

HOW TO PROPERLY CHARGE YOUR TC7000/TC7150 BATTERY.

WARNING
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The TC7000/7150 battery uses long life lithium based cells, the expected continuous runtime for a TC7000/7150 from a full charged battery pack is 6 hours (this can fluctuate depending upon actual usage parameters). Permanent damage can be caused to Lithium battery packs if they go into a “deep discharge” state, TC7000/7150 uses a unique method to help prevent this occurring, but the correct battery usage and charge procedure detailed below must be followed.

BACKGROUND

TC7000/7150 monitors battery status using a coulomb counting technique which measures the amount of energy used by the camera rather than the actual status of the battery itself. This is different from many other non-Intrinsically Safe devices and is a result of the certification restrictions. In order for this technique to function correctly, the camera requires a fully charged battery to be inserted.

To help prevent the battery going into deep discharge which can cause damage, TC7000/7150 incorporates a backup shutdown timer. After 6 hours runtime, the camera shuts down automatically at which point, the battery should be removed and recharged as soon as is safely possible.

If a partially charged battery is inserted, the battery status indication on the camera screen will be removed and the shutdown timer will timeout after 2 hours, this mode of operation is not recommended and may cause result in the battery going into deep discharge which renders the battery unsafe and in need of replacement*

Even with the camera powered off, the Intrinsically Safe safety circuits are still functioning; helping to ensure the camera is in a safe state. The trade-off for this continuous safety is that the battery is being drained even with the camera powered off, which can also lead to deep discharge. As such, at the end of a working period, the battery must be safely removed from the camera and placed on charge, never leave the battery in the camera overnight, even if the camera is powered off.

CAMERA OPERATION

ALWAYS ENSURE A FULLY CHARGED BATTERY IS INSERTED INTO THE TC7000/7150 OR POOR RUNTIME AND/OR BATTERY DAMAGE MAY OCCUR.

TC7000/7150 will prompt the user on initial camera power up, to confirm that a fresh battery has been installed;

- If the user answered Yes, then the battery charge status indicator will be displayed as normal showing a full charge and the six hour safety timer will start.
- If the user answers No, then the camera will display a second warning screen, informing the user that the camera will allow power up, but this mode of operation is not recommended and damaged caused may not be covered by the Warranty. If the user continues the power up routine in this mode, the battery charge status indicator will not be displayed as the camera has no method of measuring the charge and the six hour safety timer will be reduced to two hours.

NOTE, this is not the preferred method of use for the camera and battery damage may still occur.*

CHARGING THE BATTERY

1. Plug the charger into a wall socket/outlet. The Green LED will illuminate showing mains power is connected and that the charger is ready.
2. Insert TC7000/7150 battery pack into the charging station. Care must be taken to ensure that the battery is inserted in the correct orientation, otherwise battery and/or charger damage may occur. If the battery is properly located in the charging station, the Yellow LED on the charger will illuminate to indicate charging. Once the charge cycle is complete, the Yellow LED will extinguish.
3. If the Yellow LED flashes, this indicates a deep-discharge or short circuit state. The battery should be removed from the charging station immediately and the troubleshooting guide referred to.



TROUBLESHOOTING

Problem	Solution
My camera has poor runtime but the battery status indicator on the screen shows full.	When a new battery is inserted, the camera assumes the battery is fully charged and shows a full charge on the screen. Insert a fully charged battery into the camera.
My battery will not charge and will not power up the camera.	Ensure the battery has not gone into "deep-discharge" by using a multi-meter to check the voltage across the pads on the base of the battery. If the reading is less than 6V then the battery has gone into a deep discharge state and must be replaced. If the battery voltage is above 6V then refer to the battery charging procedure and ensure the charger LEDs are illuminating correctly.
My camera is unstable and sometimes hangs.	Check the battery voltage by using a multi-meter across the battery pads. If the battery has not been fully charged and/or has been inserted into the camera partially charged, the cut off timer will not operate and the battery voltage may drop below 6.9V at which stage the camera may become unstable. Always ensure a fully charged battery is inserted into the camera.
The battery charger is flashing yellow.	This indicates either that the battery is short circuited or is in a deep discharge state. In either event, the battery must be removed from the charger and disposed of immediately.

WARRANTY STATEMENT (BATTERIES)

CorDEX Instruments Ltd, take great pride in the products we manufacture and warrant our products including batteries to be free from manufacturer's defects. If your battery fails, we recommend the following: First, determine if the battery needs a boost or replacement. Most batteries that fail are simply discharged and need a boost. If the battery is simply in need of a boost, have it re-charged as described in this document. If your battery still fails, please follow the troubleshooting guide above and then contact us at rma@cord-ex.com quoting the battery voltage, the camera serial number and battery serial number along with your complete contact details, including telephone number and email. Please note, batteries in deep-discharge are not covered by Warranty.

* Deep discharge can only occur when a battery is left in the camera for an extended period which is contrary to correct operation, subsequent damage is not covered by Warranty.

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