

## FLNTU Characterization Sheet

Date: December 27, 2012

S/N: FLNTURT-090

### 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	0.070	V	48	counts
Scale Factor (SF)	11	µg/l/V	0.0131	µg/l/count
Maximum Output	4.95	V	4121	counts
Resolution	0.5	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	0.075	V	51	counts
NTU Solution Value	2.26	V	1852	counts
Scale Factor (SF)	5	NTU/V	0.0062	NTU/count
Maximum Output	4.95	V	4121	counts
Resolution	0.5	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.