

## Class 3 RFID Temperature Loggers

“The most accurate RFID Logger in the World”

### Aquaculture Temperature Monitoring

Temperature partly determines the concentration of oxygen in water. The solubility of oxygen decreases with increasing temperature, so excessive temperature can have a lethal effect on fish stocks. As the water temperature increases, the fish will require a larger quantity of food due to the increase in their metabolic rate.

### Manage Disease and Spawning

Temperature affects all chemical and biological processes. The metabolic rate of fish doubles for every rise of 10°C. Therefore, temperature has a direct effect on important factors such as growth, oxygen demand, food requirements and food conversion efficiency.

Temperature also has a crucial role in managing disease and stimulating gonadal maturation and spawning activity.

Log-ic monitoring tags provide unprecedented accuracy, and are completely waterproof. Log-ic<sup>®</sup> can be safely left submersed and has enough on-board memory for 4000 events, allowing for 30 days of continuous logging at 15 minute intervals (or over 4 months at 1 hour intervals).

### Global Partners.

Log-ic<sup>®</sup> has been deployed by customers in over 44 countries and distributed by global partners. Log-ic<sup>®</sup> is available worldwide.

**Quality. Trust. Confidence. Affordability.**

[www.log-ic.biz](http://www.log-ic.biz)

Datasheet and Specifications	
Log-ic <sup>®</sup> Logger (Submersible)	
Measuring Range	-40°C to +85°C
Accuracy	±0.5°C from -40°C to +65°C ±1.25°C from +65°C to +85°C
Resolution	0.1°C
Data Storage	Accumulates up to 16 Million Events 4000 Time/Temp event log
Battery Life	1 Year Recording // 2.5 Year Storage
Water Resistance	Nema 6P // <b>IP 68 (Fully Submersible)</b>
Startup Options	Delay Start // Push Button // Wireless
User Options	Custom Programmable Re-usable Blinking Alarm on Excursion Startup Delay (1 Min to 4 Hours) Recording Interval (1 Min to 4 Hours) Temp. Histogram Intervals
Dimensions	5.8cm x 5.8 cm x 0.2 cm 5.6 grams (under 1/6 oz)
Interface	Wireless, 13.56 Mhz RFID Data Overview download (<0.25 sec) Full Log download (< 4 sec)  e-mail alerts
Certifications	CE: ROHS, EN12830 NIST Traceable 3-point QA Certificate GMP Validation Third Party NIST calibration (optional) FDA CFR21 Pt 11 USDA approved for HACCP monitoring FAA tested for air cargo safety WHO/UNICEF qualified



Nam Sai produces up to 20 million 1" monosex fry per month, covers an area of 64 hectares and employs 140 staff. Utilising a process of egg collection, incubation and sex reversal of swim-up fry in hapas for 21 days, using methytestosterone-impregnated feed, enabled male yields up to 100% on a regular basis.

## Continuous Monitoring Temperature in Remote Ponds Year-Round

Different species have vastly different tolerance of high/low temperatures in which they can grow, stay healthy, and breed. Nam Sai is keen to produce other existing aquatic species, such as giant freshwater prawns (*Machobrachium rosenbergii*) that can be raised in polyculture with tilapia, as well as new aquatic species, such as basa catfish (*Pangasius bocourti*) that may well have a future of their own.

When Warren first came across Log-ic<sup>®</sup> he was fascinated by the possibility of having such detailed and accurate records of pond temperatures. The loggers are inexpensive over the course of the year (with a one year recording life, Log-ic<sup>®</sup> can be used up to 12 times for monthly, or 26 weeks for weekly cycles). But the best, and most obvious benefit of Log-ic<sup>®</sup> is that they are completely waterproof. The combination of low cost, long recording life, and waterproof packaging makes it possible to measure not just one (e.g. output pipe) location, but multiple locations and depths, and makes it really simple to manage remote locations.



### For more information, contact:

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“Log-ic loggers can give us a complete year-long history of temperatures to map against growth, fertility and disease patterns with unprecedented detail and accuracy”

*Warren Andrew Turner, Founder, Nam Sai Farms Ltd.*