

## FLNTU Characterization Sheet

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S/N: FLNTUS-4403

### Chlorophyll Scale Factor

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

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

	Analog		Digital	
Dark Counts	0.068	V	46	counts
Scale Factor (SF)	10	$\mu\text{g/l/V}$	0.0121	$\mu\text{g/l/count}$
Maximum Output	4.99	V	4130	counts
Resolution	1.3	mV	1.0	counts
Ambient temperature during calibration	21.5	$^{\circ}\text{C}$		

### 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	0.056	V	50	counts
NTU Solution Value	3.62	V	2970	counts
Scale Factor (SF)	20	NTU/V	0.0243	NTU/count
Maximum Output	4.99	V	4130	counts
Resolution	1.3	mV	1.0	counts
Ambient temperature during calibration	21.5	$^{\circ}\text{C}$		

#### 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:  $\text{SF} = x \div (\text{output} - \text{dark counts})$ , 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:  $\text{SF} = \text{xx} \div (\text{Output} - \text{Dark counts})$ , 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.