SEKSTANT™
Global Guidance

Sekstant Gateway
Installation Instructions

MAERSK CONTAINER INDUSTRY

1. Preface

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2. Introduction

This document contains the installation instructions for the Sekstant gateway, its wiring and connections onto a Star Cool reefer with a CIM 6 controller. The Sekstant gateway should be mounted on the communication plate of the reefer. If this is not possible, please also refer to the additional instructions for mounting on the controller cabinet door.

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4. Safety

Before starting the Sekstant gateway installation, ensure correct personal protective equipment is worn and the unit is powered off and unplugged with the power cable and plug stored in the cable compartment.

5. Tools Required

Drilling machine
Cone drill, 26 mm
Socket wrench, 10 mm
Screwdriver, PZ2
Wire cutter
Tape measure and pen

6. Complete Kit Contents

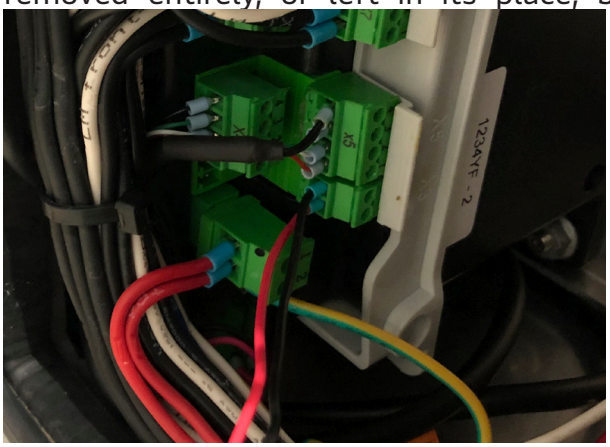
Item no.	Item name
1	Sekstant gateway
2	Battery pack
3	Securing nuts (2 pcs)
4	Cable gland
5	Screw set, ground rail
6	Gromet plug
7	Terminal block
8	Cable ties (10 pcs)

7. Instructions For Installing The Sekstant Gateway

The Sekstant gateway should be mounted on the communication plate. For SCI this is to the right of the controller cabinet and for SCU it is to the left of the condenser fan.

1. Power on the unit.
2. Update the controller software to the latest version, or minimum 356_04.
3. Ensure that the container ID in the controller is correct.
4. Turn the unit off and disconnect AC power. Open the controller cabinet and disconnect any modems no longer required. Both power and communication connections.
5. Mount the battery pack (item 2) in the preferred bay with the 2 securing nuts (item 3). If another device is mounted there then it is possible to mount the battery pack in the next bay to the left, directly next to the controller.

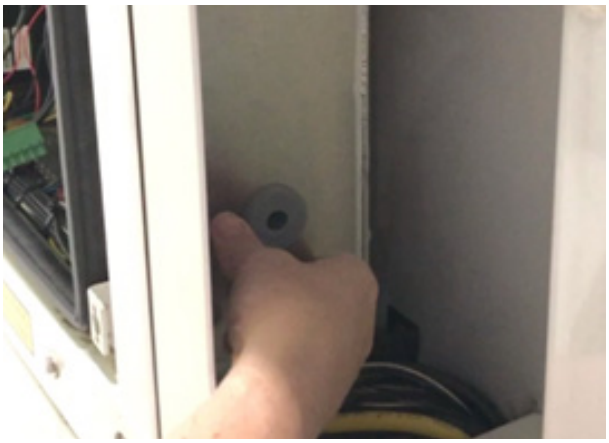
6. Remove the controller battery pack connector from the controller terminal X3. **Important!** Mount the green connector from the Sekstant battery pack (item 2) into controller terminal X3 instead. The controller battery pack can be removed entirely, or left in its place, but must not be connected to anything.



7. Remove the 3 black plugs on the communication plate and use a cone drill size n-26 mm to make the center hole larger. **If the unit is not fitted with a communication plate, see Section 8.**

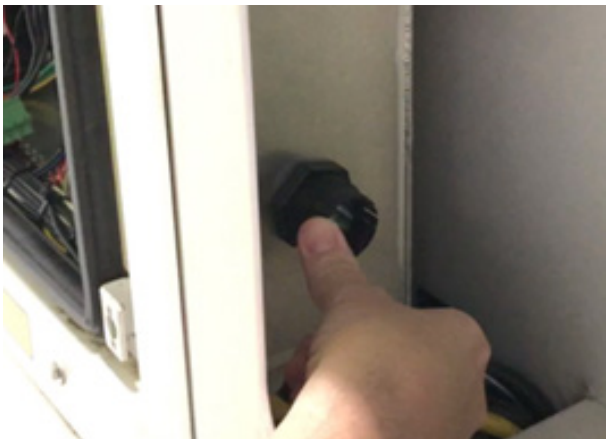
8. Clean the communication plate with a clean cloth so it is free from oil and dirt.

9. Dismount the communication plate and remove the grey plug. On SCU, the grey plug is located at the top of the left side of the controller cabinet and can be reached from behind the condenser fan.



10. Dismantle the cable gland (item 4).

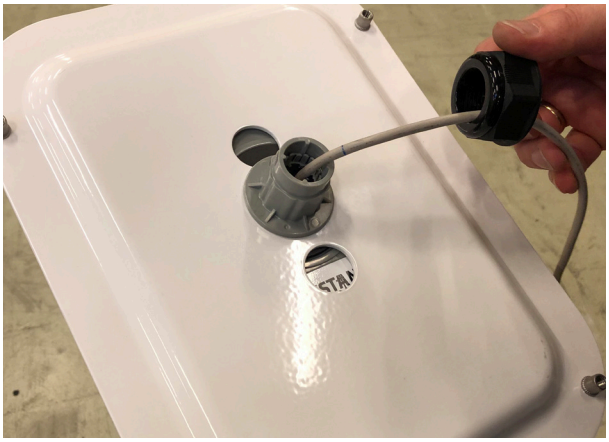
11. Mount the cable gland base and the nut inside the cabinet. Tighten by hand.



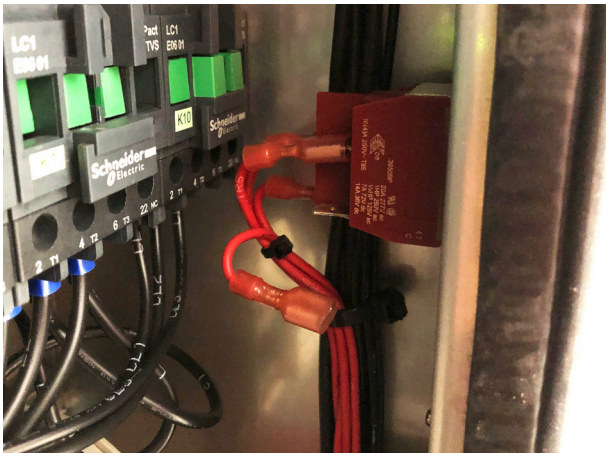
12. Dismount the nut from the back of the gateway (item 1) and remove from the cable.

13. Remove the film from the top and bottom sticky foam pads on the gateway (item 1).

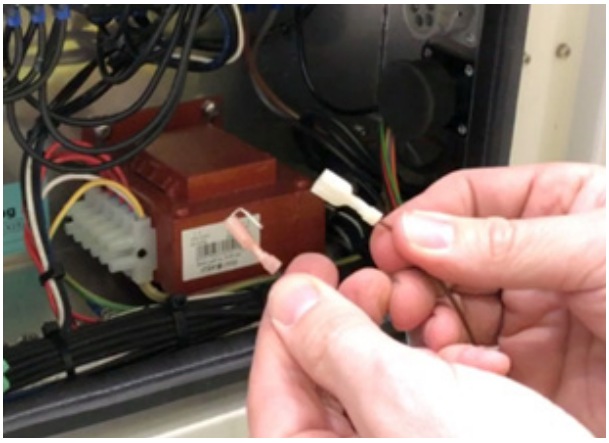
14. Pass the cable through the center hole of the communication plate.
15. Mount the gateway (item 1) onto the plate in the correct orientation.
16. Pass the cable back through the nut and screw it tight onto the gateway (item 1) using 5 Nm.
17. Pass the cable through the cable gland nut.

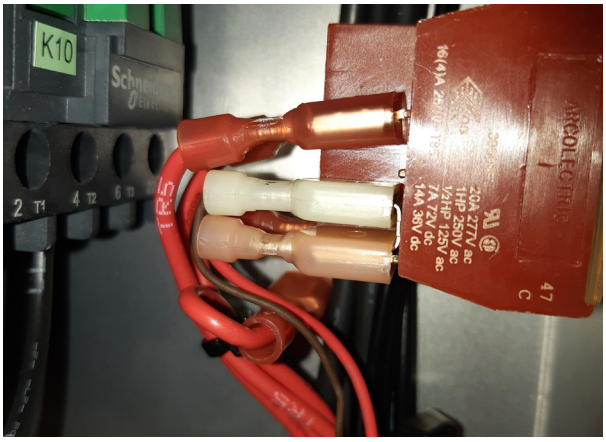


18. Pass the cable through the cable gland base and into the controller cabinet.
19. Disconnect the bottom red connector (closest to the door) from the backside of the on/off switch. **If this is not possible, see Section 9.**



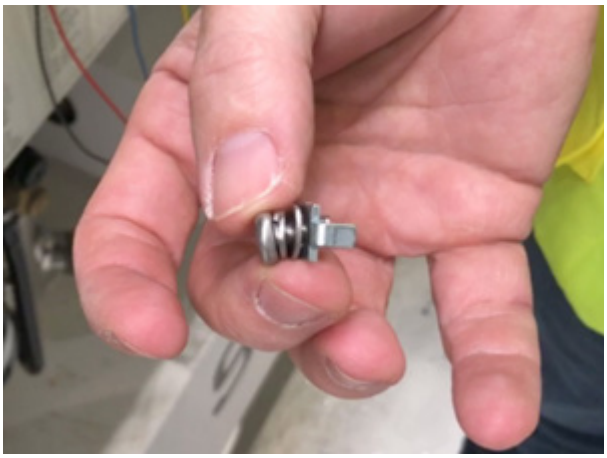
20. Connect the brown wire from the gateway (item 1) to the red wire from the battery pack (item 2). Mount the connection onto the bottom red connector (closest to the door) with the brown wire on top.



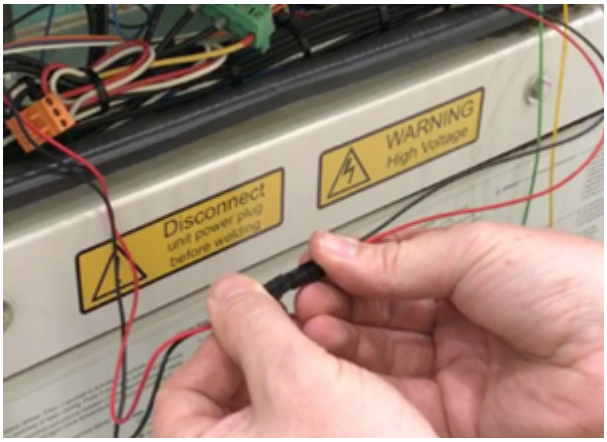


21. Remove the obsolete connector from the controller terminal X9 and mount the green connector from the gateway (item 1) in its place.

22. Put the screw and washers together (item 5). Mount the screw set loosely onto the free space on the ground rail in the bottom of the controller cabinet. Mount the blue wire from the gateway (item 1) between the 2 washers in the same direction as the other wires and tighten the screw.

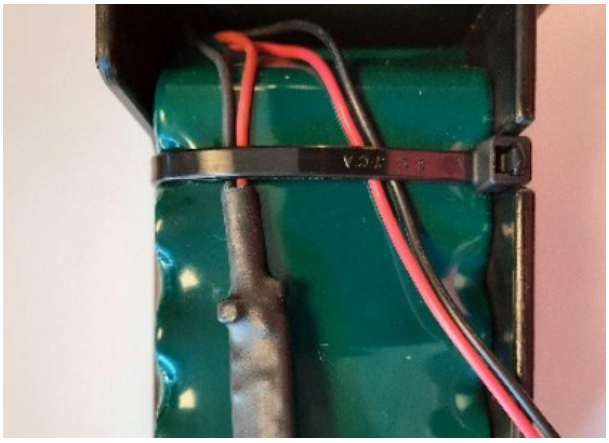


23. Ensuring the connectors are rotated correctly, connect the red and black wires from the gateway (item 1) to the battery (item 2).



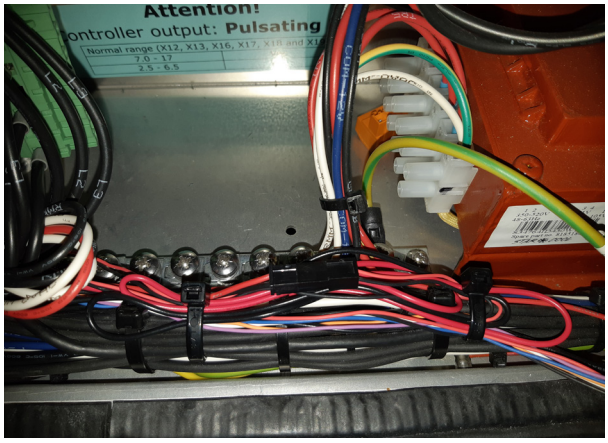
24. Pull any excess cable length into the space behind the communication plate ensuring to leave at least 15 cm of cable length inside the controller cabinet.

25. Ensure that the 3 PMM wires are tight against the top of the battery pack and that the current cable tie is positioned just above the heat shrink. Secure the 3 PMM wires to the blue wires just below K4 with a plastic cable tie (item 8).



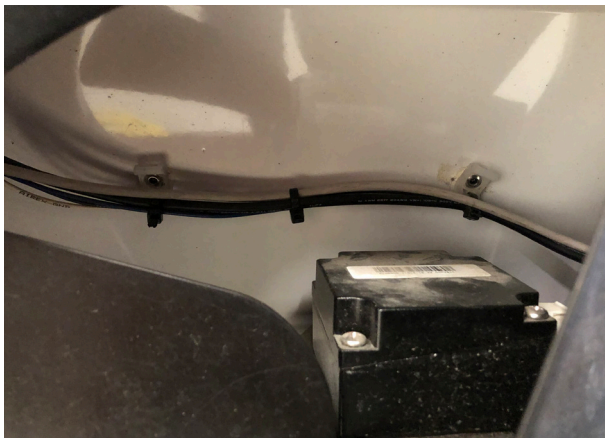
26. The remaining unconnected three wire plug must be secured together with the battery wires next to K3.

27. Secure all wires with plastic cable ties (item 8). Wires should be folded as few times as possible with the battery connector easily accessable.



28. Mount the cable gland gasket onto the cable and push it into the cable gland (item 4). Then pass the nut along the cable and screw it onto the cable gland by hand.

29. Ensure that any additional cable length is placed in the compartment behind the communication plate before mounting it. For SCU, ensure the cable is secured with plastic cable ties (item 8) behind the condenser fan and that any additional cable length is placed behind the controller.



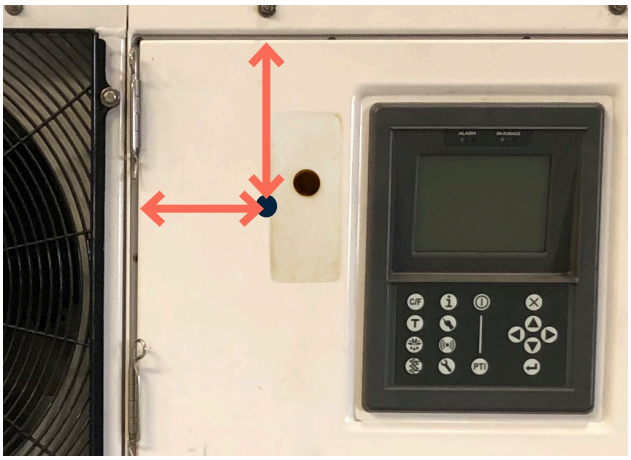
30. Before applying AC power, ensure that the LED on the gateway (item 1) is on (flashing or solid). This is to ensure the battery is operating correctly.

31. Plug in the unit and turn on the power. The sequence of the LED on the gateway (item 1) is: flashing green, solid red, flashing green, and finally solid green. This can take up to approx. 30 mins.

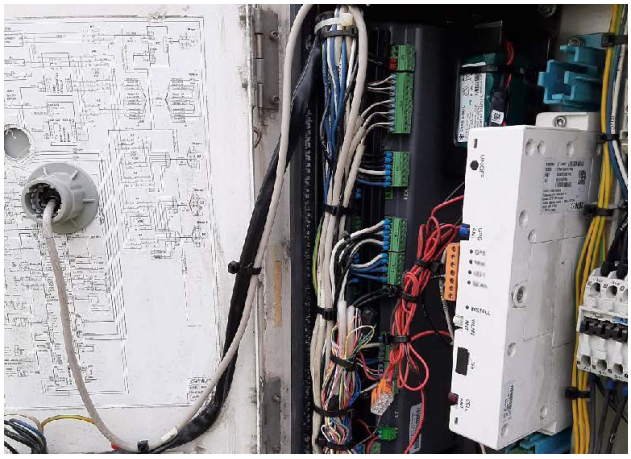
32. If no power supply is available, wait until the LED on the gateway (item 1) is solid red (within approx. 5 mins) before waking up the controller in battery mode by pressing ⏻ on the user panel.
33. When the LED on the gateway (item 1) is solid green, the setup process has been successfully completed.
34. After installation, it is recommended that the unit is connected to AC power for at least 48 hours to ensure the battery is sufficiently charged.

8. Additional Instructions For Mounting On The Controller Cabinet Door

1. Remove any device already mounted on the controller cabinet door and plug the hole with the gromet (item 6) to avoid water ingress.
2. With a tape measure and pen, measure 16 cm from the top of the controller cabinet door and 11.5 cm from the left side of the door. Mark the spot. For units with a separate sub controller, measure 16 cm from the top and 13 cm from the left side.

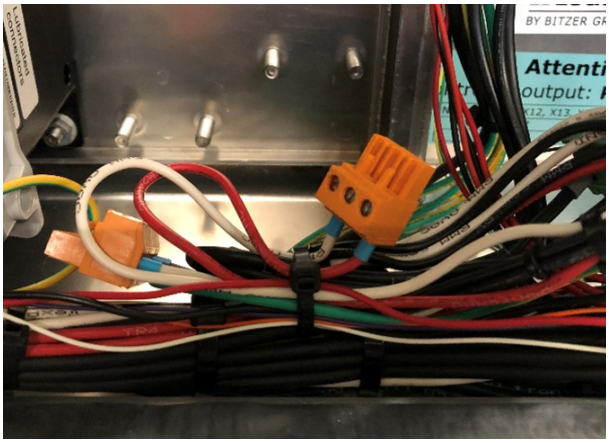


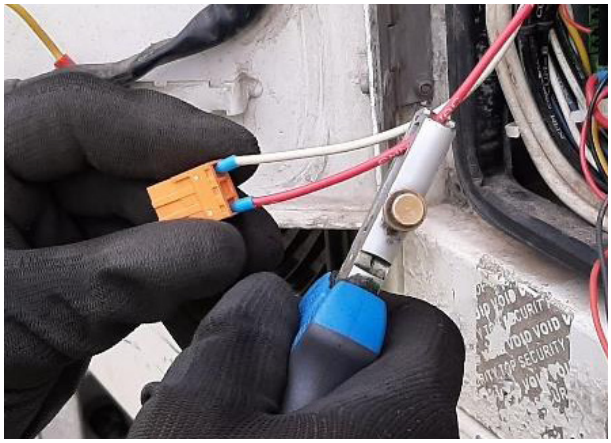
3. Using a cone drill size n-26 mm make a hole on the spot.
4. Mount the gateway (item 1) as you would on the communication plate. **See Section 7.**
5. Once wiring has been connected as in **Section 7**, secure the cable and wires with plastic cable ties (item 8) together with the user panel to controller cables. The additional cable length must then be rolled up and secured with plastic cable ties (item 8) inside the controller cabinet.



9. Additional Instructions For Units With Soldered On/Off Switch Connections

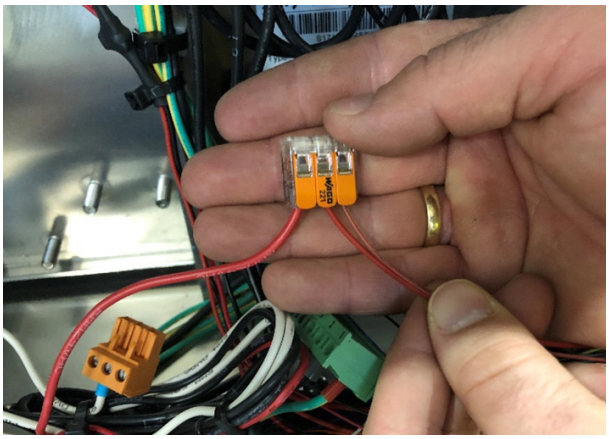
1. Locate the orange modem power connector, cut the red wire and remove the insolation.

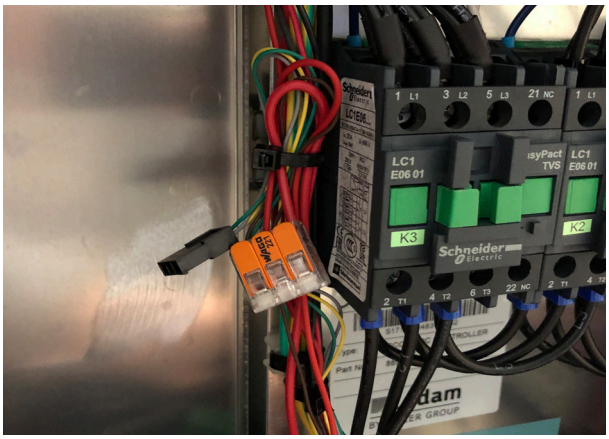




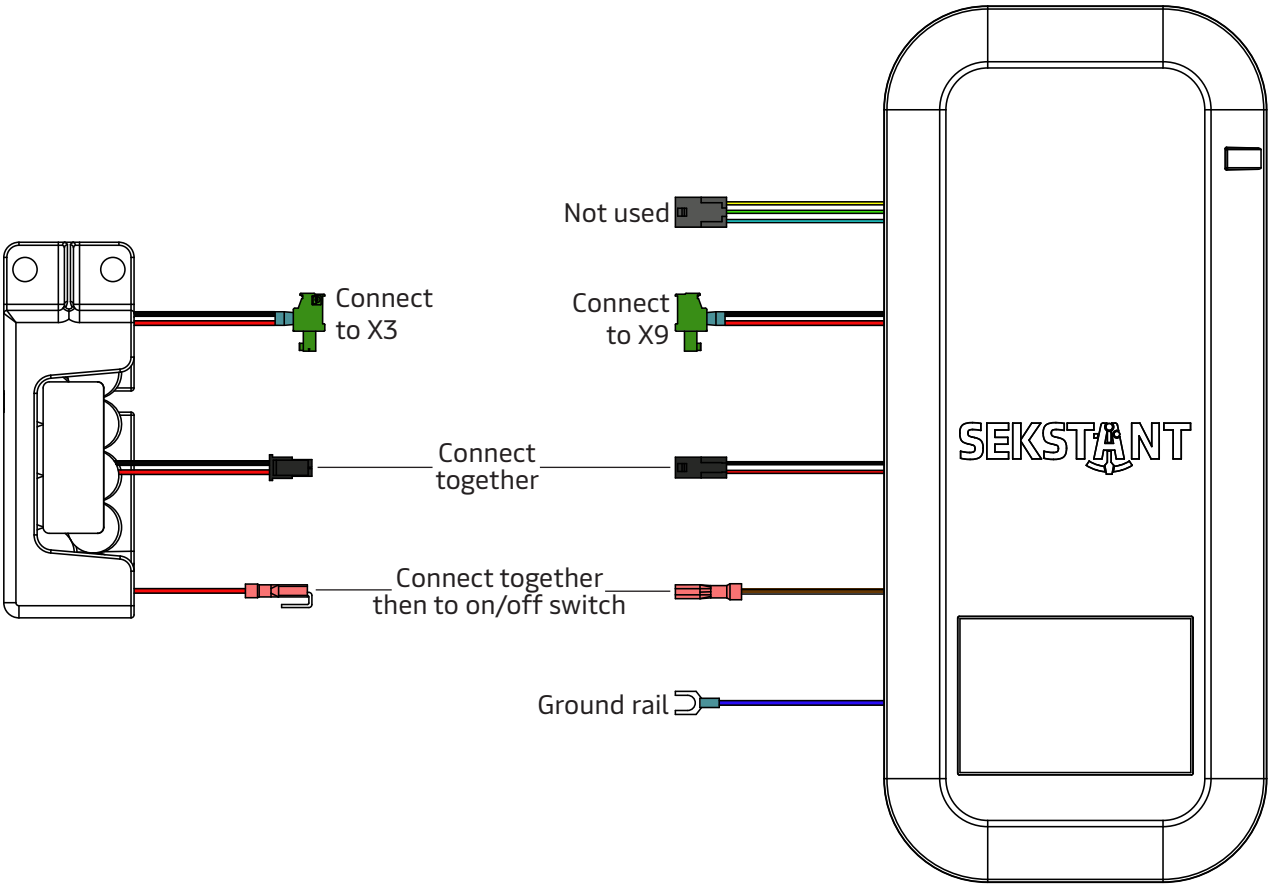
2. Cut off the spade connector of the brown wire from the gateway (item 1) and the piggy back connector of the red wire from the battery (item 2). Remove the insolation from both wires.

3. Insert all three wires into the terminal block (item 7). Secure the wires with plastic cable ties (item 8) together with the battery wires.





10. Connections Overview



11. Gateway LED Overview

Solid green	=	Gateway is working fine and reporting
Flashing green	=	Gateway is starting up
Solid orange	=	Gateway is not able to connect
Solid red	=	Gateway has not yet finished the installation process
Flashing red	=	Gateway has an error, check the installation and connections

FCC Statement

1. 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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the 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.

To comply with RF exposure requirements, a minimum separation distance of 20cm must be maintained between the user’s body and the device, including the antenna.

IC STATEMENT

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.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

To comply with RF exposure requirements, a minimum separation distance of 20cm must be maintained between the user’s body and the device, including the antenna.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

Ce dispositif est conforme aux normes autoriser-exemptes du Canada RSS d'industrie

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.Cet équipement est conforme avec l'exposition aux radiations IC définies pour un environnement non contrôlé. L'utilisateur final doit respecter les instructions de fonctionnement spécifiques pour satisfaire la conformité aux expositions RF. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec une autre antenne ou transmetteur.

Afin de se conformer aux exigences d'exposition aux RF, une distance minimale de 20 cm doit être maintenue entre le corps de l'utilisateur et le téléphone, y compris l'antenne.