

AQUAlogger 520 Pressure & Temperature Loggers

The AQUAlogger 520 oceanographic instruments are fully self-contained, miniature data loggers. A custom, bus powered, USB compliant reader allows for fast uploading of up to ¼ million logged parameter readings using a contactless, inductive communication system.

Designed to be compact instruments capable of monitoring temperature and pressure to depths of 1000m, the 520 series of data loggers incorporate a

replaceable battery providing life expectancy of 5 years for a typical deployment regime, within a lightweight housing.

An intuitive and user-friendly interface for deployment configuration, uploading of data, and quick report generation is provided through the AQUAtalk software package.

Specification

Logger Communication	Contactless inductive system via separate reader
Reader Communication	USB 1.1, bus powered
Burst Sampling	Bursts every 1 – 255 seconds or 1 – 255 minutes
Within-Burst Rate	From 1 Hz to once every 30 seconds
Burst Averaging	Bursts may be averaged to a single data value
Data Storage	Non-volatile FLASH
Storage Capacity	> 250,000 parameter readings Option available for > 500,000 parameter readings
Data Retention	>10 years
Logging Lifetime	Typically 5 years, depending on regime
Battery	3.6V Lithium 'AA' Cell – User replaceable
Attachment	Single point attachment through mounting hole
Maximum depth	1000 m, or twice pressure range if lower
Dimensions	200 mm (7.9") long x 32 mm (1.3") diameter
Weight	190 g (6.4 oz) in air; 41 g (1.5 oz) in water
Software	AQUAtalk for Windows for configuration and download



Ordering Guide	
AQUAlogger 520T	Standard Temp Only
AQUAlogger 520Ppp	Pressure pp only
AQUAlogger 520PTpp	Temp + Press pp
Pressure Range	Specify when ordering
Custom adapters for measurement of pressure up to 600 bar are available.	
Extended temperature calibrations are also available - ask our engineering dept.	

Sensor Specifications

	Temperature	Pressure
Sensor Type	Thermistor	Piezo-resistive Bridge, Absolute
Ranges	-2 to 30°C standard, other ranges on request	1.6, 4, 10, 16, 25, 40, 60, 100 bar ambient also 250, 400, 600 bar with adaptor
Resolution	better than 0.0015°C	better than 0.005% full scale
Accuracy	±0.05°C	typically better than 0.2% full scale
Time Constant	better than 5 seconds	N/A

Calibration

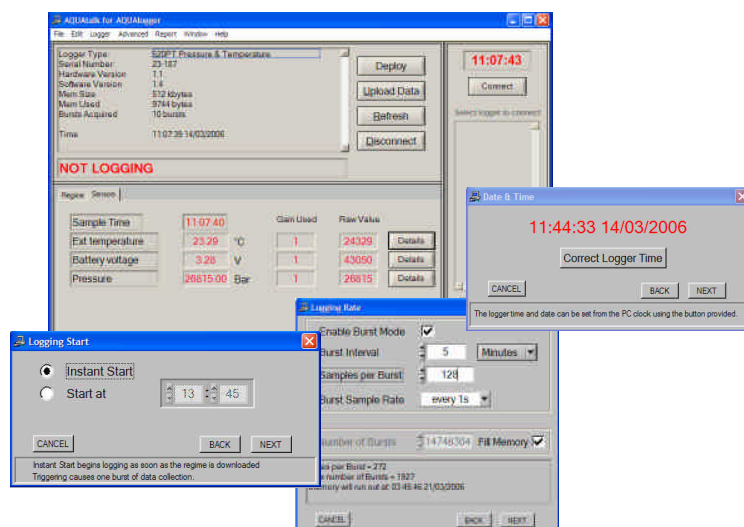
All instruments are calibrated using our in-house, ISO 9001 compliant calibration system using a temperature bath and pressure calibrators. Third party UKAS calibrations are also available from our carefully selected calibration partners.

AQUAtalk Software

To get the most from the Aquatec's data logging instruments the AQUAtalk software was developed. It provides an easy and intuitive interface that makes deployment, data upload and analysis available at the click of a button.

Key Features

- Easy connection using the connect toolbar, which automatically scans serial ports for connected loggers.
- Deployment wizard to guide the user through the configuration options
- Real-time acquisition and display of sensor channels
- Report generator for fast data viewing
- Ability to download new firmware to the logger
- Demo mode to assist training users



Applications

Thermistor chain substitute

As a low cost instrument, the AQUAlogger 520T lends itself to wide scale use on moored strings and other distributed deployments. It has applications in aquaculture, environmental monitoring, impact assessments, industrial discharge monitoring and oceanography. Typical uses include the long term observation of temperature distributions in lakes, rivers and coastal waters.

Submerged body monitoring

The small size of the instrument means it has minimal effect on towed and submerged bodies, and can be used to maintain a record of their depth. Examples of use include recording tow profiles of naval assets and monitoring the sink rates of longline fishing gear to minimise bycatch of diving birds.

Tidal cycle approximation

While the AQUAlogger 520 cannot be a substitute for a full featured tide gauge, its high resolution data acquisition system can be used as an inexpensive add-on to seabed-mounted instrument frames. With its versatile sampling regime, it will often provide the accuracy required to correct for tidal variations – contact our technical support staff for more application information.

Pipeline pressure monitoring

By fitting a suitable pressure port on the logger, pressures up to 600 bar may be measured and recorded. One application for such a measurement is in pressure proof testing of subsea pipelines. International standards stipulate that both internal pipeline pressure and ambient temperature are monitored, so that allowance can be made for pressure variations due to ambient temperature change. This process is ideally suited to the AQUAlogger, particularly when deep water deployments make the use of hoses to the surface impractical.

Borehole measurement

Once again the small diameter of the AQUAlogger 520 means that it is easily deployed in many boreholes for monitoring of groundwater level and temperature.

Special Applications

Please contact our technical department to discuss any other temperature, pressure or depth measurement applications.



AQUAlogger in Reader

