RFID TEMPERATURE LOGGERS

The RT0005 is a low cost, semi-passive UHF logger tag used to monitor temperature sensitive products such as perishable foods and pharmaceuticals during transportation and storage. The combination of the high resolution sensor, the large memory size and the standard RFID interface allows perishable items to be effectively tracked and traced during transportation and delivery.

The DLR-TL001 logger can be used with standard UHF RFID readers available on the market without requiring any additional equipment due to its compatibility with the EPCGlobal C1G2 and ISO18000-6C standards.

CONTROLLABLE CONFIGURATION

The tag can be configured to store temperature samples in intervals from 1 second to 18 hours in the internal memory, which can contain up to 3,958 samples. The user can define up to 16 temperature ranges with independent threshold alarms for a very accurate control of the temperature excursions. The tag can be controlled either by using a button or via standard RFID commands.

The tag is also able to calculate the Mean Kinetic Temperature and user configurable remaining shelf life time as well as generate alarms in case the parameters exceed user defined thresholds.

The DLR-TL001 RFID logger can be used for multiple shipments because of the long battery life and the reset function, thus allowing the user to reduce the total cost of the solution.

FEATURES	INDUSTRY-APPLICATIONS
▪ High temperature accuracy ▪ Fast download of samples ▪ Button and LED for fast inspection ▪ Long monitoring time span ▪ EPC C1G2 RFID interface	▪ Fresh food ▪ Seafood ▪ Meat and poultry ▪ Milk based products ▪ Frozen food ▪ Chemical/pharmaceutical products

TECHNICAL SPECIFICATIONS

CORDLESS COMMUNICATIONS

FREQUENCY RANGE	860 MHz ÷ 928 MHz

DECODING CAPABILITY

EPC C1 G2, ISO 18000-6C COMPLIANT

ELECTRICAL

BATTERY TYPE	Li / MnO2 Model Renata CR 2450N
BATTERY LIFE	1 year (typical) (depending on usage and operating temperature)

ENVIRONMENTAL

PARTICULATE AND WATER SEALING	IP67
TEMPERATURE	Operating Range: –20 to 70 °C / 14 to 131 °F
	Accuracy: +/- 0.5 °C / 32 °F typical
SHELF LIFE PREDICTION (RT0005ET)	Calculations based on Arrhenius kinetic model with customer designation of time-temperature dependency
SHELF LIFE MONITORING (RT0005)	Provides Remaining Shelf Life information at check points with RFID reader or manual interface

INTERFACES

RFID INTERFACE	UHF EPC Class1 Gen2/ISO; 18000-6C compatible

PHYSICAL CHARACTERISTICS

DIMENSIONS	10.7 x 10.7 x .87 cm³ / 4.2 x 4.2 x 0.3 in3
WEIGHT	RT0005: 31 g / 1.0 oz
	RT0005ET: 85 g / 3.0 oz
PROBE DIMENSIONS (RT0005ET ONLY)	Length: 5.08 cm / 2.0 in;
	Diameter: 0.63 cm / 0.25 in
PROBE CABLE (RT0005ET ONLY)	Length: 2.0 m / 6.5 ft
ENCLOSURE MATERIAL	PVC Tecnovil code: 21TV306TRS00000
TAG TYPE	Semipassive
DATA POINTS	4000

READING PERFORMANCE

MEMORY CAPACITY	4k samples (8 Kbyte)
AVAILABLE MEMORY	Up to 512 bits in EPC bank, up to 512 bits in User Memory bank
MONITORING DELAY OPTION	Up to 18 hours

READING RANGES

READ RANGE	Approx. 8m in air @ 2W ERP

SAFETY & REGULATORY

MONITORING TIME SPAN	Up to 5 years
TIME ACCURACY	<0.01% error
ALARMS	Multiple user-configurable High Temperature and Low Temperature alarms; ETA alarm; MKT alarm; Shelf Life alarm; Low Battery alarm

UTILITIES

SM@RTSET-RFID SOFTWARE TOOL

WARRANTY

WARRANTY	2-Year Factory Warranty