

From: Alana Sherman alana@mbari.org

Subject: Coral Macro battery pack duration

Date: October 11, 2022 at 5:25 PM

To: Steven Litvin litvin@mbari.org, Paul McGill mcgill@mbari.org, Jim Barry barry@mbari.org

Cc: alana alana@mbari.org

AS

Hi all,

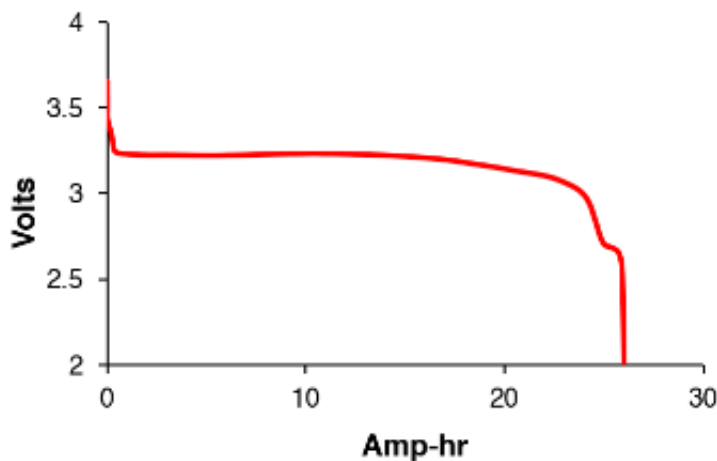
I am writing this email to help our collective memory and to inform our planning for future Coral Macro deployments. I measured the voltage of the main battery pack (pn. 3PD1848) for Coral Macro, and found it to be 23.5V, it started at 31.47V. Attached below is the discharge curve for lithium batteries for my reference. A pack at 23.5V means a single cells voltage is about 2.9V, which means we were in the 'going off the cliff' part of the lifecycle of the battery- i.e. almost used up. Thus we can say that one of these battery packs will take 12,500 images (images were taken every 20 min over a period 6 months- I mention this because the energy used sleeping between pics impacts duration).

So, We plan to deploy for 6 months again. We can fit 2 packs on board and take images at a higher rate. We should make this decision tomorrow if possible as Aaron and I are fitting up the battery housing. Let me know what you think.

Alana

For Electrochemical 3B0036

Discharge Curve
1000 mA, 23°C



Alana Sherman
Electrical Engineer
Monterey Bay Aquarium Research Institute (MBARI)
alana@mbari.org
<https://www.mbari.org/sherman-alana/>
7700 Sandholdt Rd.
Moss Landing, CA 95039