



# GPS Aquameter

The GPS Aquameter is a hand held device with a display for live data viewing and data recording. As one of our flagship products it is included in every Aquaprobe package. It is designed to be very simple to use and to make your job easier in the field.

All currently measured data can be recorded by pressing the M+ button, as you record your dataset the Aquameter uses its built in GPS receiver to record the precise location that the measurements were taken from, with data being viewable in Google Earth.

## Build



Left: AquaLink screen shot. Right: Google Earth screen shot with GeoTags

## GPS Aquameter Mechanical Specification

|                        |  |
|------------------------|--|
| Dimensions (L x H x D) | 90mm x 180mm x 39mm                          |
| Weight                 | 425g   |
| Display                | 80 character backlit LCD                     |
| Data Memory            | 10,000 full sets inc GLP data                |
| GPS Receiver           | 12 channel with int antenna                  |
| GPS Accuracy           | +/- 10m in all 3 dimensions                  |
| Atmospheric Pressure   | 150mb - 1150mb Accuracy +/- 1mb              |
| Interface              | USB (cable provided)                         |
| Power Supply           | 5 x AA cells. Alkaline or Ni-MH rechargeable |
| Battery Life           | Alkaline > 20 hours<br>Ni-MH > 40 hours      |
| Operating Temperature  | -20°C to +70 C                               |
| Protection Class       | IP67   |

## Process data in AquaLink

- Simple data download via button
- Tick and un-tick datasets to customise your outputs
- Output a text report for all highlighted data
- Output data as a CSV file that you can open in Excel
- Output data as a .KML file for use in Google Earth

The GPS Aquameter can be used with Aquaprobes to measure the following parameters



| Standard Parameters        | Parameter  | Range  | 0 – 500.0% / 0 – 50.00 mg/L                   |                 |
|----------------------------|------------|--|---|-----------------|
|                            |            | Dissolved Oxygen   | Resolution                                    | 0.1% / 0.01mg/L |
|                            |            | Accuracy   | 0 - 200%: ± 1% of reading, 200% - 500%: ± 10% |                 |
| Depth AP-2000/ AP-5000     | Range      | ± 0 – 60.00 m (60m max displayed depth, max probe immersion 100m)            |   |                 |
|                            | Resolution | 1cm  |   |                 |
|                            | Accuracy   | ± 0.5% FS  |   |                 |
| Depth AP-7000              | Range      | ± 0 – 99.99 m  |   |                 |
|                            | Resolution | 1cm  |   |                 |
|                            | Accuracy   | ± 0.2% FS  |   |                 |
| Conductivity (EC)          | Range      | 0 – 200 mS/cm (0 - 200,000 µS/cm)  |   |                 |
|                            | Resolution | 3 Auto-range scales: 0 – 9999 µS/cm, 10.00 – 99.99 mS/cm, 100.0 – 200.0mS/cm |   |                 |
|                            | Accuracy   | ± 1% of reading  |   |                 |
| TDS*                       | Range      | 0 – 100,000 mg/L (ppm)   |   |                 |
|                            | Resolution | 2 Auto-range scales: 0 – 9999mg/L, 10.00 – 100.00g/L                         |   |                 |
|                            | Accuracy   | ± 1% of reading  |   |                 |
| Resistivity*               | Range      | 5 Ω • cm – 1 MΩ • cm   |   |                 |
|                            | Resolution | 2 Auto-range scales: 5 – 9999 Ω • cm, 10.0 – 1000.0 KΩ • cm                  |   |                 |
|                            | Accuracy   | ± 1% of reading  |   |                 |
| Salinity*                  | Range      | 0 – 70 PSU / 0 – 70.00 ppt (g/Kg)  |   |                 |
|                            | Resolution | 0.01 PSU / 0.01 ppt  |   |                 |
|                            | Accuracy   | ± 1% of reading  |   |                 |
| Seawater Specific Gravity* | Range      | 0 – 50 σt  |   |                 |
|                            | Resolution | 0.1 σt   |   |                 |
|                            | Accuracy   | ± 1.0 σt   |   |                 |
| pH                         | Range      | 0 – 14 pH / ± 625mV  |   |                 |
|                            | Resolution | 0.01 pH / ± 0.1mV  |   |                 |
|                            | Accuracy   | ± 0.1 pH / ± 5mV   |   |                 |
| ORP                        | Range      | ± 2000mV   |   |                 |
|                            | Resolution | 0.1mV  |   |                 |
|                            | Accuracy   | ± 5mV  |   |                 |
| Temperature (non freezing) | Range      | -5°C – +50°C (23°F – 122°F)  |   |                 |
|                            | Resolution | 0.01°C / 0.1°F   |   |                 |
|                            | Accuracy   | ± 0.1 °C   |   |                 |

\* Readings calculated from EC and temperature electrode values

| ISE      | Parameter  | Range   | 0 – 9,000mg/L (ppm)                             |  |
|----------|------------|---|---|--|
|          |            | Ammonium  | Resolution                                      | 2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 - 8,999.9 mg/L |
|          |            | Accuracy  | ± 10% of reading or 2ppm (whichever is greater) |  |
| Ammonia† | Range      | 0 – 9,000mg/L (ppm)   |   |  |
|          | Resolution | 2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 - 8,999.9 mg/L  |   |  |
|          | Accuracy   | ± 10% of reading or 2ppm (whichever is greater)               |   |  |
| Chloride | Range      | 0 – 20,000mg/L (ppm)  |   |  |
|          | Resolution | 2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 19,999.9 mg/L |   |  |
|          | Accuracy   | ± 10% of reading or 2ppm (whichever is greater)               |   |  |
| Fluoride | Range      | 0 – 1,000mg/L (ppm)   |   |  |
|          | Resolution | 2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 - 999.9 mg/L    |   |  |
|          | Accuracy   | ± 10% of reading or 2ppm (whichever is greater)               |   |  |
| Nitrate  | Range      | 0 – 30,000mg/L (ppm)  |   |  |
|          | Resolution | 2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 29,999.9 mg/L |   |  |
|          | Accuracy   | ± 10% of reading or 2ppm (whichever is greater)               |   |  |
| Calcium  | Range      | 0 – 2,000mg/L (ppm)   |   |  |
|          | Resolution | 2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 1,999.9 mg/L  |   |  |
|          | Accuracy   | ± 10% of reading or 2ppm (whichever is greater)               |   |  |

† Ammonium electrode required. Readings calculated from ammonium, pH and temperature values.

| Optical                      | Parameter     | Range   | 0 – 4000 NTU              |   |
|------------------------------|---------------|---|---------------------------|---|
|                              |               | Turbidity   | Resolution                | 2 Auto-range scales: 0.0 - 99.9 NTU, 100 - 3000 NTU |
|                              |               | Accuracy  | ± 5% of auto-ranged scale |   |
| Chlorophyll                  | Range         | 0 – 500.0 µg/L (ppb)  |                           |   |
|                              | Resolution    | 2 Auto-range scales: 0.00 - 99.99 µg/L, 100.0 - 500.0 µg/L    |                           |   |
|                              | Repeatability | ± 5% of reading   |                           |   |
| Phycocyanin (freshwater BGA) | Range         | 0 – 300,000 cells/mL  |                           |   |
|                              | Resolution    | 1 cell/mL   |                           |   |
|                              | Repeatability | ± 10% of reading  |                           |   |
| Phycerythrin (marine BGA)    | Range         | 200,000 cells/mL  |                           |   |
|                              | Resolution    | 1 cell/mL   |                           |   |
|                              | Repeatability | ± 10% of reading  |                           |   |
| Rhodamine WT Dye             | Range         | 0 – 500 µg/L (ppb)  |                           |   |
|                              | Resolution    | 2 Auto-range scales: 0.00 - 99.99 µg/L, 100.0 - 500.0 µg/L    |                           |   |
|                              | Accuracy      | ± 5% of reading   |                           |   |
| Fluorescein Dye              | Range         | 0 – 500 µg/L (ppb)  |                           |   |
|                              | Resolution    | 2 Auto-range scales: 0.00 - 99.99 µg/L, 100.0 - 500.0 µg/L    |                           |   |
|                              | Accuracy      | ± 5% of reading   |                           |   |
| Refined Oil                  | Range         | 0 – 10,000 µg/L (ppb) (Naphthalene)                           |                           |   |
|                              | Resolution    | 0.1 µg/L  |                           |   |
|                              | Repeatability | ± 10% of reading  |                           |   |
| CDOM / FDOM                  | Range         | 0 – 20,000 µg/L (ppb) (Quinine Sulphate)                      |                           |   |
|                              | Resolution    | 2 Auto-range scales: 0.0 - 9,999.9 µg/L, 10,000 – 20,000 µg/L |                           |   |
|                              | Repeatability | ± 10% of reading  |                           |   |

The accuracy figures quoted throughout this document represent the equipment's capability at the calibration points at 25°C. These figures do not take into account errors introduced by variations in the accuracy of calibration solutions and errors beyond the control of the manufacturer that may be introduced by environmental conditions in the field. Accuracy in the field is also dependent upon full calibration and minimal time between calibration and use.