# CAENRFID

RT0005

# RT0005

## RAIN RFID Temperature Logger Tag



| BENEFITS | High temperature and time accuracy | Button and LED | Thin form factor | Configurable alarms | | |
|---|---|---|---|---|---|---|

## Features

- *RAIN RFID (UHF EPC Class1 Gen2, ISO 18000-63) interface*
- *High temperature and time accuracy*
- *Fast samples download*
- *Button and LED for fast inspection*
- *Configurable alarms*
- *Configurable sampling interval*
- *Long monitoring time span*

## Applications

- *Fresh food*
- *Seafood*
- *Meat and poultry*
- *Milk based products*
- *Frozen food*
- *Pharmaceuticals*
- *Special chemical products*
- *Clinical trials*

## Overview

CAEN RFID easy2log© **RT0005** is a low cost, semi-passive UHF Logger tag that allows to monitor temperature sensitive products like perishable foods and pharmaceuticals, during transportation and storage. The combination of the high resolution sensor, the large memory size and the standard RFID interface permits to realize effective track and trace solutions for the cold-chain.

The **RT0005** can be used with standard RAIN RFID readers available on the market without requiring any additional equipment thanks to its compatibility with the EPCGlobal C1G2 and ISO18000-63 standards.

The tag can be configured to store temperature samples in intervals from 1 second to 18 hours in the internal memory that 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 started either 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 these parameters exceeded user defined thresholds.

The **RT0005** RFID logger can be used for multiple shipments thanks to the long battery life and the reset function thus allowing to reduce the total cost of the solution and anticipate the ROI.

# Technical Specification Table

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|---|---|
| **Frequency Range** | 860÷928 MHz |
| **Tag Type** | Semipassive |
| **RFID Interface** | EPC Class 1 Gen 2 - ISO18000-63 |
| **Data Points** | Up to 3,958 samples |
| **Temperature Operating Range** | -20 °C to +70 °C |
| **Temperature Accuracy** | ±0.5 °C typical |
| **Monitoring Time Span** | Up to 5 years |
| **Time Accuracy** | < 0.01% error |
| **Read Range** | Up to 10 m in free air @ 2W ERP |
| **Available Memory** | • Up to 512 bits in EPC memory bank<br>• Up to 512 bits in User Memory bank |
| **Monitoring Delay Option** | Up to 18 hours |
| **Features** | • Multiple configurable sampling interval<br>• Temperature histogram function<br>• Mean Kinetic Temperature calculation<br>• Shelf Life prediction (Arrhenius kinetic model with custiomer designation of time-temperature dependency)<br>• Shelf Life monitoring (Remaining Shelf Life information available ate check points or manual interface) |
| **Alarms** | • Multiple configurable high and low temperature thresholds<br>• Estimated Time of Arrival<br>• Battery level<br>• Mean Kinectic Temperature<br>• Shelf life |
| **Battery Life** | 1 year typical (depenfing on usage and operting temperature) |
| **Battery Type** | Li/MnO2 Model Renata CR2450N |
| **IP rating** | IP67 |
| **Enclosure Material** | PVC Tecnovil code: 21TV306TRS00000 |
| **Dimensions** | • (W)107 x (L)107 x (H)8.7 mm³ max.<br>• 4.21 x 4.21 x 3.42 inches³ |
| **Weight** | 31 g |

# Ordering Options

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|---|---|---|---|
| **WRT0005XAAAA** | RT0005 - Temperature Logger Tag | | |
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