The Turbidity sensor 4640 is based on the seapoint turbidity meter. The sensor detects light scattered by particles suspended in water. This measurement is known to have a good correlation to the amount of suspended matter in water and can be used to monitor e.g. sediment, algae or particle pollution. The sensor generates an output voltage proportional to the turbidity or suspended solids.

The low power consumption makes it ideal for applications where battery drain is a concern.

The sensor offset voltage is within 1 mV of zero and requires no adjustment across gains.

The unique optical design confines the sensing volume to within 5 cm of the sensor allowing near-bottom measurements and minimizing errant reflections in restricted spaces.

The turbidity sensor can be mounted directly on the Top-end Plate of the Aanderaa RDCP; the sensor output signal is raw data readings. The output signal from the Analog converter is in SR-10 format.

Turbidity Sensor 4705

fits directly onto the Top-end Plate of the RDCP. Turbidity sensor 4705 consists of Turbidity sensor 4640 and Analog converter 4649.

Advantages:
- Optically confined sensing volume
- Insensitive to ambient light
- Linear output over more than 5 decades
- 4 Selectable ranges
- Optic feedback compensated for temperature drift and aging of optical components
- Very low offset voltage does not require adjustment
- Very low power requirements

Application Areas:
- Pollution monitoring
- Water and wastewater quality
- Sediment transport
- Ocean profiling
- River and stream monitoring
Specifications 4705

Operating range:

<table>
<thead>
<tr>
<th>Range</th>
<th>Sensitivity (mV/FTU)</th>
<th>Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 25</td>
<td>200</td>
<td>100x</td>
</tr>
<tr>
<td>0 - 125</td>
<td>40</td>
<td>20x</td>
</tr>
<tr>
<td>0 - 500</td>
<td>10</td>
<td>5x</td>
</tr>
<tr>
<td>0 - 2500</td>
<td>2</td>
<td>1x</td>
</tr>
</tbody>
</table>

("the sensor output is non-linear above 750 FTU")

Operating temperature: 0°C to 65°C (32°F to 149°F)

Output signal: 0-5.0Vdc

Output time constant: 0.1sec

Power requirements:
Average: 3.5mA
Peak: 6mA

RMS Noise: < 1mV

Power-up transient period: < 1sec

Light source wavelength: 880nm

Sensing distance: < 5cm (approx.) from windows

Linearity¹:
< 2% deviation 0-750FTU

Temperature coefficients:
< 0.05% per deg. Celcius

Depth capability: 300m (984ft)

Weight (in air): 86g (3.0oz)

Materials:
ABS plastic, Epoxy, Stainless steel 316

Electrical connection: 10-pin receptacle mating plug

¹The sensor is delivered adjusted for linearity in the range 0-750 FTU. To obtain an absolute calibration, referred to a laboratory reference instrument, please order calibration for the selected range.

Specifications subject to change without prior notice

Note:
Analog converter 4649 is installed inside the RDCP.

Refer system drawing S-6891 for electrical connections and sensor range selection.

Calibration Coefficients:
For Analog converter 4649, serial no.:

<table>
<thead>
<tr>
<th>A</th>
<th>C</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>D</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Range</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>0 - 25</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>0 - 125</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 - 500</td>
<td>0</td>
<td>0</td>
<td></td>
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</tr>
</tbody>
</table>

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www.aanderaa.no

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