



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 ITS 09.0027X issue No.:5

Status: Current

Date of Issue: 2014-04-15 Page 1 of 4

Applicant: **Extronics Limited**
1 Dalton Way,
Midpoint 18,
Middlewich,
Cheshire, UK.
CW10 0HU
United Kingdom

Certificate history:
Issue No. 5 (2014-4-15)
Issue No. 4 (2013-3-20)
Issue No. 3 (2012-8-10)
Issue No. 2 (2011-9-22)
Issue No. 1 (2011-7-18)
Issue No. 0 (2009-12-15)

Electrical Apparatus: **iCAM501, iCAM501U and iCAM502 Intrinsically Safe Digital Camera**
Optional accessory:


Type of Protection: **Intrinsic Safety "i"**

Marking: Extronics Ltd
IECEX ITS 09.0027X
Ex ia IIB T4/T3 Ga
Ex ia IIC T4/T3 Gb
-20°C < Ta < +60°C
Ex ia I Ma
0°C < Ta < +60°C

*Approved for issue on behalf of the IECEx
Certification Body:* A M Smart

Position: Certification Officer

*Signature:
(for printed version)*


2014-04-15

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](http://www.iecex.com).

Certificate issued by:

Intertek Testing & Certification Limited
ITS House, Cleeve Road,
Leatherhead,
Surrey, KT22 7SB
United Kingdom



IECEX Certificate of Conformity

Certificate No.: IECEx ITS 09.0027X

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Page 2 of 4

Manufacturer: **Extronics Limited**
1 Dalton Way,
Midpoint 18,
Middlewich,
Cheshire, UK.
CW10 0HU
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 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 : 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"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

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/ITS/ExTR09.0039/00
GB/ITS/ExTR09.0039/03

GB/ITS/ExTR09.0039/01
GB/ITS/ExTR09.0039/04

GB/ITS/ExTR09.0039/02
GB/ITS/ExTR09.0039/05

Quality Assessment Report:

GB/SIR/QAR08.0025/04



IECEx Certificate of Conformity

Certificate No.: IECEx ITS 09.0027X

Date of Issue: 2014-04-15

Issue No.: 5

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The EXTRONICS LIMITED iCAM501, iCAM501U and iCAM502 are intrinsically safe digital cameras with voice recording function. They comprise an anti static PC/ABS enclosure housing an assembly of 3 PCB's; a CPU board, a keypad board and an LED flash board. The CPU and keypad PCB stack is encapsulated along with the camera lens assembly. The LED flash board is soldered to the encapsulated board assembly and the LED flash units are encapsulated. The camera is powered by 2 AA alkaline cells, housed within the camera's battery compartment, accessible by a cover opened by a quarter turn screw.

The camera can be supplied by a number of batteries approved for different conditions.

The camera, when powered from Duracell MN1500 AA alkaline cells, is for use in Group I at $0^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$ and Group IIC / T4 Temp Class at $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$

When powered by alternative Duracell Procell PC1500, Energizer E91 or Panasonic LR6XWA AA alkaline cells, the camera may be used in Group IIC / T3 Temp Class at $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$

Underneath the battery compartment cover is a USB port for the purposes of offloading picture or other data or for programming the camera. The unit may be connected to any PC or similar device with a USB port.

Um = 250V ac.

The iCAM501U version of the camera may also be used in Group I applications, with reduced ambient temperature range $0^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$.

CONDITIONS OF CERTIFICATION: YES as shown below:

For Group II applications only, the user shall not carry more than a maximum of 2 spare AA Cells into the hazardous area. Precautions shall be taken to prevent short circuiting of un-protected battery terminals. Discharged cells shall be removed from the hazardous area.

The Temperature Class for the equipment is determined by type of batteries used.

T4: Duracell MN1500

T3: Duracell Procell PC 1500, Energizer E91, Panasonic LR6XWA

For Group I applications, the changing of the batteries in the hazardous area and the transportation of spare batteries into the hazardous area is not permitted.

Duracell MN 1500 is the only type of battery permitted for Group I applications.

The USB port shall only be connected in the non-hazardous area.

If the camera is damaged in any way, it shall be removed from the hazardous area.



IECEX Certificate of Conformity

Certificate No.: IECEx ITS 09.0027X

Date of Issue: 2014-04-15

Issue No.: 5

Page 4 of 4

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

Issue 1:

Additional use of alternative flash LED device
Special conditions of safe use amended to match ATEX certificate.

Issue 2:

Use of a new enclosure material
Addition of Group I and associated special condition for safe use
Additional model number iCAM501U
Minor drawing modifications

Issue 3:

Introduction of alternative model iCAM502 based on existing iCAM501U with new image sensor and minor changes to the circuitry and printed circuit boards layout.
Use of new printed circuit boards used in iCAM502 as alternatives for existing models.
Introduction of new alternative batteries (Duracel Procell PC 1500, Energizer E91, Panasonic LR6XWA)
Addition of T3 marking when used with alternative batteries.
Updates to drawings.

Issue 4:

Correction of typographical error:
- Removed the "Procell" description from the Duracel MN1500 battery text.

Issue 5:

Introduction of alternative camera module for use in iCAM502.
Amended drawing to reflect modification of BOM lists including the alternative camera module.