



RT0012

qLog

TEMPERATURE

Dual Frequency RAIN/NFC Data Logger Tag



BENEFITS

Dual frequency RAIN/NFC

High temperature and time accuracy

Rugged and slim

Features

- RAIN RFID (UHF EPC Class1 Gen2, ISO 18000-63) interface
- NFC ISO 14443 Type A interface
- High temperature and time accuracy
- Fast samples download
- 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 **qLog_{TEMPERATURE}** (RT0012) is a low cost, semi-passive NFC/RAIN RFID temperature logger 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 NFC/RAIN RFID interfaces permit to realize effective track and trace solutions for the cold-chain.

The RAIN RFID interface is ideal for reading temperature data or alarms from distance allowing automated check-points on conveyors or through dock doors. The NFC interface permits a very easy interaction with any NFC enabled smartphone allowing the consumer to check the good condition at home.

The **qLog_{TEMPERATURE}** can be configured to store temperature samples in intervals from 5 second to 18 hours in the internal memory that can contain up to 4,096 samples. The user can define up to 16 temperature ranges with independent threshold alarms for a very accurate control of the temperature excursions.

The rugged enclosure and the compact size permit to use the logger in various applications and the passive radiofrequency behaviour does not prevent air shipments.

The **qLog_{TEMPERATURE}** RFID logger can be used for multiple shipments thanks to the long battery life and the reset function allowing to reduce the total cost of a single monitored shipment and anticipate the ROI of the solution.



Technical Specification Table

Frequency Range	- NFC/HF: 13.56 MHz - RAIN/UHF: 860÷930 MHz
RFID Protocols	- NFC/RFID ISO 14443 Type A Interface - RAIN : EPC Class 1 Gen 2 - ISO18000-63
Tag Type	Semipassive
Data Points	Up to 4096 samples
Temperature Operating Range	-30 °C to +70 °C
Temperature Accuracy	±0.5 °C
Monitoring Time Span	Up to 5 years
Time Accuracy	<0.02% error (typical)
Read Range	- NFC/HF: up to 5 cm. - RAIN/UHF: up to 5 mt. in free air @ 2W ERP
Available Memory	Up to 160 bits in EPC memory bank and up to 448 bits available for user
Monitoring Delay Option	Up to 18 hours <ul style="list-style-type: none"> - Multiple configurable sampling interval - Temperature histogram function - Configuration and start accessible both from NFC and RAIN interface - Samples download accessible both from NFC and RAIN interface - User accessible memory shared between NFC and RAIN
Features	<ul style="list-style-type: none"> - Multiple configurable high and low temperature thresholds - Estimated Time of Arrival - Battery Level
Alarms	
Battery Life	1 year typical (depending on usage and operating temperature)
Battery Type	Li/MnO ₂ Model Renata CR2430SN
IP rating	IP68
Enclosure Material	ABS
Dimensions	<ul style="list-style-type: none"> - (W)92 x (L)63 x (H)6.5 mm³ max. - 3.62 x 2.48 x 0.25 inches³
Weight	35 g.

Ordering Options

WRT0012XAAAA	qLog - Temperature version			



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