

FLNTU Characterization Sheet

Date: November 15, 2011

S/N: FLNTURTD-2482

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 | 0.047 | V | 49 | counts |
| Scale Factor (SF) | 10 | µg/l/V | 0.0121 | µg/l/count |
| Maximum Output | 4.98 | V | 4130 | counts |
| Resolution | #DIV/0! | mV | 1.0 | counts |
| Ambient temperature during calibration | 22.3 | °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 | 0.063 | V | 50 | counts |
| NTU Solution Value | 2.24 | V | 1835 | counts |
| Scale Factor (SF) | 20 | NTU/V | 0.0242 | NTU/count |
| Maximum Output | 4.98 | V | 4130 | counts |
| Resolution | #DIV/0! | mV | 1.0 | counts |
| Ambient temperature during calibration | 22.3 | °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.