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Chlorophyll WETStar Characterization

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Chlorophyll concentration expressed in µg/l can be derived using the equation:

CHL(µg/l) = Scale Factor x (Output - Clean Water Offset)

	Analog output	Digital output
Clean Water Offset (CWO)	0.126 V @	122 counts
Scale Factor (SF)	13.8 µg/l/V @	0.0186 µg/l/count
Maximum Output	5.52 V @	4095 counts
Resolution	0.28 mV	1 counts
Ambient Characterization Temperature	22 ± 1°C	
Current Draw	40 mA @ 12V (typical)	
12-hour Stability	0.15 mV/hr	1 counts/hr
Temperature Stability, 25–2 °C	0.15 mV/°C	1 counts/°C

Range	
15 µg/l	
75 µg/l	X
150 µg/l	

Definitions:

CWO: Clean Water Offset value obtained using pure filtered de-ionized water.

SF: Scale Factor is used to convert the fluorescence response of the instrument into chlorophyll-a concentration. Scale Factor is determined at WET Labs during a cross calibration using a liquid fluorescent standard and a reference fluorometer whose chlorophyll fluorescence response has been characterized in a laboratory using a mono-species lab culture of *Thalassiosira weissflogii* phytoplankton.

Maximum Output: Maximum signal output of the fluorometer.

Resolution: Standard deviation of 1 minute of clean water data, sampled once per second.

Ambient Characterization Temperature: Room temperature at time of characterization.

Current Draw: The amount of current the instrument uses for operation.

12-hour Stability: Deviation of output averaged over 12 hours.

Temperature Stability: Measured output variation per degree.