



ATEX, IECEx and MET (Class I, Division 1) Safety Instructions



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

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How to Operate the Camera

For instructions on how to operate the camera, please see the Quick Start Guide which is included with the camera, at the end of this manual.

1 Safety Instructions

1.1 Storage of this Manual

Keep this user manual safe and in the vicinity of the device. All persons required to work with the device should be advised on where this manual is stored.

1.2 Special Conditions for Safe Use

1.2.1 ATEX, IECEx and MET

Taken from ITS09ATEX26868X Issue 6 (Amended January 2017) Section 15, IECExITS09.0027X Issue 6 (February 2017) and MET Report 93519 (August 2017)

The conditions of safe use relating to this product:

For Group II and MET applications only, the user shall not carry more than a maximum of two spare approved 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.

For Group I applications:

- Duracell MN 1500 and Duracell Industrial ID 1500 are the only type of battery permitted.
- The changing of the batteries in the hazardous area and the transportation of spare batteries into the hazardous area is not permitted.

The temperature class for the equipment is determined by the type of batteries used:

- T4: Duracell MN 1500, Duracell Industrial ID 1500
- T3: Energizer E91, Panasonic LR6XWA (ATEX and IECEx Group II applications only)
See Table 1.

Please read this Safety Manual for battery types permitted (restrictions are applicable due to temperature rating). See Table 1.

The end user must not mix different types of cells from different manufacturers when used within equipment.

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.

Conditions of manufacture relating to the product / routine test: None

1.3 List of Notes

The notes supplied in this chapter provide information on the following.

- Danger! / Warning!
 - Possible hazard to life or health.
- Caution
 - Possible damage to property.
- Important
 - Possible damage to enclosure, device or associated equipment.
- Information
 - Notes on the optimum use of the device

Warning! For ATEX / IECEx GROUP II applications, ONLY Duracell Plus MN1500, Duracell ID1500, Energizer E91 or Panasonic LR6XWA cells may be used with the camera (see Table 1).

Warning! For MET applications, ONLY Duracell Plus MN1500, Duracell ID1500 or Energizer E91 cells may be used with the camera (see Table 1).

Warning! For ATEX / IECEx GROUP I applications, ONLY Duracell Plus MN1500 and Duracell ID 1500 cells may be used with the camera (see Table 1).

Warning! For ATEX / IECEx GROUP II and MET applications ONLY, the user shall not carry more than a maximum of 2 spares of the approved cells listed above into the hazardous area. Precautions shall be taken to prevent short circuiting of un-protected cell terminals. Discharged cells shall be removed from the hazardous area.

Warning! For ATEX / IECEx GROUP I applications, the changing of cells in the hazardous area or the transportation of spare cells into the hazardous area is NOT PERMITTED.

Warning! NOTE THE DIFFERENT TEMPERATURE CLASSIFICATION of T3 / T3C when Energizer E91 or Panasonic LR6XWA cells are used (see Table 1).

Warning! The user shall NOT mix different cells in ANY application

Warning! For ATEX / IECEx GROUP II applications, note that the rated ambient temperature range of the equipment is from -20°C to 60°C.

Warning! For ATEX / IECEx GROUP I applications, note that the rated ambient temperature range of the equipment is from 0°C to 60°C.

Warning! For MET applications, note that the rated ambient temperature range of the equipment is from -20°C to 55°C.

Warning! Any connection to the camera USB port must NOT be made in a hazardous area.

Warning! If any damage to the camera is found which may invalidate the required safety minimum IP rating (IP54 for group I applications), (IP20 for group II), the camera shall be removed from the hazardous area.

Important Any repairs or replacement of parts **MUST** be performed by the manufacturer or its nominated sub-contractor or agent.

Important The camera contains no user serviceable parts. The main part of the enclosure must not be opened under any circumstances.

Application	Duracell MN1500	Duracell Industrial ID1500	Energizer E91	Panasonic LR6XWA
ATEX / IECEx GROUP II	OK, T4 at 60°C	OK, <u>T4</u> at 60°C	OK, <u>T3</u> at 60°C	OK, <u>T3</u> at 60°C
ATEX / IECEx GROUP I	OK, T4 at 60°C	OK, <u>T4</u> at 60°C	CANNOT BE USED	CANNOT BE USED
MET	OK, T4 at 55°C	OK, <u>T4</u> at 55°C	OK, <u>T3C</u> at 50°C	CANNOT BE USED

Table 1 cell usage table

2 User guide

2.1 Changing / installing the cells

To change or install the cells in the camera, turn the screw as indicated below to remove the cover.



Use a coin to turn the screw anti-clockwise, the lid should then pop up.

To close it again, turn the coin clockwise, the screw should click into place once correctly seated.

Install the cells in the correct orientation (indicated on the enclosure) and close the lid again.

3 Structure and Function

3.1 Intended Purpose Usage

Important	Before setting the unit to work, read the technical documentation carefully.
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Important	The latest version of the technical documentation or the corresponding technical supplements is valid in each case.
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The camera is built using modern components and is extremely reliable in operation; however it must only be used for its intended purpose. Please note that the intended purpose also includes compliance with the instructions issued by the manufacturer for installation, setting up and service.

Any other use is regarded as conflicting with the intended purpose. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. The manufacturer is not liable for any subsequent damage resulting from such inadmissible use. The user bears the sole risk in such cases.

3.2 Transportation and Storage

All camera devices must be so transported and stored that they are not subjected to any excessive mechanical stresses.

3.3 Authorized Persons

Only persons trained for the purpose are authorized to handle the camera; they must be familiar with the unit and must be aware of the regulation and provisions required for explosion protection as well as the relevant accident prevention regulations.

3.4 Cleaning and Maintenance

The camera and all its components require no maintenance. All work on the camera by personnel who are not expressly qualified for such activities will cause the Ex approval and the guarantee to become void.

3.5 Safety Precautions

Important	For the installation, maintenance and cleaning of the units, it is absolutely necessary to observe the applicable regulations and provisions concerned with explosion protection (EN 60079-0, EN 60079-14) as well as the Accident Prevention Regulations.
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3.6 Cleaning and Maintenance Intervals

The cleaning intervals depend on the environment where the system is installed.

3.7 Aggressive substances and environments

The camera is not designed to come into contact with aggressive substances or environments, please be aware that additional protection may be required.

3.8 Exposure to external stresses

The camera is not designed to be subjected to excessive stresses e.g. vibration, heat, impact. Additional protection is required to protect against these external stresses. The camera will require additional protection if it is used in a location where it may be subjected to damage.

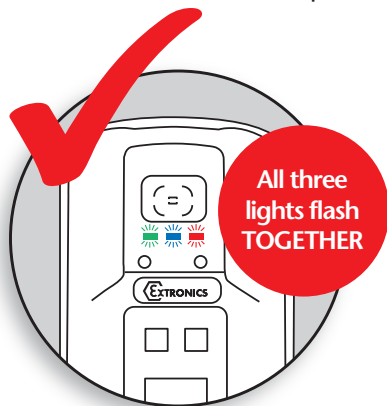
The camera may be fitted with the optional antistatic rubber boot accessory supplied by Larson. However, this does not guarantee any additional impact resistance, and due care must still be taken to avoid damage to the unit, and to inspect it before taking into a hazardous area.

4 Technical Data

ATEX Certification	II 1 G Ex ia IIB T4/T3 Ga, II 2 G Ex ia IIC T4/T3 Gb, -20°C ≤Ta≤ +60°C I M1 Ex ia I Ma 0°C ≤Ta≤ +60°C
IECEx Certification	Ex ia IIB T4/T3 Ga, II 2 G Ex ia IIC T4/T3 Gb, -20°C ≤Ta≤ +60°C Ex ia I Ma 0°C ≤Ta≤ +60°C
MET Certification	Class I, Div 1 Group A-D T4/T3C (USA and Canada)
Compliance	EMC: EN 55022 1998 class B, EN 55024 1999 LV: EN 60950 2002 FCC: FCC: Class A device, compliance through verification route
Dimensions	132mm x 32mm x 22mm (5.20" x 1.26" x 0.87")
IP Rating	IP65 / NEMA3R
Operating Temperature	ATEX / IECEx Group II -20°C to +60°C / Group I 0°C to +60°C / MET -20°C to +50/55°C
Weight	Approx 200g including batteries
Housing	Injection moulded antistatic plastic housing, supplied with antistatic silicone rubber boot for additional shock protection
Relative humidity	95% RH non condensing
Power	2 x Alkaline AA batteries, refer to this Safety Manual (Table 1) for details on range of approved batteries. Batteries may not be carried or changed in Group I hazardous areas.
Memory	On board 1Gbyte NAND Flash (holds approx 5,000 JPEG images without any audio recording and additional 960Kbytes per min for audio)
Image	3.1 Mega-Pixel (2048 x 1536 resolution)
Lens	Autofocus lens, effective focal length 3.39mm, F2.8, 68° diagonal field of view
Focal Distance	5cm to infinity
View Finder	Two element optical view finder
Power Modes	Operate and auto power-down (after 3 mins)
Battery Life	Up to 600 shots without flash and up to 100 shots with flash taken one after the other. 170 shots as per the CIPA DC-002 standard (mixed mode shots with and without flash) Note it is very difficult to be precise about exact numbers as there are many factors that can influence this such as the ambient temperature, how long the camera is powered up, number of voice recordings made and the number and length of time it is connected to a PC for transferring picture and voice data.
Connectivity	USB 1.1 via mini-USB socket for use in the safe area only. Certified for direct connection to a PC without requiring an external protection barrier
OS Support	PTP imaging device in Windows XP/Vista/7 and most versions of Linux. USB firmware upgrade utility for Windows XP/Vista/7/10 only.
Flash	4 LED flash giving 131 lux.seconds of energy at 67ms exposure
Audio recording format	wav
Image format	jpeg
Time and Date	Time and date stamping of stored images and filenames Time and date set via Picture Transfer Protocol (PTP) automatically

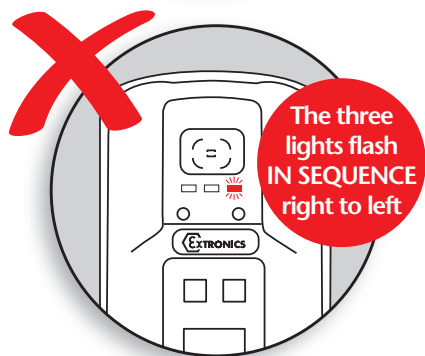
Picture quality

Picture quality is indicated by the LEDs (below). All pictures are stored as occasionally conditions mean it is not possible to get a perfect picture and a poor one is better than no picture. However it is strongly recommended that another picture is taken.



Good picture

To indicate a good picture has been taken, all three lights flash TOGETHER three times and you will hear a beep

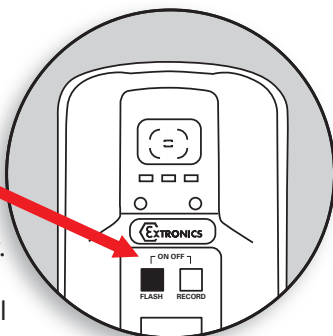


Bad picture

To indicate a bad picture, the three lights flash IN SEQUENCE three times from right to left i.e. red, blue, green etc.

Using the flash

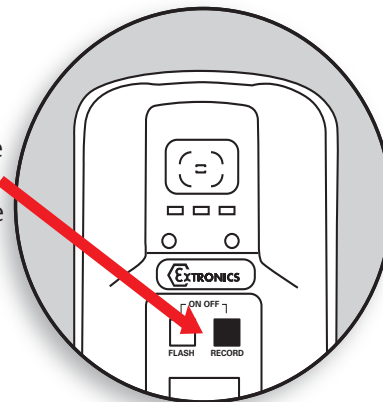
Press the flash button and the red LED will start to flash. The LED will become solid indicating the flash is ready for use. The green LED flashing slowly indicates low battery. Once enabled - the flash function is automatic i.e. will only operate in low light conditions



Voice record function

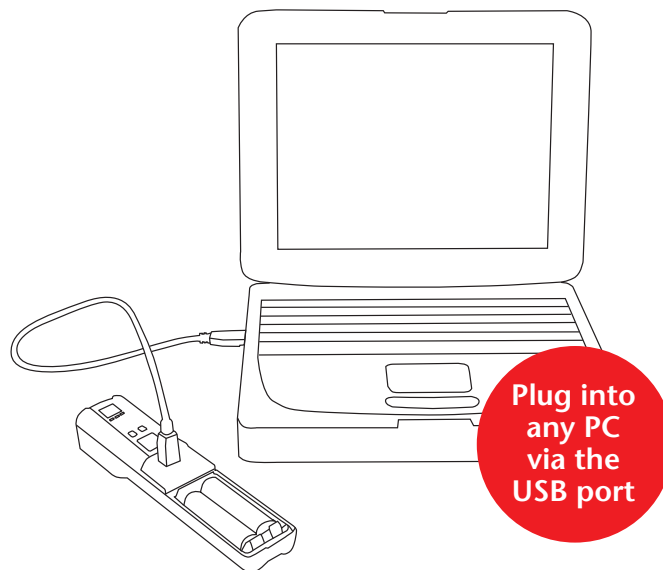
Allows a voice message to be associated with a picture. Press record button - blue LED indicates feature enabled. Take a picture in the usual way but CONTINUE to hold the picture button.

When the blue light flashes, record your message and release picture button when finished.



Downloading pictures

Simply turn on the camera, connect the USB cable to a Windows 7 /Vista or XP PC and follow the on-screen instructions.



Quick Start Guide

This quick start guide explains how to use the camera and its various functions. For Safety Instructions please refer to instructions enclosed with your camera.

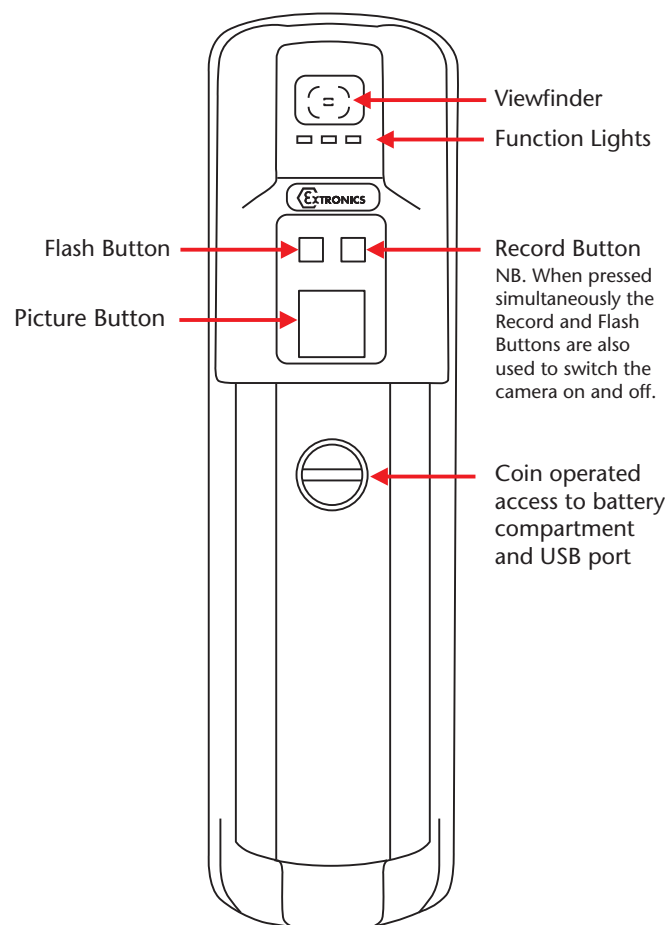
Package Contents

- Camera
- Safety Instructions
- Two approved AA batteries
- Internal USB lead
- 1 lanyard

Preparing for use

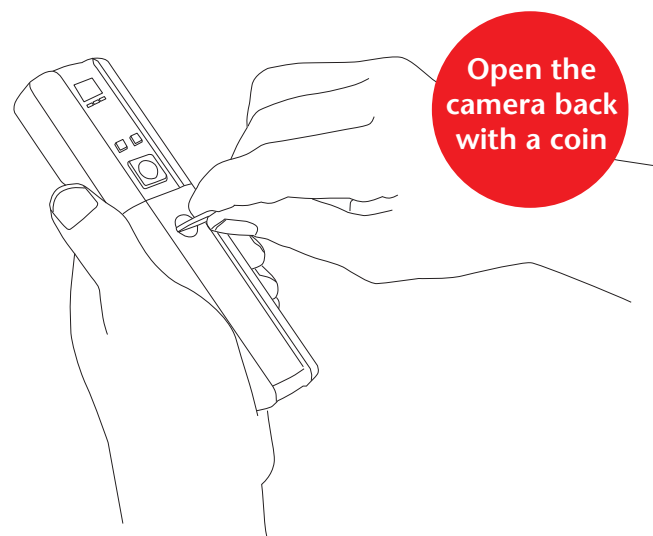
The camera is shipped with a protective film fitted to the front and rear windows. This should be carefully removed before use.

The camera may be used with the protective rubber overboot supplied. Only the rubber overboot supplied by Larson should be used as it is made from electrostatically-dissipative material.

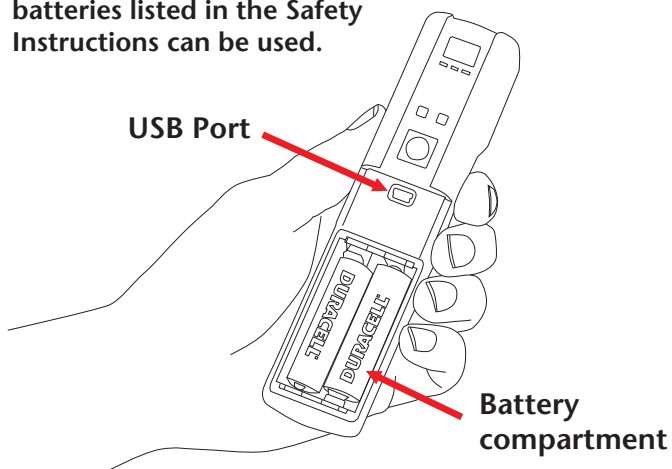


Inserting the battery

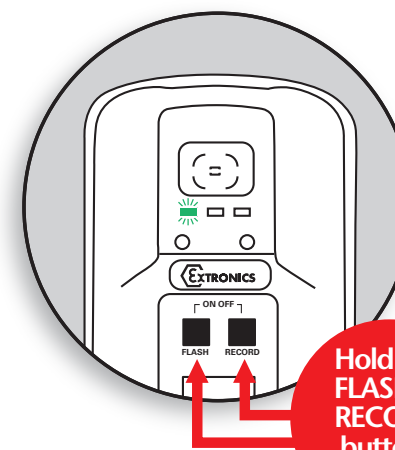
To change or install the batteries, turn the screw as indicated below to remove the cover



Install the batteries in the correct orientation (indicated on the enclosure) and close the lid again. **PLEASE NOTE: Only those batteries listed in the Safety Instructions can be used.**



Switching the camera on and off



Green LED will flash rapidly for ~10 seconds & the Blue and Red LED will flash briefly. The Green LED then goes solid when ready. The green LED flashing slowly indicates a low battery level

Taking a picture

1. Press and hold picture button until green LED starts flashing rapidly.
2. Wait for green LED to stop flashing before moving

