Real Time Telemetry

RELIABLE AND PRACTICAL TEMPERATURE DATA

ADVANTAGES AT A GLANCE

- Real time temperature data
- Reliable and accurate measurements
- Simple and cost effective
- Multiple animals in a cage

STAR ODDI

Logging Life Science

www.star-oddi.com

Star-Oddi is a leading manufacturer of equipment for biomedical research, specializing in the design of temperature sensors that are both reliable and practical. DST microRF offers both real time telemetry and data logging. It is ideal for studies where integrity and repeatability of the study is important.

RELIABLE

Reliable measurements – DST microRF gives the users the benefit of both real time telemetry and logging at the same time.

Accurate temperature readings – handling of test subjects is minimised, reducing stress placed upon the animal and giving more accurate temperature readings. The automatic measurements eliminate human interference and errors caused during temperature readings.

Constant measurements – The logger provides constant and frequent measurements and the researcher can define the temperature measurements as often as once per minute.

PRACTICAL

Simple and cost-effective – Implementing the Star-Oddi telemetry system is straightforward and switching cost is minimal. The loggers can be be reused as long as the battery lasts.

Minimally invasive surgery – due to the small size of the logger surgery is minimally invasive, which reduces mortality and recovery time.

Allows group housing – each cage can hold multiple animals as cross-talk is minimised.

EASY TO USE

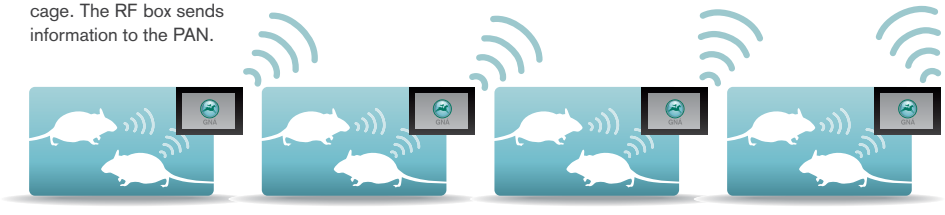
Setup of the system is simple – the researcher can easily define the start time and sampling interval of the loggers. Once surgery of the test subjects is concluded, each cage is fitted with a transreceiver box and an antenna. The transreceiver box transmits the data to an online user software, which can be placed wherever needed.

Easy view and analysis of measurements – temperature readings can be monitored online and analysed in graphic and tabular form using Star-Oddi's software.

Alarms – the system will send alarms if temperature is out of range.

PAN is connected to the computer. It receives signal from the RF box that's attached to each cage. The pan can handle up to 127 RF boxes.

Each cage has an antenna and an RF box. Each receiver can handle up to 10 subjects in each cage. The RF box sends information to the PAN.



Telemetry System

DST microRF	
Sensor	Temperature
Size: diameter x length	8.3mm x 25.4mm
Weight (in air/in water)	3.3g / 1.9g
Memory type	Non-volatile EEPROM
Memory capacity	43476 measurements
Battery life	9 months*
Data resolution	12 bits
Temperature range	5°C to 45°C (41°F to 113°F)
Temperature resolution	0.032°C (0.058°F)
Temperature accuracy	+/- 0.2 °C (+/- 0.36°F)
Temperature response time	Time constant (63%) reached in 10 sec.
DST microRF freq.	500 KHz
Transmission range to RF box	20 - 30cm (7.9-11.8”)
Software required	Mercury/Gná
RF Box, transreceiver	
Size	85mm x 75mm x 25mm
Transmission range to PAN	20 - 30meters (65.6 - 98.4ft)**
Transmission frequency	2.4 GHz
Battery life, rechargeable	up to 3 Weeks
Recharge time	3-4 hours
Number of DST microRF per RF box	1-10
Antenna	Placed under the cage***
PAN, receiver	
Size	85mm x 75mm x 25mm
Total number of RF boxes per PAN	127
Total number of DST microRF per PAN	1270
PAN communication protocol	miwi
Channels	16, software determined
Power supply for PAN	12VDC
Software required	Gná
Mercury & Gná	
Platform	Windows XP or newer

* For sampling and transmission interval of 10 minutes at 20°C
** Range may vary depending on laboratory configuration
*** Antenna can be made in another shape for other placement

Specifications are subject to change without notice

COMMITTMENT TO ANIMAL WELFARE

Star-Oddi is committed to animal welfare and has implemented the 3R's in their developmental work and manufacturing. Because our loggers are highly accurate and retain the temperature readings in their internal memory it reduces the amount of laboratory animals needed for research and minimizes handling. Due to the small size of our loggers the surgery required for implantation is minimally invasive.

STAR-ODDI LTD.

Founded in Iceland in 1985, Star-Oddi has become recognized as one of the world's leading manufacturers of technology for research and industrial use.

Since 1993, Star-Oddi has been manufacturing the Data Storage Tag (DST), a miniature data logger. DST's are ideal for various types of research where small reliable loggers are needed.

Star-Oddi's mission is to offer excellent quality, reliable and well designed products.

THE SAGA OF STAR-ODDI (STJÖRNU-ODDI)

Oddur Helgason lived and worked in Flatey, Skjalfanda, in northern Iceland in the twelfth century. He was a hired labourer on a farm and stood out because of his outstanding knowledge. He used a lot of his time analyzing the movements of the sun, moon and stars resulting in his nickname Star-Oddi.

Star-Oddi's work is considered to be one of the greatest engineering achievements of the Viking Age. His research enabled Vikings to sail over long distances and find their way back home. Scientists have shown that he made remarkably exact observations, centuries ahead of his time.

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