



## Chlorophyll WETStar Characterization

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Chlorophyll concentration expressed in  $\mu\text{g/l}$  can be derived using the equation:

$$\text{CHL}(\mu\text{g/l}) = \text{Scale Factor} \times (\text{Output} - \text{Clean Water Offset})$$

	Analog output
Clean Water Offset (CWO)	0.067 V @
Scale Factor (SF)	13.7 $\mu\text{g/l/V}$ @
Maximum Output	5.52 V @
Resolution	0.16 mV
Ambient Characterization Temperature	22 $\pm$ 1 $^{\circ}\text{C}$
Current Draw	40 mA @ 12V (typical)
12-hour Stability	0.14 mV/hr
Temperature Stability, 25–2 $^{\circ}\text{C}$	0.12 mV/ $^{\circ}\text{C}$

Range	
15 $\mu\text{g/l}$	0
75 $\mu\text{g/l}$	X
150 $\mu\text{g/l}$	0

### 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.