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# FLNTU Characterization Sheet

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## Chlorophyll Scale Factor

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

**CHL (µg/l) = Scale Factor x (Output - Dark Counts)**

| | Analog | | Digital | |
|---|---|---|---|---|
| **Dark Counts** | 0.061 | V | 47 | counts |
| **Scale Factor (SF)** | 10 | µg/l/V | 0.0121 | µg/l/count |
| **Maximum Output** | 4.97 | V | 4130 | counts |
| **Resolution** | 0.8 | mV | 1.0 | counts |
| Ambient temperature during calibration | 22.0 | °C | | |

## Nephelometric Turbidity Unit (NTU) Scale Factor

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

**NTU = Scale Factor x (Output - Dark Counts)**

| | Analog | | Digital | |
|---|---|---|---|---|
| **Dark Counts** | 0.051 | V | 50 | counts |
| **NTU Solution Value** | 1.79 | V | 1480 | counts |
| **Scale Factor (SF)** | 20 | NTU/V | 0.0242 | NTU/count |
| **Maximum Output** | 4.97 | V | 4130 | counts |
| **Resolution** | 1.0 | mV | 1.0 | counts |
| Ambient temperature during calibration | 22.0 | °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: SF = x ÷ (output - 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 ÷ (Output - Dark counts), where xx is the value of a Formazin concentration. For example: 12.2 ÷ (2011 - 50) = 0.0062.

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

**Resolution**: standard deviation of 1 minute of collected data.