

## AQ500 Multi-Point Salinometer System



A temperature compensated salinometer system with in line retractable probes that will operate up to 10 bar pressure and 140C.

The **AQ500** range of salinometers comprises the following sub-assemblies which are electrically interconnected

- Probe assembly
- Probe amplifier module
- Display and conditioning board
- Optional external alarm
- Optional Data Comm Unit with **AQUANET** software

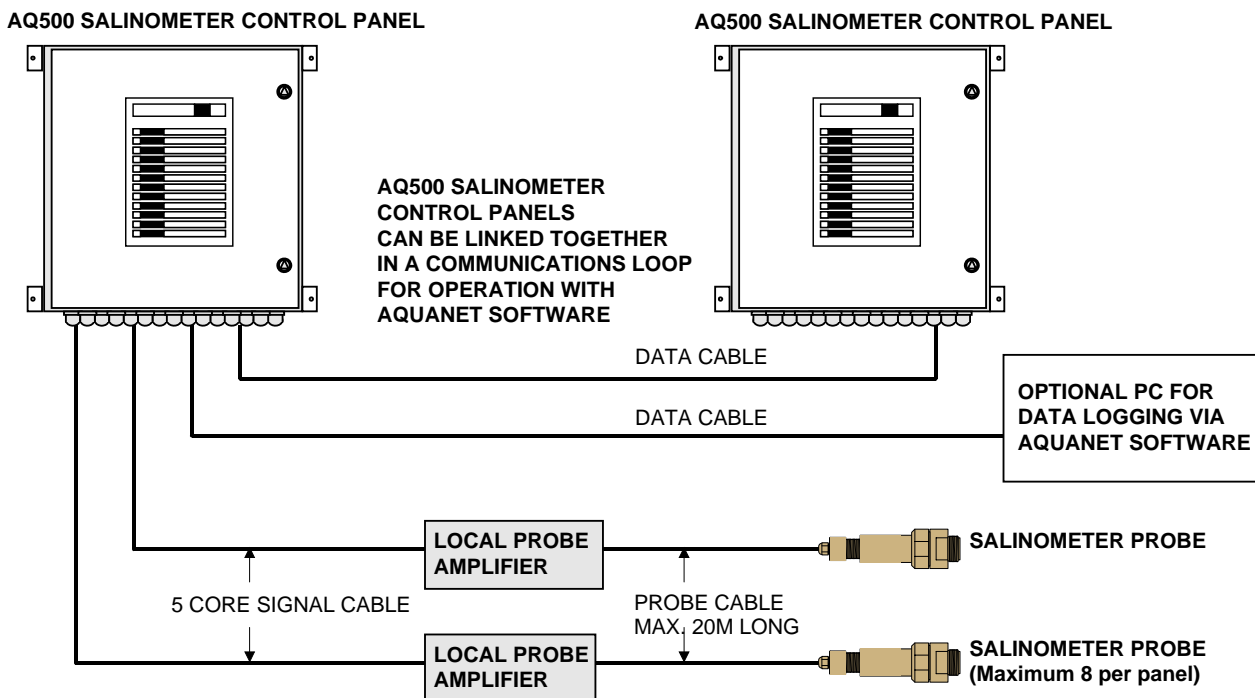
Data logging together with display and analysis of data are possible, by connecting to a suitable PC running **AQUANET** software .

A single unit has the ability to continuously monitor and provide alarms up to eight probes whilst maintaining galvanic isolation between channels, complete with a scrollable LCD display for local display of each probe's reading.

If more than eight probes are required, then additional units must be installed.

The units are interlinked and only require a mains supply with the alarm outputs run to the PC, which is placed at the control station and will give a permanent display of all readings and Hi/Lo alarm indication. Event alarms provide warning messages and advise corrective action. There are 4 fully configurable alarms per probe, which are normally factory set to your requirements.

Calibration is possible either locally at the probe amplifier, on the control panel or via **AQUANET** software to a suitable PC. If **AQUANET** software is used then time programmable warnings for calibration appear at regular intervals and when alarms occur they can alert through the ship's IAS system (if suitable, this facility is subject to survey or ship specific data).



### Display and conditioning panel

The display and conditioning module comprise 2 cards. One card contains a microprocessor, analogue to digital converter, non-volatile memory local LCD display and communications interface. The microprocessor card is connected via a ribbon cable to a second card containing power supplies, isolation amplifiers and alarm relays, the function of this card is to power the remotely located probes and amplifiers.

All calibration values, system timings and other constants are retained in the non volatile memory

Dimensions 350 x 350 x 120mm

### Microprocessor Card

Display 16 char x 2 line scrollable  
LCD  
Analogue to digital converter 10 bit (1024 levels)  
Reference voltage 2.5V  
Communications interface RS422  
Communications protocol - Proprietary **AQUANET**  
Operational temperature 0 to 55°C  
Storage temperature -15 to 85°C  
RH 0-95% non condensing

### Power supply card

This card provides 4-20mA loop power for all remote conductivity amplifiers and probes and also provides suitable galvanic isolation for each channel of data.

Input power 110/220VAC 50/60Hz  
Power requirement 50 watts  
Operational temperature 0 to 55°C  
Storage temperature -15 to 85°C  
RH 0-95% non condensing  
Internal power supply rails Independent 20 volts dc @ 100mA 12 volts dc @ 1amp  
Alarm relay contacts 220Vac @ 1 Amp  
Terminals suitable for 2.5mm

### Cables

Probes 4 core screened 1mm<sup>2</sup> max length 20 metres

Amplifier loop and control cable Armoured screened 6 core 1mm<sup>2</sup> for standard amplifiers max length 100 metres in normal conditions

Aquanet communications loop 4 core screened RS422 communications cable, max length without repeaters 1KM

**Optional Siren** IP 65 , 104dB@1m,

Siren can be muted via momentary switch but will be re-activated after delay ( 1- 30 mins) if alarm condition persists.

**Optional Beacon** Red Flashing IP65  
Active whenever alarm condition exists.

### Probes

The probe comprises a stainless steel sensor housed in Peek body and screwed into a bronze shaft. The probe includes a temperature compensation element.

The entire assembly fits into a retractable probe housing allowing servicing and cleaning of the probe without closing down the line.

Temperature compensation curve 2% per °C

Operational range for auto temperature compensation 20 to 150°C

Standard ranges 0-25, 0-50, 0-100, 0-120, 0-400 micro Siemens (or uS) (other ranges available)

(NB : Conversion of uS to TDS mg/l = uS x 0.7)

Max Operating pressure 10 Bar

These probes are ac energised and incorporate automatic temperature compensation.

### Probe Amplifiers

All solid state 12-24 Vdc internal power rails with 4-20mA output  
Terminations 2.5 mm<sup>2</sup> screw terminals  
Operational temperature 0° to 55°C  
Storage temperature 15 to 85°C  
RH 0-95% non condensing

### Controls

Cell constant adjust +/- 25%  
4 mA adjust +/- 10%  
Zero adjust +/-25%FSD  
20 mA adjust +/- 10%

### Calibration

Using above controls or via **AQUANET** Software. (This should be undertaken within the normal operating environment and conditions.)

### Amplifier Enclosure

Material Powder coated aluminium  
Rating IP 65 dimensions  
Dimensions 240 x 120 x 100mm  
Cable entry Cable glands