

WW0500AS-AQUATIC - Aquatic data storage and monitoring.



The WW0500AS-aquatic transmits **and stores** location and behaviour information periodically, according to an established scenario (user defined schedule), when a defined violation of “normal” behaviour is observed or on request from the user. This data is received in real time by a base station located within range of the tagged animals or the data is downloaded when the animal enters a coverage area.

In addition to the base stations, additional download receivers or “repeater stations” can be positioned within the study area or mounted on vehicles to extend the coverage area of the base station by relaying transmissions from the tags to the base station if required or downloading data from collars and dumping it to the base stations when in range.

The base station re-transmits data to a remote server through a global system for mobile communications (GSM) network. The data is stored and is protected on the remote server through a series of on and off site backup systems.

The location and behaviour of all the tagged animal as well as telemetry systems operational status data can be accessed by a user in real time through an internet based web browser on a password protected website. The communication channels (from the tags to the end user) are bidirectional, which allows the user to change any parameters on the tags or radio tracking and monitoring system via a web-browser.



- ✓ **UHF Modem:** Download range up to 1km +.
- ✓ **Data Storage:** All data stored on-board.
- ✓ **Sensing Capabilities:** Activity, Depth, Temperature.
- ✓ **Advanced Scheduling:** Scheduling remotely changeable.
- ✓ **Digital manual tracking:** Switch device to continuous tracking mode to pin point its location using the Wireless Wildlife directional antenna tracker.
- ✓ **Remote monitoring:** Monitor remotely through the Wireless Wildlife Base stations and Web-based user interface.

SENSORS

Motion sensor: An omnidirectional tilt and vibration sensor is used to monitor the movement of the tags (or animal). The sensor acts as a switch which chatters open and closed as it is tilted or vibrated. Motion results in a higher count rate over a specified period of time (usually every 10 minutes). The values of the counter therefore give the integrated motion of the animal over a defined period of time.

Temperature: a temperature sensor with an accuracy of 0.1°C after calibration measure the ambient temperature.

Pressure sensor (depth): By adding a pressure sensor, it is possible to monitor and record the depth of a tag at certain time intervals. The output of these sensors are proportional to the absolute pressure. The sensors have a linearity of 0.2% over the full scale and resolution of 3 cm.

Data storage capabilities (memory): During application in aquatic ecosystems the tags will not always be within radio reception of the base/relay stations. In an attempt to preserve data generated by tags which would otherwise have been lost by the transmission from the tags not being received, the data will be stored in data storage component on the tag and only transmitted to the base/relay stations when the tag is in range and the data is requested. Based on a 30 minute transmission scenario, the storage capacity of the memory components will allow for in excess of one years' remote monitoring data to be stored and downloaded.

Light-emitting Diodes (LEDs): A single LED can be incorporated into tags making it possible to visually locate the fish in low light, low turbidity water during manual tracking modes. The LED can then be switched on (for a certain time period) and off via the base station or manual tracker.



WW0500AS-AQUATIC - series

EQUIPMENT SPECIFICATIONS					ATTACHMENT OPTIONS		FUNCTIONALITY / PERIPHERAL COMPONENTS								
WW0500	TYPE	WEIGHT	MASS RANGE OF TAGGED ORGANISM	LIFE SPAN	EXTERNAL HARNESS	SUBSTRATE ATTACHMENT	LOCATION (MANUAL TRACKING)	LOCATION (TRIANGULATION)	ACTIVITY	TEMPERATURE	LED	DEPTH	MEMORY	GPS	CONDUCTIVITY
Series III	Large fish tag	20g (±1.5g)	>1800g	> 3 years	●		●	●	●	●					
Series IV	Large fish tag	20g (±1.5g)	>1800g	> 3 years	●		●	●	●	●	●				
Series V	Large fish tag	20g (±1.5g)	>1800g	> 3 years	●		●	●	●	●		●			
Series VI	Large fish tag	22g (±1.5g)	>1800g	> 3 years	●		●	●	●	●		●	●		
Series VII	Mammal tag	65g (±1.5g)	> 5kg	> 3 years	●		●	●	●	●		●	●	●	
Series VIII	Reptile tag	120 g (±10g)	> 10kg	> 3 years	●		●	●	●	●		●	●	●	
Series IX	Abiotic tag	120 g (±10g)	NA	> 3 years		●	●	●	●	●		●	●		●

BATTERY LIFE

The battery life of the WW0500AS-AQUATIC device is dependant on the specific sensors used and user specified data storage and transmission schedules. Typical life projections:

Battery & Weight	Store and Download Temperature, Activity, Depth & Location ping				
	Every 60 minutes	Every 30 minutes	Every 20 minutes	Every 10 minutes	Every 5 minutes
0.9Ah +/- 20g	>3 years	3 years	475 days	285 days	158 days

- For alternative life projection calculations please send a request to info@wireless-wildlife.co.za .



PACKAGING

Please contact us at info@wireless-wildlife.co.za to discuss alternative packaging options.

WARRANTY

The WW0500AS device is under warranty for one year from the date of shipment or for 50% of the projected battery life under normal circumstances, whichever occurs first.