

## RCU

### Remote Container Management

Reduce refrigerated container operating costs and cargo loss



ORBCOMM's ReeferConnect Unit (RCU) is a proven telematics device for use with marine refrigerated containers (reefers). The unit supports a variety of integrated and external sensors and can easily be installed permanently or temporarily as needed for trip-based monitoring.

The RCU communicates with OEM reefer controllers to read, monitor and remotely control the reefer, including setting temperatures and humidity levels, initiating pre-trip inspections (PTI's), accessing data log downloads and updating the reefer controller software.

#### Key features

- Real-time location visibility (GPS), motion detection, on-board geofences; off-power operation
- Reefer status and health reporting, scheduled and event triggered
- Alarm generation and automated notifications
- PTI analysis and control
- Industrial-grade global SIM card
- Full 2-way communications including climate control, data log downloads, device and reefer over-the-air updates
- Uses global standards-based cellular networks on land and at sea (using VesselConnect) for global coverage
- Seamlessly integrates with Carrier, Thermo King, Daikin, and Star Cool reefer units; integrates with customer backend systems
- Easily installs inside or outside control cabinet in 15 minutes or less
- Automatically stores and lets you manage data during coverage blockage or outages

#### High-performance ROI

- Increases utilization and reduces operational costs, risk of cargo loss and asset damage
- Reduces claims with immediate reporting of alarm data for rapid response and repair
- Reduces PTI service costs and time
- Reduces costs of monitoring services, infrastructure and 3rd party inspections
- Simply and easily provides customers access to data

**Full 2-way control**

**Direct interface to reefer OEM micros**

**Global cellular connectivity with GPS**

**Off-power reporting**

**Accelerometer and motion sensor**

**Temperature and PTI monitoring and analytics**

**On-board geofences**



### Cellular communications network frequency bands

- Quad-band GPRS/EDGE (2G) 850/900 MHz, 1800/1900 MHz
- WCDMA (UMTS) (3G) 850/1900/2100 MHz

### Transmit power

- 2 W max @ 850/900 MHz
- 1 W max @ 1800/1900 MHz
- 0.25 W max @ WCDMA (UMTS) band

### Memory

- 48 MB

### GPS specifications

- Receiver 50 channels
- Receiver tracking sensitivity -160 dBm
- Position accuracy (50%, at -130 dBm) +/- 2.5m CEP, SEP <3.5m
- Cold start 60 seconds typical
- Hot start <1 seconds

### Status indicators

- 1 multi-color for installation (Installer LED)
- 4 LEDs for diagnostics and status on GPS, reefer controller, power, WAM, WLAN, GSM

### Cellular network features

- GSM/GPRS/EDGE/WCDMA – Auto-register
- Supports TCP and FTP
- OTA firmware upgrade
- SMS support

### WLAN network features

- IEEE 802.15.4 (ZigBee): Mesh network functionality
- Frequency band: 2400 – 2484 MHz
- Tx power: +12 dBm

### Inputs/outputs interface

- RS232 signaling over 7-pin Weidmuller connector
- Power input through 3-pin Weidmuller connector
- UART
- USB
- SMB-M GPS antenna
- SMB-M GSM antenna
- SMB-M 802.15.4 antenna

### Power requirements

- 15 - 36 VAC input

### Battery

- 6600 mAh lithium ion rechargeable battery

### Mechanical

- Case material: Lexan plastic
- Dimensions: 7" x 4.3" x 1.7"
- Weight: 32 oz
- Mounting brackets to accommodate mounting in RMM slot
- Access cover attached (battery and SIM) with secured lock
- 1 bracket for Star Cool, Daikin, Carrier or 1 bracket for Thermo King

### Environmental\*

- Operating conditions (powered reefer units)
- Relative humidity 97% max, non-condensing
  - Cabinet temperature range -30 to +80 degrees C
  - Ambient temperature range -40 to +70 degrees C
  - Vibration random 20 Hz to 2 kHz
  - Shock 15 G

### Storage conditions (not including battery)

- Relative humidity 97% max, non-condensing
- Temperature range -40 to +85 degrees C
- Vibration random 20 Hz to 2 kHz
- Shock 15 G

\*Temperature ranges do not include battery.

### Certifications

- PTCRB
- FCC
- CE
- ATT certification

### Disclaimer

Specifications are generic in nature for the device platform. Individual applications may have variations in the specifications and may change without notice.

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