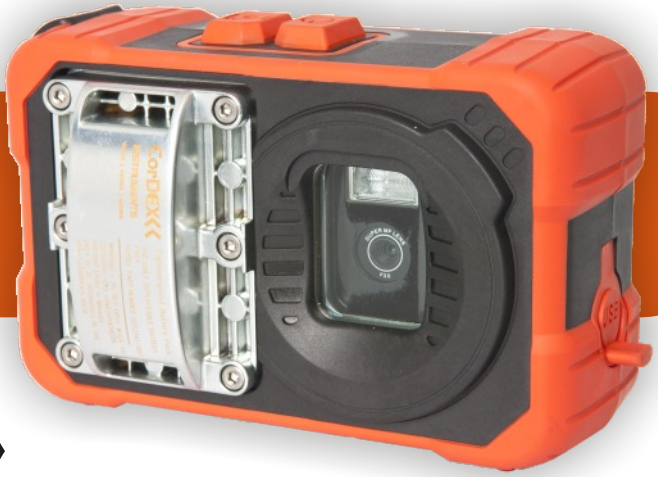
CorDEX
INSTRUMENTS
SAFER | FASTER | BETTER

ToughPIX 2300XP Series

INSTRUCTIONS FOR SAFE OPERATION



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Ref. ID 2310, Rev. A

CE

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CONTENTS

1. READ THIS FIRST

The ToughPIX 2300XP is a flameproof digital camera 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 EEx 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.

2. SPECIAL CONDITIONS OF 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)
Rear carriage/front carriage	0.04	14.0
Front carriage/ battery pack	0.04	15.0
LCD Window/rear carriage	0.1	14.0
Lense window/front carriage	0.1	14.0
Operating rod/rear and front carriage	0.1	10

- 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 ToughPIX 2300XP Series digital camera must only be recharged in a non-hazardous area.
- Extreme Care should be taken to ensure that no damage is caused on flamepath between battery and camera. Ensure dowel location pins are engaged fully before tightening locking screws.
- ToughPIX 2300XP Series digital camera 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 ToughPIX 2300XP Series digital camera battery pack is secured using the screws provided. If the screws are lost, only replace with screws of the correct sizeand type. If in doubt, contact your nearest CorDEX Instruments representative.
- The ToughPIX 2300XP Series digital camera 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 ToughPIX 2300XP Series digital camera cannot be maintained in the field and must be returned to the manufacturer should repair or maintenance be required.
- USB communications with the ToughPIX 2300XP Series digital camera must only occur within the non-hazardous area.

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 camera or personnel.

- Do not fire the flash close to anyone's eyes. This might cause damage to the person's eyesight.
- Keep out of the reach of children.
- A camera is a precision instrument. Do not drop it, strike it or use excessive force when handling the camera. This might cause damage to the camera.
- Do not wrap the camera or place in cloth blankets.
- Use the camera in a well-ventilated place.
- Before you move the camera, disconnect the cords and cables.

MAINTENANCE

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

Model:	ToughPIX 2300XP Series
Certificate No:	Sira 08ATEX1293X
Certificate Type:	0518 CE II 2 G Ex Ex d IIC T4 Gb 0518 CE I M 2 Ex Ex d IM b
Ambient Temperature:	Tamb -20°C to +50°C
Power Supply:	1x CorDEX Instruments XP Battery pack Part Number CDX-2341-008

EC DECLARATION OF CONFORMITY

CE	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.
Model:	ToughPIX 2300XP Series
European Standards and Directives:	
Low Voltage Directive 73/23/E C	EN60950
94/9/E C	EN60079-0; EN60079-1

Ex

sira CERTIFICATION

1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 08ATEX1293X** Issue: **6**

4 Equipment: **ToughPIX 230#XP Flameproof Digital Camera**

5 Applicant: **CorDEX Instruments Limited**

6 Address: Unit 6 Farfield
Main Road
Wykeham
Scarborough YO13 9QD
UK

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:

EN 60079-0:2006 EN 60079-1:2007
IEC 60079-0:2007 was used as guidance in respect of marking

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:

ToughPIX 2301XP
Ex II 2 G
Ex d IIC T4 Gb
Ta = -20°C to +50°C

or

ToughPIX 2302XP
Ex I M2
Ex d I Mb
Ta = -20°C to +50°C

or

ToughPIX 2303XP
Ex I/II M2/2G
Ex d I Mb / Ex d IIC T4 Gb
Ta = -20°C to +50°C

Project Number 24253

C Ellaby
Certification Officer

Form 9400 Issue 1

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE **Sira 08ATEX1293X**
Issue 6

13 **DESCRIPTION OF EQUIPMENT**

The ToughPIX 230#XP Flameproof Digital Camera is basically a flameproof enclosure containing a digital camera. The device comprises a main enclosure with a bolt on external battery pack and a non-metallic overmoulding.

The main enclosure comprises of two main parts: the rear carriage and the front cover, the joint between these two parts forming a flanged flamepath. The rear carriage is secured to the front cover with ten M3 x 12 mm hexagonal socket cap head screws, the heads of these screws being protected by their location in appropriate counter bored holes.

The rear carriage includes a toughened glass viewing window as well as operating rods. Located to one side of the rear face of the rear carriage is a toughened glass window to allow the viewing of an internal LCD screen, the joint between the toughed glass window and the rear carriage forming a spigotted flamepath. The toughened glass window is secured by a retaining plate which is held in place by ten M3 x 6 mm hexagonal socket cap head screws, the heads of these screws being protected by their location behind the external overmoulding. To allow operation of the internal digital camera, the rear carriage is provided with six operating rods. The joint between the rods and the rear carriage forms a cylindrical flamepath. The operating rods are secured against displacement by an internal shoulder.

The front cover includes a further toughened glass window, a bolt on battery pack, a USB access port and additional operating rods. Located to one side of front face of the front cover is a toughened glass window to allow light to access the internal digital camera , the joint between the toughed glass window and the rear carriage forming a spiggoted flamepath. The toughened glass window is secured by a retaining plate which is held in place by six M3 x 6 mm hexagonal socket cap head screws, the heads of these screws being protected by their location behind the external overmoulding. Located alongside the toughened glass window is a detachable battery pack. The battery pack comprises an aluminium housing containing 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. To allow operation of the internal digital camera, the front cover is provided with two operating rods. The joint between the rods and the front cover forms a cylindrical flamepath. The operating rods are secured against displacement by an internal shoulder. To allow access to the internal USB port the front cover is provided with a threaded access port. The port is provided with a M16 x 1.5 thread, the access port is sealed with an appropriate blanking element. Removal of the blanking element requires an Allen key.

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.

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Issue 6

Variation 1 - This variation introduced the following changes:

i. The length of the pushrods was increased.
ii. Brass CZ121 and stainless steel 303 were recognised as an alternative materials for the USB access port cover.

Variation 2 - This variation introduced the following changes:

i. The introduction of the 'clip-on' lens attachment.

Variation 3 - This variation introduced the following changes:

i. The introduction of an alternative battery cell type Ansmann AAA – 1100 mAh 5035221.

Variation 4 - This variation introduced the following changes:

i. The drawings introduced by Issue 4 were revised to align the ATEX Approval with the associated CSA approval; this includes an increase of the length of the USB plug threaded flamepath to accommodate CSA requirements.

Variation 5 - This variation introduced the following changes:

i. Introduction of the following drawing changes:

Drawing	Changes
CDX-2341-007C	An alternative battery enclosure was introduced.
CDX-2341-010C	The side flanges were removed.
CDX-2341-019C	The side flanges were removed.
CDX-2341-020C	The CSA approval plate was added.
CDX-2341-021C	The shape of the outer overmoulding was changed and an alternative overmoulding material was added.
CDX-2341-022C	The side flanges were removed.
CDX-2341-024C	An alternative fuse type was added.
CDX-2341-025C	This drawing is not required and was removed.

Variation 6 - This variation introduced the following changes:

i. The battery pack part number was changed.
ii. The fuse details were modified to include the fuse part number.
iii. The flamepath 'K' on drawing CDX-2341-019C revision H was corrected.
iv. The equipment name was changed from 'Centurion XP...' to ToughPIX 230#XP.

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

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ATEX CERTIFICATION

SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE **Sira 08ATEX1293X**
Issue 6

14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Sira Reports and Certificate History**

Issue	Date	Report no.	Comment
0	17 June 2009	R51A18791A	The release of the prime certificate.
1	29 March 2010	R21498A/00	The introduction of Variation 1.
2	15 April 2010	R21771A/00	The introduction of Variation 2.
3	7 May 2010	R21946A/00	The introduction of Variation 3.
4	22 June 2010	R222625A/00	The introduction of Variation 4.
5	6 December 2010	R23606A/00	The introduction of Variation 5.
6	8 February 2011	R24253A/00	The introduction of Variation 6.

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)
Rear carriage/front carriage	0.04	14.0
Front carriage/ battery pack	0.04	15.0
LCD Window/rear carriage	0.1	13.8
Lense window/front carriage	0.1	13.8
Operating rod/ rear and front carriage	0.1	10

15.2 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.

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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