Controlant Real-Time Temperature Monitoring and Visibility Solution

Controlant's next-generation Cold Chain as a Service (ChaaS)® solution is designed to monitor shipments during transit while traveling by air, road, rail, or sea. The solution is validated and compliant for the cold chain, including for pharmaceuticals and perishable food and beverage products. The CO 10.01 data logger collects temperature, light, and location data in real-time, and automatically sends data to Controlant's cloud software platform. Cost-reducing managed and professional services drive efficiency and waste reduction. The Controlant solution is EASA and FAA compliant and approved by international airlines.*

The Controlant solution provides a complete record of your shipments for quality and compliance purposes, as well as rich data analytics and insights covering the entire supply chain. You own your complete data.

*Approved airline list available upon request.

Cold Chain as a Service (ChaaS)® Solution

Highlights:

- Designed to monitor shipments by air, road, rail, and sea
- Wireless and reusable data logger
- Annual 4-point NIST calibration included
- High-accuracy temperature sensor
- Data is automatically sent to the cloud
- Real-time alerts sent via SMS and email
- Sophisticated user interface to manage shipments
- Supply chain business intelligence displayed in user dashboards
- Digital dry ice temperature probe available (-80°C | -112°F)

CO 10.01 Real-Time Logger Specifications

The CO 10.01 Real-Time Logger is a wireless and reusable data logger that measures environmental and location data and automatically transmits data to the Controlant cloud software platform. It can be manually handled using the Start and Stop buttons or preconfigured using the Controlant cloud software platform. Backup data upload is available via a USB.

General Overview

General

Product Name	CO 10.01 Real-Time Logger
Product Type	CO 10.01

Product

Housing	ABS plastic enclosure
Water Resistance Casing	IP54
Dimensions	20mm x 61mm x 91mm 0.8in x 2.4in x 3.6in
Weight	110g | 0.22 lbs.
Data Cloud Reporting	Measurement data is automatically uploaded to the Controlant cloud software platform at intervals ranging from 1 hour to 12 hours.
Approvals	CE | FCC | IC | IFT | Anatel | CRC | ACMA | RCM
Available sensor type and information reading	Temperature sensor Geographical location Battery status Light sensor

Measurement Data

Measurement**

Temperature	-20°C to +50°C | -4°F to +122°F
Resolution	0.1°C | 0.18°F
Long-Term Drift	<0.1°C | 0.18°F / year

Calibration**

Standard Calibration Points	-20°C, 0°C, +10°C, +30°C -4°F, 32°F, +50°F, +86°F
Non-Standard Calibration Points	Available

Calibration Accuracy	± 0.5°C | ± 0.9°F
Calibration Certificate	Available upon request

Measurement Resolution

Measurement Interval	10 minutes

Operation Environment

Operating Temperature	-20°C to +50°C | -4°F to +122°F

**If using probe, see probe specifications

Technical Data

Power

Battery Life/Type	Rechargeable single-cell lithium battery 1800mAh / UN38.3 certified
Energy	6.66 Wh
Battery Lifetime	Operates on a single charge from 10-100 days based on cloud reporting interval.
Charging	Charged via an attached USB cable.

Data Capacity

Backup Storage on Internal Non-Volatile Memory	Stores 60 days of temperature log in memory when no cloud connection is available.
Data Sampling Interval	10 minutes

Wireless Specification

Cellular Data Upload	Cellular connection to upload data to Controlant cloud software platform.
Cellular Network Type	2G and 3G
Cellular Coverage	Vodafone Global

Certifications and Compliance

21 CFR Part 11	Designed to support Electronic Signatures in accordance with FDA 21 CFR Part 11.
GMP Annex 11	Designed to support Digital Signatures in accordance with EU Good Manufacturing Practices (GMP).
GDP	Designed to meet European Good distribution practices (GDP).
FAA Compliance	RTCA/DO-160. AC 91.2.1-1

EASA Compliance	EUROCAE ED-14. AMC1 CAT. GEN.MPA.140
FC CE	Tested and complies with FCC Part 15 Subparts A and B. Tested and complies with EC EMC directives (EN 50081-1:1992 and EN 61000-61:2001)
RoHS	Conforms to RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment EU Directive.

Controlant's Cloud Software Platform

The Controlant cloud software platform provides comprehensive, user-friendly visibility and automated reporting. Data encrypted, providing security as it transmits. Check statuses and create shipments from a desktop or mobile device. Create custom shipment templates and add custom properties for easy reference and reporting.

View temperature, location, light events, and battery statuses in real-time for a single shipment or the entire supply chain. Shipment summary information includes the data logger ID number, trip name, current temperature, trip duration, map information, temperature range, mean kinetic temperature, total time out of range, and temperature graph.

Controlant's custom business intelligence dashboards provide unparalleled insights to reduce waste, improve operational efficiency, and increase revenues.

Supply Chain Overview
Access high-level supply chain and granular shipment statuses, including product temperature and location data, such as minimums, maximums, standard deviation, mean kinetic temperature, and time-out-of-range calculations.

Automatic Reporting
Reports are automatically generated at the close of a shipment, and provide a complete supply chain trip history, allowing for rapid on-site dispositions. Through email or software access, any interested party can instantly and effortlessly view shipment quality information.

Alerts and Notifications
Shipment notifications and alerts display in the Controlant cloud software platform. Alerts are also sent to designated stakeholders via email and SMS.

Shipment Templates
Create shipment templates using designated custom shipment properties, such as product, packaging type, lane, and logistics partner.

Business Intelligence
Our team will help you build custom dashboards that reflect your key performance metrics and deliver unparalleled insights into your supply chain, including origins, destinations, routes, and sub-routes, partners, and external points of interest.

Rest API's
Integrate the Controlant supply chain data with your Enterprise Resource Planning (ERP) solution, Quality Management System (QMS), track-and-trace solution, or other business tools.

Sharing and Export Options

- **User-Permissioned Access:** Internal and external users can be added to view specific supply chain data.
- **Export to PDF:** Export your data to portable document format (*.pdf).
- **Export to Excel:** Export your data to the spreadsheet (*.csv or *.xls) format.
- **Email Link:** A link to a shipment report allows you to quickly email attachments of open views of monitored data in *.pdf and *.ttx file formats directly from the Controlant software platform with a single mouse click.

Controlant Services

We provide a number of dedicated functions to deliver a successful partnership experience:

Change Management
Our team of experts can assist with change control, SOP development, temperature studies, and mapping.

Dedicated Account Management
We'll form a proactive partnership to identify and improve operational inefficiencies, mitigate risks, and reduce costs.

24/7 Global Support
First-level email and phone support is available during a pilot and throughout your global rollout.

IoT Hardware Management
Hassle-free logger reuse program and reverse logistics are fully managed by the Controlant team.

24/7 Monitoring and Response
Our experienced team reacts to alerts and works with your designated stakeholders to facilitate corrective action during shipment.

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