Pwr-XS prototype

To the attention of all PWR-XS prototype users

Conditions of use

Batteries: It is essential even critical to use only the supplied batteries by Cortex R&D. These batteries are the NCR18650B of Panasonic.

At any time, a battery must either be:

1) Stored in its provided plastic container
2) In the GoPro, being in use
3) In its charger

Never leave a battery loose in a backpack, handbag or other, without being in its plastic container. Keep away from coins, aluminum foil, or any metallic object that could cause a short-circuit. Keep away from children and animals. If you carry the batteries in a compartment that is likely to be shaken hard (ex: off-road vehicle), they should be wrapped individually in a soft spongy fabric to absorb the shocks. If you plan to take them on an airplane, check with the airline company to be sure if you are allowed to and how to carry them. Most will require that you have them properly protected, in your carry-on luggage, and not in the checked-in baggage.

The charger: It is essential even critical to use only the supplied chargers by Cortex R&D. The brands are either Nitecore or Opus. Never leave a battery in the charger without supervision. You must check their temperature regularly and never leave more than 4 hours. Most explosions and fires related to these batteries occur during a charge not being supervised. Charging a battery while being onboard a vehicle may be risky, especially if off-road. Make sure you secure the charger and the battery (tie-wrap, rubber band or other) to avoid being shaken-off its support.

The flexible flat cable: It is important to inspect this ribbon on its entire length, width and both sides, each time the battery compartment is manipulated, to see if any abrasion or cut is occurring on the insulation or the copper, especially at the two bending points. This is particularly important for the Hero 4, because its battery door can create a shearing effect. Advise immediately if you see those signs.

Enumeration of risks

As you probably know, the word "prototype" always imply a functional version of an invention that is still under development. This prototype is not fully ready for the market and has yet to be tested furthermore, by knowledgeable people aware of the situation.

So here is the exact situation and all you need to know about this prototype.

This product still has some shortcomings, despite having been designed in a conscientious manner, and being relatively safe under normal use.

<u>Among the elements that remain to be improved:</u>

- **The use of protected batteries:** Currently, the prototype uses non-protected batteries, which means that they do not have individual internal circuit against overcurrent, overvoltage, undervoltage and overheating. On the other hand, it is the GoPro which provides two of these protections (overvoltage and undervoltage) and my circuit protects against overcurrent by means of a fuse. There is also a reversed polarity protection. The prototype still lacks a battery temperature sensor to prevent overheating. I rely on your cooperation to manually and frequently check the temperature of the battery to see if it remains at a safe level. This is true when in use and when charging. Typically, it can become slightly warm, so a little warmer than room temperature is acceptable. In a very hot day, it can easily support up to 50 deg C. To give you an idea, the fingers of an average adult person can sustain this, but it's near the limit of comfort.
- **The physical protection of the battery:** In its present form, the battery is potentially exposed to impacts. This is a non-negligible risk that you must be aware of. A battery that is compressed, distorted, perforated, cracked, which has changed color, which is leaking some liquid, which smokes, throws sparks, or becomes too hot to be touched, must immediately be removed away from people and thrown in an isolated and safe place as much as possible. Ideally use a water container, a creek, a grassy or sandy spot. At that very moment, there is a risk of explosion or fire within a few seconds. When the situation is under control, you will drop the battery in a water container with a handful of salt to discharge the battery and make it inert. As you will see, these batteries are extremely robust, being made of thick stainless steel. But while such an mishap is relatively unlikely to happen, the risk is still there, and vigilance is required.

If an untoward event occurs, whatever it is, you have the duty to inform cortex R&D so that it can be documented, the information compiled, and to make the necessary fixes to improve the final product.

When the final version of the product will be released on the market, all users will have to give me their prototype for destruction.

Finally, I will ask to sign a liability release form, and the acceptance of the risks incurred in the use of this prototype.

Liability release

By agreeing to use this Pwr-XS prototype, I assume all responsibility regarding any potential harm to the person or property that may arise, as well as any financial losses, whether the result of proper use or not.

I understand that lithium-ion batteries can be very dangerous and can cause serious injury or even death.

I understand that the prototype cannot be lent or given to anybody, and cannot be modified without Cortex R&D permission.

I understand that I am relinquishing the right to sue Cortex R&D or Normand Defayette because I believe that they are in good faith and did everything possible to avoid negligence, injury and damage. In addition, they have taken adequate measures to inform me of the risks.

I undertake to return the prototype at the request of Cortex R&D, or at the release of the commercial version of the product in exchange.

I accept the terms of this agreement.

Name: _____

Signature: _____

Date: _____

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