

## Chlorophyll WETStar Pre-Characterization

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S/N: WS3S-582P

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

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

Clean Water Offset (CWO)	Analog output 0.075 V
Scale Factor (SF)	4.7 $\mu\text{g/l/V}$
Maximum Output	4.98 V
Resolution	0.48 mV
Ambient Characterization Temperature	22 $\pm$ 1°C
Current Draw	30 mA @ 12V (typical)
12-hour Stability	0.85 mV/hr
Temperature Stability, 25–2 °C	0.12 mV/°C

Range	
15 $\mu\text{g/l}$	0
23 $\mu\text{g/l}$	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.