



DST micro-T & DST nano-T

small temperature loggers



STAR : ODDI

Logging Life Science

www.star-oddi.com

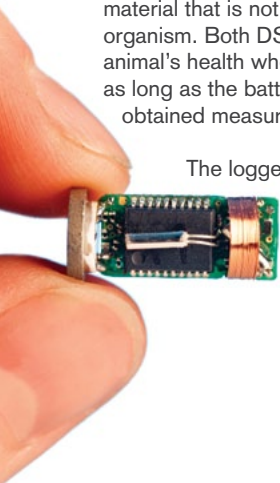
For over a decade Star-Oddi has developed small data loggers for various industries and research applications. **DST micro-T** and **DST nano-T** are unique data loggers that are being used in the pharmaceutical industry. These temperature loggers are a great asset to research in safety and stability studies because of its small size, biocompatibility.

DST MICRO-T & DST NANO-T SMALL TEMPERATURE LOGGERS

The DST micro-T and the DST nano-T are small implantable temperature recorders that measure temperature with high accuracy and store the data in their internal memory. All measurements are in real time and can be accessed after the logger has been retrieved.

The DST housing is made of alumina, a biocompatible ceramic material that is not recognized as foreign material by the animal's organism. Both DST micro-T & DST nano-T do not affect the animal's health when implanted. The same logger can be reused as long as the battery lasts assuring the dependability of the obtained measurements.

The logger can be used in any environment where exact and accurate temperature measurements are required such as in research, packaging, logistics and many more. All DST micro-T and DST nano-T loggers are delivered with calibration certificates.



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and **DST nano-T** are
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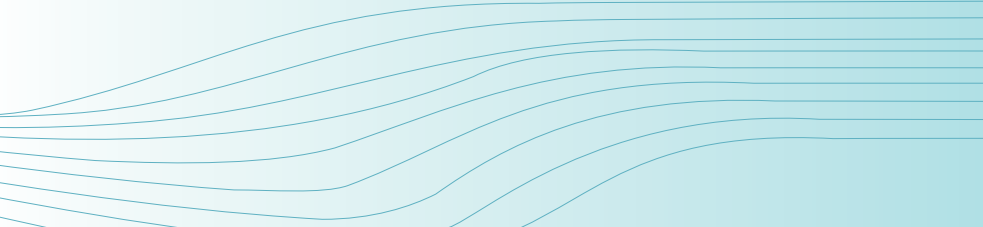
ADVANTAGES AT A GLANCE

- Improved data collection
- Stable measurements
- Stable calibration
- Precision
- Repeatability
- Biocompatibility
- Small size



PRODUCT FAMILY

The DST product family features four different sizes: centi, milli, micro and nano. The DST loggers vary in size, memory size, battery life and sensors.



PRECLINICAL STUDIES

Although suitable for many fields, Star-Oddi DST loggers have mainly been used during preclinical studies.

SAFETY STUDIES

Originally, the DST micro-T logger was designed as an implant for marine animals in order to study behavioural patterns. For several years, the loggers have been used in the pharmaceutical industry in toxicology and safety studies for measuring temperature. Researchers appreciate the loggers small size, high accuracy and biocompatible material suitable for implantation. When used internally, the subject accepts it as an organ forming tissue around the completely closed ceramic housing. We recommend using gas sterilization for our loggers.

EASY TO USE

Using DST micro-T & DST nano-T is quick and simple. The Star-Oddi temperature loggers are supported by the Mercury software and the Communication Box, which works as an interface between the logger and the computer. The logger is ready for recording after the user has set the start time and sampling interval through the Mercury software. The recorded data is uploaded in the Mercury software, where the results can be analyzed in graphic and tabular form. When data has been retrieved the temperature logger can easily be sterilized and reset for new recordings.

COMMITMENT 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.

COMMITMENT TO THE ENVIRONMENT

Star-Oddi is committed to the environment and is continually improving its manufacturing process to reduce waste and environmental impact. We strive to make our packaging reusable and recyclable to minimize the amount of materials that end up in landfills. We encourage our customers to recycle or reuse any packaging material you may receive from us. If you have any suggestions on how we can improve our processes we would like to hear from you.

DST nano-T technical specifications

Sensor	Temperature
Size (length x diameter x height)	17 mm x 6 mm
Weight in air	1 g
Temperature range	0 to +45°C (30°F to 113°F)
Memory	5248 measurements
Memory type	Non volatile EEPROM
Resolution temperature	0.032°C (0.058°F)
Accuracy temperature	Better than +/- 0.2 °C (+/- 0.36°F)
Sampling interval	In second(s), minute(s), or hour(s)
Number of sampling intervals	1 to 7 intervals within the measurement period*
Minimum sampling interval	1 second
First recording	User defined in the software
Battery lifetime	9 months**
Data retention	25 years

*It's possible to shift between different intervals within the measurement period.

**For sampling interval of 10 minutes or greater.

DST micro-T technical specifications

Sensor	Temperature
Size (length x diameter)	25.4 mm x 8.3 mm
Weight in air	3.3 g
Temperature range	0 to +45°C (30°F to 113°F)
Memory	43,476 measurements
Memory type	Non volatile EEPROM
Resolution temperature	0.032°C (0.058°F)
Accuracy temperature	Better than +/- 0.2 °C (+/- 0.36°F)
Sampling interval	In second(s), minute(s), or hour(s)
Number of sampling intervals	1 to 7 intervals within the measurement period*
Minimum sampling interval	1 second
First recording	User defined in the software
Battery lifetime	18 months**
Data retention	25 years

*It's possible to shift between different intervals within the measurement period.

**For sampling interval of 10 minutes or greater.

PERSONAL SERVICE

Customers are Star-Oddi's best advisors. We are always looking for new ideas and ways to improve our products. Please contact us if you have any suggestions for us.

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, a miniature data logger.

Star-Oddi operates in the global marketplace. Star-Oddi's mission is to offer excellent quality, reliability and well designed, unique products.

The saga of Star-Oddi (Stjörnu-Oddi)

Oddi Helgason lived and worked in Flatey, Skjalfanda, in northern Iceland in the twelfth century. He was a hired labourer on a farm and differed from others by his outstanding knowledge. He used a lot of his time analyzing the movements of the sun, moon and stars that resulted in his nickname Star-Oddi.

Star-Oddi's work is considered to be the greatest engineering achievement of the Viking Age, enabling the Vikings to sail over long distances and find their way back home again. Later, scientists have shown that he made remarkably exact observations, centuries ahead of his time.

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