

ORBCOMM™

CONNECTING THE
WORLD'S ASSETS



CT 3000/CT 3100 Installation Guide

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PREFACE

Purpose

This document describes the installation and operation process for ORBCOMM's CT 3000 (p/n XT6475A31100030G) and CT 3100 (p/nXT6475A31100070G) GPS/cellular reefer tracking devices.

Notation

Images shown in this document may not be exactly as shown.



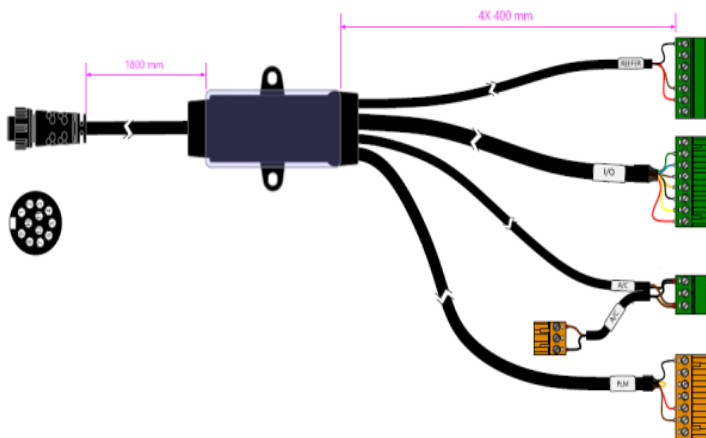
1. INSTALLATION PROCEDURE

1. Gather the required tools.
2. Identify the system components.

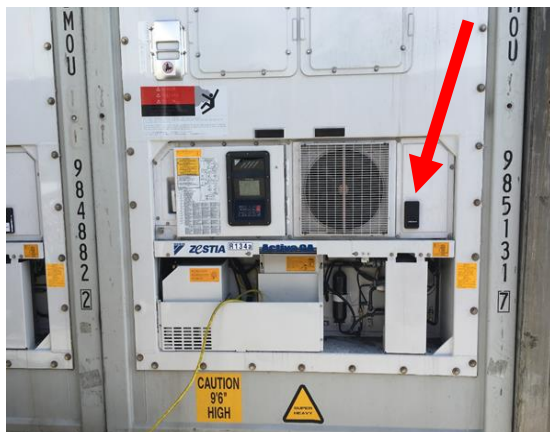
Figure 1: CT 3000/CT 3100 Device



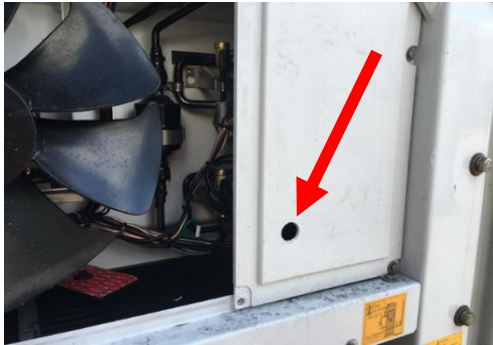
Figure 2: CT 3000/CT 3100 Harness



3. Disconnect the reefer power.
4. Determine the mounting location on the panel.



5. Drill a 1-1/8" hole in the panel.



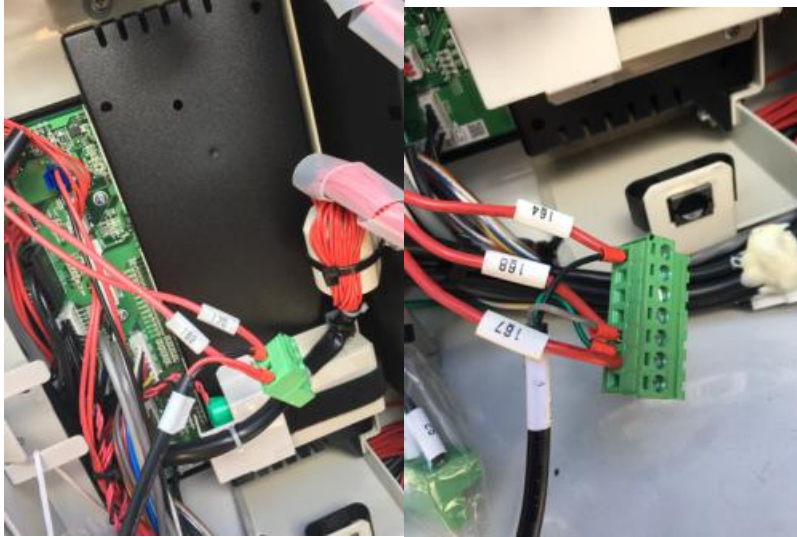
6. Feed the connector through from the back of the panel and connect to the device.



7. Remove the red backing tape and adhere the device to the panel so the arrow faces up.



8. Route the harness into the control box and connect to the 3-pin power and 7-pin serial connector.



9. Close the controller door and power up the reefer
10. Check the status of the reefer LEDs for correct operation.

2. RTU LEDS

- Green LED: Next to push button. Used for GPS status
- Tricolor LED (Red, Green, Blue): On center. Used for installation status and result when device is in installation mode. In normal mode, the Tricolor LED indicate status of Reefer Controller, Zigbee and Battery status. Each color of the LED will blink so that only one color will be ON at a time. In scenarios where any of the LED color is indicated as fully on, the other LED colors will not be turned ON.
- Blue LED: Farthest away from push button. Used for cellular status.

2.1. Normal Mode

- Cellular Blue LED Status
 - OFF: Module off or scanning
 - Blinking: Registered
- GPS Green LED Status
 - OFF: GPS OFF
 - Blinking: GPS Lock
 - ON: No GPS Lock.
- Reefer Controller: Center LED. RED
 - No Reefer LED status while RTU is in install mode.
 - OFF: Reefer is off (No AC power for normal RTU) OR no RS-232 physical connection.
 - Slow Blink (Once in 3 sec): Reefer controller communication OK.
 - Med Blink (Once every second): RS-232 physical connection but no reefer communicating.
 - Fast Blink (3 times per second): Reefer upload in process
- Zigbee: Center LED Green
 - No Zigbee LED status while RTU is in install mode.
 - OFF: Mesh OFF.
 - Slow Blink (Once in 3 sec): Mesh Bound Fast Blink (3 times per second): Mesh searching for network. This is a cycle of 100 ms ON followed by 200 ms OFF.
- Battery Status: Center LED Green or Blue
 - Normal RTU: Center Green LED ON Solid: No Battery Detected.



3. REGULATORY STATEMENTS

FCC:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made to this equipment not expressly approved by Xirgo Technology may void the FCC authorization to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IC:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

These radio transmitters (IC: 10281A-XT6475A, Model Number: XT6475A) have been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated.

Cet émetteur radio (identifier le périphérique par numéro de certification, ou le numéro de modèle si Catégorie II) a été approuvé par Industrie Canada pour fonctionner avec les types d'antennes énumérées ci-dessous avec le gain maximal admissible et l'impédance d'antenne requise pour chaque antenne type indiqué. Types d'antennes ne figurent pas dans cette liste, ayant un gain supérieur au maximum gagner indiqué pour ce type, sont strictement interdites pour une utilisation avec cet appareil.

The DOC (Declaration of Conformity) is either included in the packaging or can be found at the following link:
<http://www2.orbcomm.com/eudoc>.

