

FLNTU Characterization Sheet

Date: December 9, 2013

S/N: FLNTUSB-286

Chlorophyll Scale Factor

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

$$\text{CHL } (\mu\text{g/l}) = \text{Scale Factor} \times (\text{Output} - \text{Dark Counts})$$

	Analog		Digital	
Dark Counts	0.065	V	55	counts
Scale Factor (SF)	10	µg/l/V	0.0119	µg/l/count
Maximum Output	4.96	V	4120	counts
Resolution	0.4	mV	1.0	counts
Ambient temperature during calibration	21.0	°C		

Nephelometric Turbidity Unit (NTU) Scale Factor

Turbidity units expressed in NTU can be derived using the equation:

$$\text{NTU} = \text{Scale Factor} \times (\text{Output} - \text{Dark Counts})$$

	Analog		Digital	
Dark Counts	0.070	V	50	counts
NTU Solution Value	1.88	V	1558	counts
Scale Factor (SF)	5	NTU/V	0.0063	NTU/count
Maximum Output	4.96	V	4120	counts
Resolution	0.2	mV	1.0	counts
Ambient temperature during calibration	21.0	°C		

See reverse side for definition of terms.

Dark Counts: Signal output of the meter in clean water with black tape over detector.

NTU Solution Value: Signal output of the turbidity sensor when measuring a sample of interest.

SF (CHL): Determined using the following equation: $SF = x \div (\text{output} - \text{dark counts})$, where x is the concentration of the solution used during instrument characterization. SF is used to derive instrument output concentration from the raw signal output of the fluorometer.

SF (NTU): Scale factor is determined using the following equation: $SF = xx \div (\text{Output} - \text{Dark counts})$, where xx is the value of a Formazin concentration. For example: $12.2 \div (2011 - 50) = 0.0062$.

Maximum Output: Maximum signal output the fluorometer is capable of.

Resolution: standard deviation of 1 minute of collected data.

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Thermistor Calibration

Thermistor output in degrees C can be derived using the equation:

$$\text{Temperature} = (\text{Output} \times \text{slope}) + \text{intercept}$$

R ²	0.9998			
Slope	-0.0057	°C/count		
Intercept	72.2753	°C		
Temp. change rate	0.33	°C/min		
Temp range	38.06	°C max	2.71	°C min
Nominal accuracy	0.01	°C		
RMSE	0.1449			