

CT 3000 Series

Comprehensive telematics solutions for reefer container operations

Remote monitoring and control of multimodal containers travelling on land, rail and sea, and while at terminals and depots



ORBCOMM's CT 3000 series enables real-time visibility and control of refrigerated containers moving along the cold chain for improved operational efficiency and cost savings. A direct connection to the reefer enables real-time alerts and two-way control, allowing operators to quickly react to issues and remotely adjust temperature and humidity levels, initiate a PTI or access data logs.

Improve fleet visibility and management

Remotely monitor container location and status to efficiently allocate assets, eliminate unnecessary moves and improve turn times.

Prevent cargo damage and reduce claims

Monitor cargo area temperature to ensure temperature compliance and minimize spoilage. Reduce costly claims, quickly respond to discrepancies and catch hot loading events.

Reduce the time and costs of PTIs

Streamline PTI management and eliminate unnecessary inspections for quicker turn times, lower operational expenses and reduced safety risks to personnel.

Automate processes

Save on labor costs and eliminate human error by automating container inspections. Enable access to live container data for improved asset management and utilization.

Improve value and service to customers

Enhance the customer experience with shipment location, status and ETAs. Integrate data into back-office applications for better business planning.

There are two products in the CT 3000 series. The CT 3000, which is installed permanently for continuous tracking and the CT 3100, which allows for temporary installation. The CT 3100 monitors assets while on a trip, a vessel or at a terminal. An integrated antenna and magnetic clip enable installation and removal in minutes, with no downtime, tools or an installation team.

Temporary or permanent installation

Simplified PTI management

Advanced temperature management

Complete two-way control

Global, cellular connectivity



Cellular technology

- LTE Cat 1
- 3G UMTS penta-band global (Bands I-V) (2100/1900/900/850 MHz)
- 2G GSM/GPRS/EDGE fall back (1900/1800/900/850 MHz)

SIM type

- Solderable SIM

Communication protocol

- SMS
- UDP
- TCP
- FTP

Short range RF

- Zigbee standard; BLE & others optional

Antenna

- Embedded cellular, RF and GPS
- LTE
- 3G UMTS/HSDPA/HSUPA penta-band (2100/1900/1800/1700/900/850 MHz)
- 2G GSM/GPRS/EDGE (1900/1800/900/850 MHz)

GPS technology

- Receiver type 72 channel
- Receiver tracking sensitivity -165 dBm

Battery

- Internal 5.0 Ah extended temperature battery
- Charge temp: -20° to +60° C. -4° to +140° F.
- Discharge temp: -40° to +70° C. -40° to +158° F.
- Storage temp: -40° to +60° C. -40° to +140° F.
- RoHS compliant
- Storage Humidity <75% RH

Board I/Os

- Digital inputs: 3
- Digital outputs: 1
- Digital I/O: 1-wire device interface
- Serial:
 - RS-232 level interface
 - Tx, Rx, RTS and CTS
- Analog Inputs: 2 internal, 2 external

On/Off/Install push button

- Manual wake, sleep ship and install mode options

Accelerometer

- 3-axis digital accelerometer with motion detection
- Optional impact detection

Power input requirements (Basic unit)

- 16-36 VAC (only via special CT3 fuse protected harness)
- 20-50 VDC (direct power option)
- Max peak: 60 volts (referenced to ground) for <10 mS duration
- Over voltage protection

Physical specifications

- Ingress protection marking: IP66K
- Plastic material: PC + PBT
- Dimensions: 5.95 x 3.25 x 1.00 in (151 x 82 x 25 mm)

Certification compliance

- FCC/IC
- Anatel (Brazil)
- PTCRB
- SRRC TA (China)
- Carriers - ATT
- RCM (Australia)
- CE RED / RoHS
- WEEE

Environmental compliance

- Device operating temperature:
 - Extended: -40° to 70° C. -40° to 158° F.
- Internal battery operating temperature: -40° to 70° C. -40° to 158° F.

- Storage: -40° to 60° C. -40° to +140° F.
- Humidity: 95% RH at 70° C. 158° F, non-condensing
- Shock/Vibration: Per IEC 68-2-6/27 and selected SAEJ1455 as per AIM
- Electrostatic discharge protection:
 - ±15 kV enhanced electrostatic discharge (ESD) protection
 - All lines protected to ±15 kV using IEC 61000-4-2 air-gap discharge, ±8 kV using IEC 61000-4-2 contact discharge, and ±15 kV using the human body model

Memory

- Storage of > 2000 messages
- Storage of > 5000 onboard 12-point geofences plus unlimited backend geofences
- Storage of reefer software files before updates
- Storage of datalog download files before sending

Harness

- Standard harness includes connector for I/Os
- Optional harness includes PAD for PLM co-existence

LEDs

- Indicate status of reefer, cellular and short range RF communications
- GPS, battery, and install mode indications

Guest Mode

- CT3100 variant allows for temporary attachment to cover 'guest' reefers on vessel or in terminal
- Install time <10 seconds

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