



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 EXV 17.0013X

Issue No: 1

Certificate history:

[Issue No. 1 \(2019-05-09\)](#)

[Issue No. 0 \(2017-07-21\)](#)

Status: **Current**

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Date of Issue: **2019-05-09**

Applicant: **CorDEX Instruments Limited**

CorDEX Instruments Limited

Unit 5A, Jacksons Yard, Showfield Lane Industrial Estate, Malton, YO17 6BT UK

United Kingdom

Equipment: **ToughPIX DIGITHERM TP3aEx, TP3kEx, TP3rEx and EXTREME TP3Ex Cameras**

Optional accessory:

Type of Protection: **Intrinsic safety, inherently safe optical radiation**

Marking:

Ex ib op is IIC T4 Gb

Approved for issue on behalf of the IECEx

Stephen D'Henin

Certification Body:

Position:

Director

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 the [Official IECEx Website](#).

Certificate issued by:

ExVeritas Limited
Units 16-18 Abenbury Way
Wrexham Ind. Est.
Wrexham LL 139UZ
United Kingdom





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Manufacturer: **CorDEX Instruments Limited**
Unit 5A, Jacksons Yard, Showfield Lane Industrial Estate, Malton, YO17 6BT
United Kingdom

Additional 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 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 : 2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0
IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0
IEC 60079-28 : 2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

*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/EXV/ExTR17.0016/00](#) [GB/EXV/ExTR19.0008/00](#)

Quality Assessment Report:

[GB/SIR/QAR10.0010/08](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The camera is a battery powered hand held dual-mode digital with auto-focus and IR camera with preview LCD. User interface is via joystick control. Images are stored on a removable memory card. Only the CorDEX SD card may be used.

External communication is with embedded WIFI and GPS capability included.

The IP54 enclosure is made from aluminium. Access is available to replace the battery and memory card.

The equipment is battery powered by single rechargeable Lithium-Ion cell in a battery pack. The battery is removed from the camera for charging. Both removal and charging of the battery are only permitted in safe areas.

Only the CorDEX battery pack and memory card may be used.

- TP3Ex ToughPIX EXTREME Intrinsically Safe Digital Camera
- TP3aEx ToughPIX DIGITHERM Intrinsically Safe Digital Thermal Camera
- TP3kEx ToughPIX DIGITHERM Intrinsically Safe Digital Thermal Camera
- TP3rEx ToughPIX DIGITHERM Intrinsically Safe Digital Thermal Camera
-

(All the camera models are software configured using the same hardware with population options)

Accessories used in the camera

- CDX16IS CorDEX 64Gb IS Memory Card
- CDX04IS CorDEX 16Gb IS Memory Card
- CDX08IS CorDEX 8Gb IS Memory Card
- CDX370 3.7V Lithium Battery Pack

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Only CorDEX approved accessories (battery pack and memory card) are permitted to be used in or with the ToughPIX DIGITHERM Cameras. The use of other or non-approved CorDEX accessories will invalidate the approval for explosive atmospheres.
- The capacitance of the non-earthed exposed metallic parts of the enclosure exceeds the values given in Table 9 of IEC 60079-0 (which is 3pF for Gas group IIC). It is the responsibility of the user to determine the suitability of the maximum device enclosure's capacitance to ground, measured/tested to be 82.3 pF, when using this equipment for its intended purpose in accordance with the operating/instruction manual.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1 covers the following design updating:

- Applicant and manufacturer address change

 - Addition of alternative SDCard or micro-SDCard under part number CDX8950-480 as an alternative approved accessory
 - o CDX08IS CorDEX 8GB IS Memory card added as a new permitted accessory. The current eMMC SDCard will still be used under the existing accessory part-numbers
 - Option to not populate GPS module (U15) from the CDX8950-211 Imager PCBA BOM
 - Models now known as follows:
 - o TP3Ex ToughPIX EXTREME Intrinsically Safe Digital Camera
 - o TP3aEx ToughPIX DIGITHERM Intrinsically Safe Digital Thermal Camera
 - o TP3kEx ToughPIX DIGITHERM Intrinsically Safe Digital Thermal Camera
 - o TP3rEx ToughPIX DIGITHERM Intrinsically Safe Digital Thermal Camera
- All the camera models are software configured using the same hardware with population options
- Updated label CDX8950-445 to add missing models: TP3aEx, TP3kEx and TP3rEx
 - Updates for TP3Ex model
 - o TP3Ex is a visible only version known as EXTREME
 - o CDX8950-480 DIGITHERM GA updated to show DIGITHERM and EXTREME no-populations
 - o CDX8950-400 DIGITHERM HLA GA population options:
 - CDX8950-443 lens guard replaced with single lens version
 - o CDX8950-211 Imager PCBA BOM no-populations:
 - U10, U10_FCC

Annex:

[DRAFT - IECEx Certificate Annex.pdf](#)

Description Continued:
N/A

Routine Tests:
N/A

Special Conditions for manufacture:
N/A

Issue 0

Manufacturer's documents:			
Title:	Drawing No.:	Rev	Date:
CorDEX IS-Camera IS/ATEX system schematic	CDX8950-200	Rev1.1	15/08/2017
CorDEX IS-Camera IS/ATEX system BOM	CDX8950-201	Rev1.1	28/08/2017
IS-Camera Imager PCB schematic	CDX8950-210	Rev1.2	25/08/2017
IS-Camera Imager BOM	CDX8950-211	Rev1.2b	03/10/2017
IS-Camera Imager PCB fabrication drawing	CDX8950-213	Rev1.2	01/08/2017
IS-Camera Imager PCB assembly drawing	CDX8950-214	Rev1.2	01/08/2017
IS-Camera Imager RS274 (gerbers)	NA	Rev1.2	04/08/2017
IS-Camera BatteryPack PCB schematic	CDX8950-220	Rev1.2	18/07/2017
IS-Camera BatteryPack BOM	CDX8950-221	Rev1.2	17/07/2017
IS-Camera BatteryPack PCB fabrication drwg	CDX8950-223	Rev1.2	18/07/2017
IS-Camera BatteryPack PCB assembly drawing	CDX8950-224	Rev1.2	18/07/2017
IS-Camera BatteryPack RS274 (gerbers)	NA	Rev1.2	18/07/2017
IS-Camera FlashLED PCB schematic	CDX8950-230	Rev1.3	15/08/2017
IS-Camera FlashLED BOM	CDX8950-231	Rev1.3	15/08/2017
IS-Camera FlashLED PCB fabrication drwg	CDX8950-233	Rev1.3	15/08/2017
IS-Camera FlashLED PCB assembly drawing	CDX8950-234	Rev1.3	15/08/2017
IS-Camera FlashLED RS274 (gerbers)	NA	Rev1.3	15/08/2017
IS-Camera BattConn PCB schematic	CDX8950-240	Rev1.1	07/07/2017
IS-Camera BattConn BOM	CDX8950-241	Rev1.1	18/07/2017
IS-Camera BattConn PCB fabrication drwg	CDX8950-243	Rev1.1	07/07/2017
IS-Camera BattConn PCB assembly drawing	CDX8950-244	Rev1.1	07/07/2017
IS-Camera BattConn RS274 (gerbers)	NA	Rev1.1	07/07/2017
IS-Camera SDCard PCB schematic	CDX8950-250	Rev1.0	14/03/2017
IS-Camera SDCard BOM	CDX8950-251	Rev1.0	16/03/2017
IS-Camera SDCard PCB fabrication drwg	CDX8950-253	Rev1.0	15/03/2017
IS-Camera SDCard PCB assembly drawing	CDX8950-254	Rev1.0	15/03/2017
IS-Camera SDCard RS274 (gerbers)	NA	Rev1.0	15/03/2017
IS-Camera NUCFFC PCB schematic	CDX8950-260	Rev1.1	01/08/2017
IS-Camera NUCFFC BOM	CDX8950-261	Rev1.1	02/08/2017
IS-Camera NUCFFC PCB fabrication drwg	CDX8950-263	Rev1.1	02/08/2017
IS-Camera NUCFFC PCB assembly drawing	CDX8950-264	Rev1.1	02/08/2017
IS-Camera NUCFFC RS274 (gerbers)	NA	Rev1.1	02/08/2017

Manufacturer's documents:			
Title:	Drawing No.:	Rev	Date:
IS-Camera Limiter PCB schematic	CDX8950-270	Rev1.1	18/07/2017
IS-Camera Limiter BOM	CDX8950-271	Rev1.1a	21/06/2017
IS-Camera Limiter PCB fabrication drwg	CDX8950-273	Rev1.1	21/06/2017
IS-Camera Limiter PCB assembly drawing	CDX8950-274	Rev1.1	21/06/2017
IS-Camera Limiter RS274 (gerbers)	NA	Rev1.1	21/06/2017
IS-Camera General Assembly	CDX8950-400	Rev B	01/08/2017
IS-Camera GA Material BOM	CDX9850-401	Rev 0.1b	26/09/2017
IS-Camera Surface areas (non-metallic)	CDX8950-405	Rev A	22/06/2017
IS-Camera Component Insulators	CDX8950-406	Rev B	01/08/2017
IS-Camera FlashLED potting	CDX8950-407	Rev A	27/06/2017
IS-Camera BatteryPack X-section	CDX8950-409	Rev A	18/07/2017
IS-Camera rating plate	CDX8950-445	Rev A	18/09/2017
IS-Camera Infallible GND wire drwg	CDX8950-448	Rev A	18/07/2017
IS-Camera Door Assembly GA	CDX8950-450	Rev A	15/03/2017
IS-Camera BatteryPack GA	CDX8950-470	Rev A	22/06/2017
IS-Camera Safe Operations Manual	CDX8950-511	Rev A	29/09/2017
IS-Camera FFC Insulation (for FlashLED)	CDX1830-054	Rev A	23/06/2017
EC Declaration of Conformity (DIGITHERM)	SOM15A	Rev A	25/09/2017

Issue 1

Manufacturer's documents:			
Title:	Drawing No.:	Rev	Date:
CorDEX IS-Camera IS/ATEX system BOM	CDX8950-201	Rev1.2	15/01/2019
IS-Camera rating plate(DIGITHERM)	CDX8950-445	Rev C	20/02/2019
IS-Camera rating plate(EXTREME)	CDX8950-456	Rev B	20/03/2019
IS-Camera General Assembly	CDX8950-400	Rev C	27/02/2019
IS-Camera Safe Operations Manual	CDX8950-511	Rev C	04/04/2019
IS-Camera Surface areas (non-metallic)	CDX8950-405	Rev B	20/03/2019
IS-Camera FlashLED potting	CDX8950-407	Rev B	21/03/2019