



Cryo-Temp Data Logger *

*Currently in design certification

Biological experiments on the ISS are frequently frozen at ultra-low temperatures on orbit prior to return to Earth for analysis. Recording temperatures during the freezing process, and subsequent handling to the point of post-flight processing, can provide important information of sample integrity to the scientist.

The MadgeTech Cryo-Temp Data Logger has been modified for space flight applications by the Payload Development Team at Kennedy Space Center. This ultra-low temperature data logger is rated for temperatures from -86°C to $+35^{\circ}\text{C}$ with 0.1°C resolution and $\pm 1^{\circ}\text{C}$ accuracy, but has been successfully tested at Kennedy Space Centers Cryogenic Lab down to -100°C . The logger provides date and time stamped temperature recordings and can be set with logging intervals from 5 seconds up to 30 minutes using the MadgeTech Data Logger Software. Data can be recorded, depending on logging interval, for greater than 90 days.

The Cryo-Temp Data logger will first be flown on Space X-12 in the BRIC-Petri Dish Fixation Unit (PDFU) canister hardware, recording temperature data for a Space Life and Physical Sciences (SLPS) flight experiment. The modified Cryo-Temp Data Logger is small in size (Figure 1) and is the ideal temperature monitoring solution for any application involving independent temperature data logging.

Available for use in October 2017.



Figure 1 A. Modified MadgeTech Cryo-Temp Data Logger

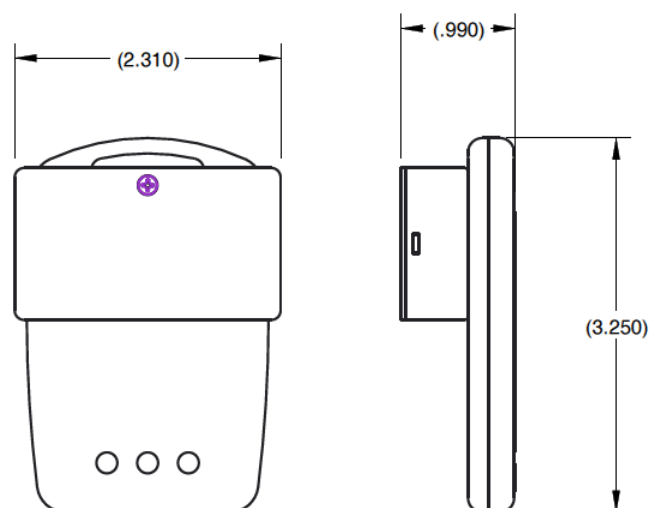


Figure 1 B. Dimensions of the Modified Cryo-Temp Data Logger

Points of Contact:

Howard G. Levine, Ph.D.

Email: howard.g.levine@nasa.gov

Allison Caron

Email: allison.r.caron@nasa.gov

www.nasa.gov