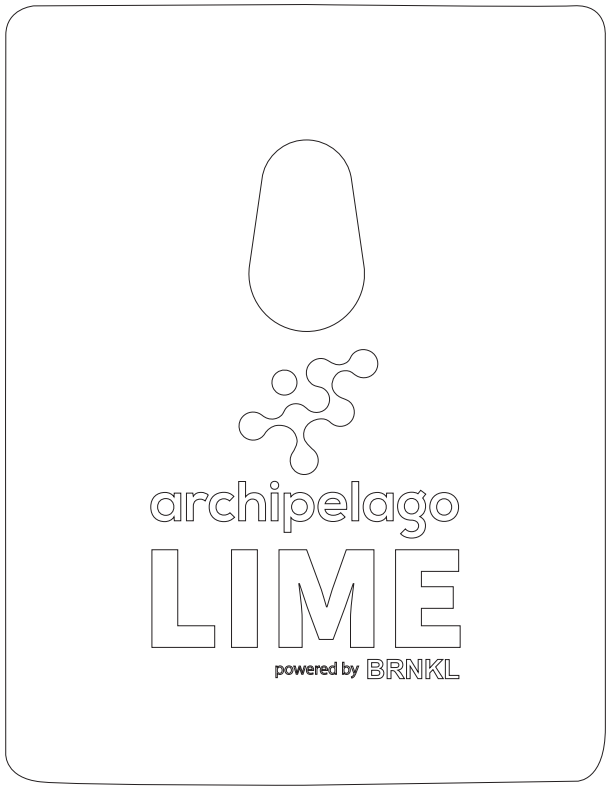
Archipelago LIME
SETUP GUIDE

LSGI1021

INDOOR MODEL



archipelago

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BEFORE YOU START

Caution | If the boat electrical system is complex, or if you're unfamiliar with basic electrical systems, hire a professional installer or marine electrician.

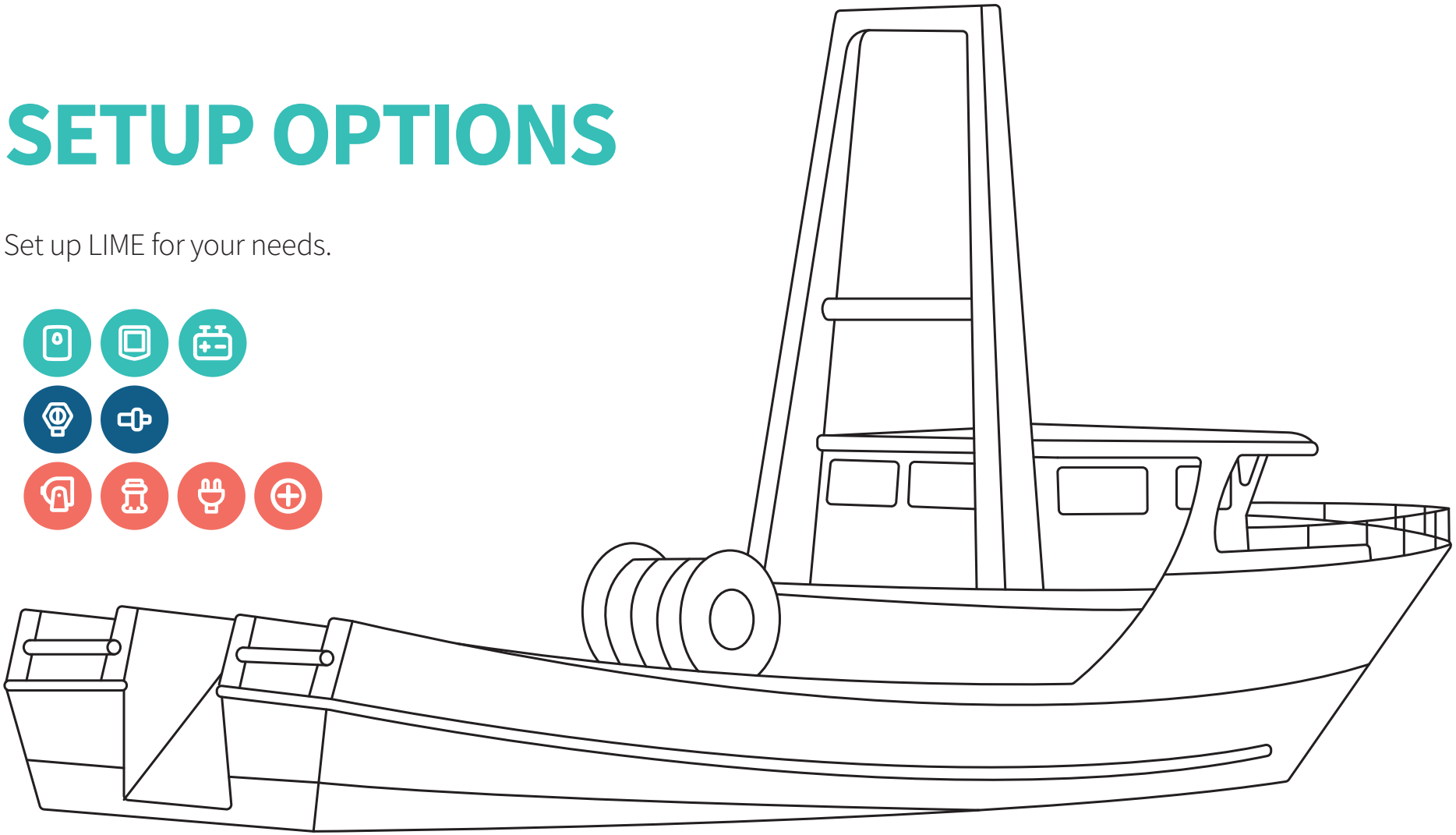
Warning | Working with AC power is dangerous. Before accessing any electical panels, switches, or devices, disconnect all AC power sources. Hire a licenced electrician or certified professional installer to prepare AC power wiring and make electrical panel connections.

INTRODUCTION

Follow this guide to set up a LIME *Indoor* model to monitor fishing gear activity using *Archipelago* sensors and BRNKL.

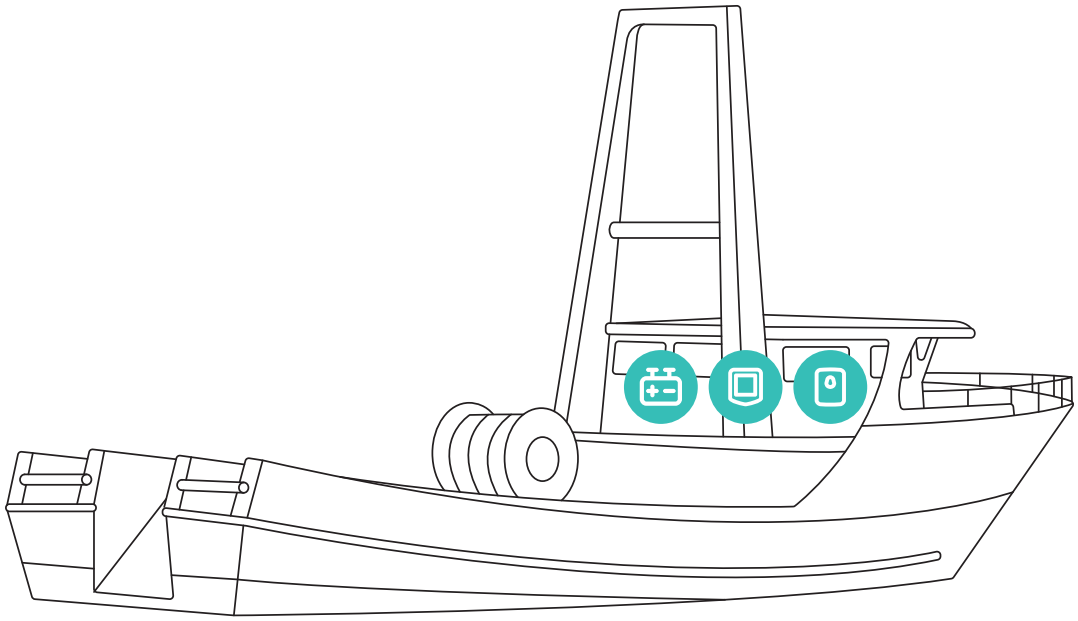
SETUP OPTIONS

Set up LIME for your needs.



Basic setup

Start with these devices:



LIME

LIME device connects to the mobile data network.

- Remotely monitor fishing activity by adding fishing gear monitoring devices.
- Check activity and conditions using the BRNKL app and built-in sensors.
- Find out when something needs attention.
- Review recent activity.

GPS antenna

- Track location.
- Find out when the boat leaves a geofence area.
- Review location tracking.

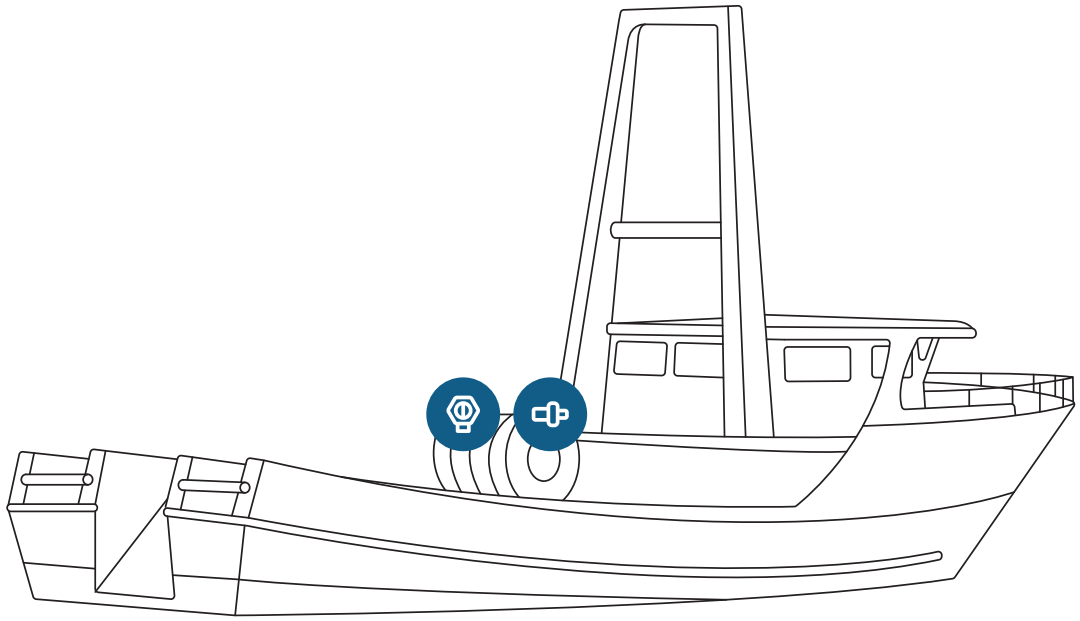
House battery

Battery connection powers the LIME device.

- Check house battery voltage.
- Find out when the battery voltage gets low.
- Review recent battery activity.

Add *Archipelago* sensors

Add fishing gear sensors:



Archipelago laser sensor

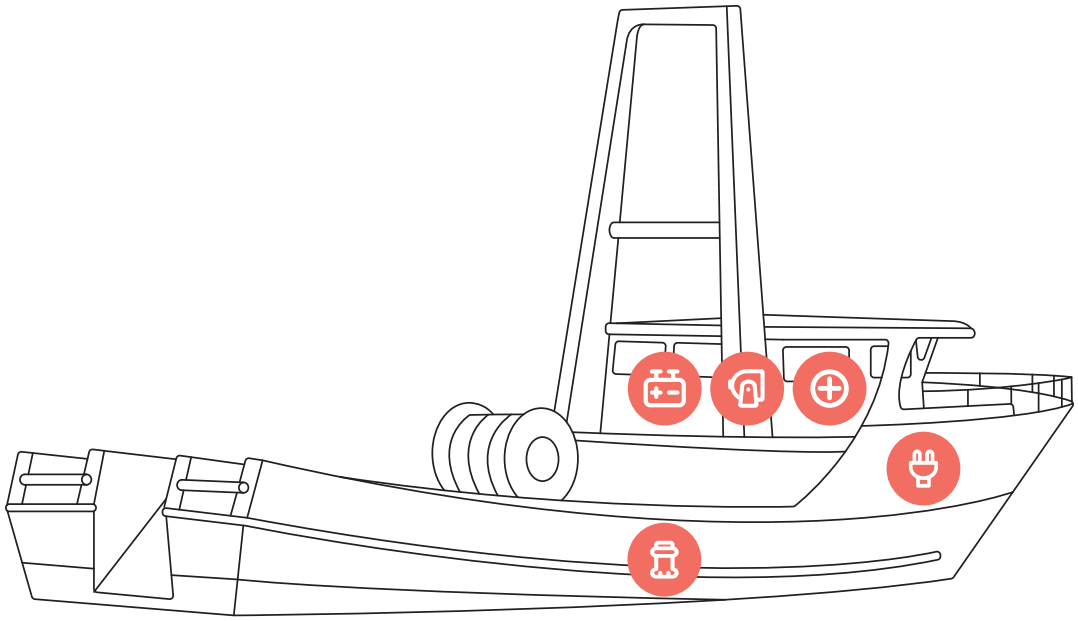
- Check and record fishing gear activity.
- Review recent activity.
- Connect to a line drum, hauling shiv, or other fishing gear.

Archipelago pressure sensor

- Check and record fishing gear activity.
- Review recent activity.
- Connect to a line drum, hauling shiv, or other fishing gear.

Add other devices

Add other onboard devices. Use BRNKL to check devices, review activity, and find out when something needs attention.



Additional battery

Up to three additional batteries.

- Check voltage.
- Find out when the battery voltage gets low.
- Review recent battery activity.

Bilge pump

- Check pump.
- Find out when the pump runs more than normal.
- Review recent pump activity.

Camera

Compatible camera required.

- Take and view photos.
- Take photos automatically when an event happens.
- Review recent photos.

Shore power

Compatible shore power sensor required.

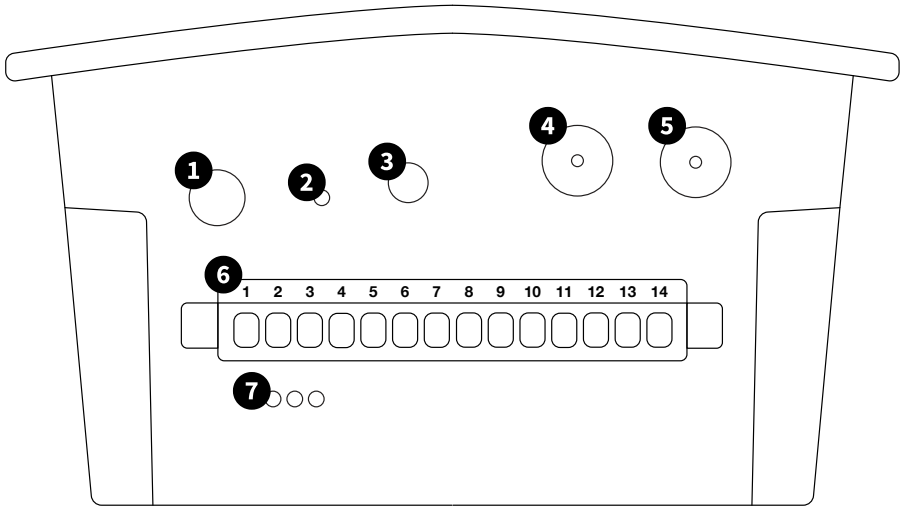
- Check connection.
- Find out when shore power disconnects and connects.
- Review recent shore power activity.

Other devices

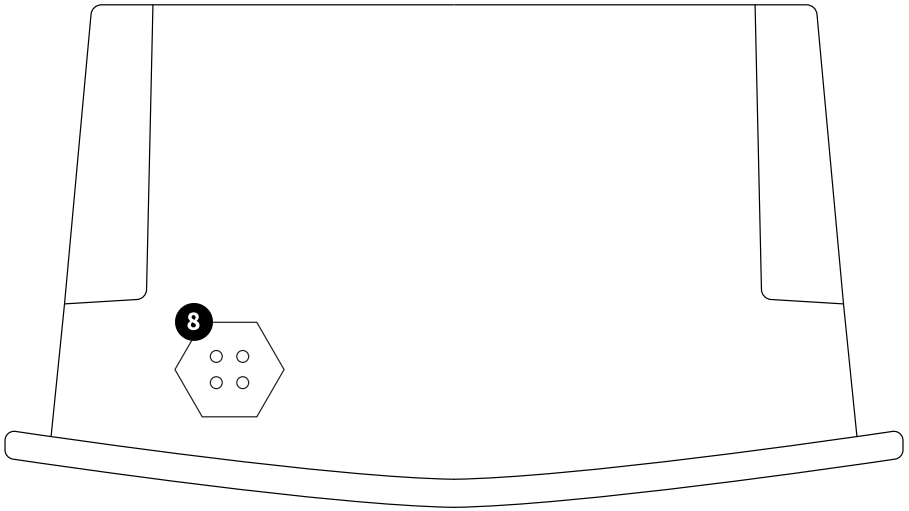
- Add security sensors and other BRNKL-compatiable devices.

MEET LIME

Bottom



Top



1. wireless pairing button
2. reset button
3. LED indicator light
4. auxillary antenna
5. GPS antenna port
6. connector
7. temperature, humidity, and barometric pressure sensors

8. camera port

BASIC SETUP

To set up LIME, follow these steps:

1 | What you need
2 | Sign in
3 | Install LIME
4 | Add GPS antenna
5 | Add house battery
6 | Add devices
7 | Set and calibrate

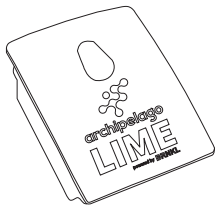
Basic setup | Step 1

What you need

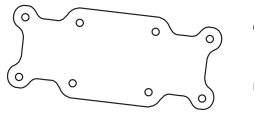
You need these things to complete a LIME basic setup:

In the box

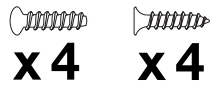
- LIME device



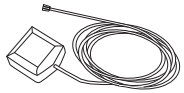
- mounting bracket



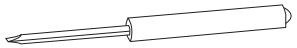
- mounting screws (8)



- GPS antenna



- 2.5 mm flathead screwdriver



Services

- LIME subscription
  (sign up email and password)

Devices

- iOS or Android mobile device, connected to internet
- 12V or 24V battery, connected to a battery bus

Tools

- wire stripper and crimper tool
- butane torch
- #2 Philips screwdriver
- pencil

You may need:

- multi-head screwdriver
- wrench set
- power drill and bit set
- non-conductive fish tape
- flashlight or headlamp

Supplies

- marine grade wire, 18 AWG (red)
- marine grade wire, 18 AWG (black or yellow)
- 1 heat-shrink ring terminal, 22–18 AWG (red), sized to fit battery bus terminal
- 1 heat-shrink ring terminal, 22–18 AWG (red), sized to fit common ground terminal
- 1 in-line fuse holder, 18 AWG, ATC/ATO
- 1 3A fuse, ATC/ATO
- 1 heat-shrink butt connector, 22–18 AWG (red)
- cable ties
- cable tie mounts

Basic setup | Step 2

Sign in

Sign in to the BRNKL app on a mobile device to set up LIME.

You need a LIME subscription to sign in. For subscription information and sign in details, contact Archipelago at +1 (250) 383-4535.

Sign in on mobile device

To sign in to BRNKL on a mobile device, follow these steps:

A | Install BRNKL app

On the mobile device:

1. In the app store, search for **BRNKL**.

Download on the App Store GET IT ON Google Play

2. Download and install the **BRNKL** app.

B | Sign in to BRNKL

On the mobile device:

1. Open BRNKL.

2. **Sign in** using the email address and password provided by Archipelago.

Basic setup | Step 3

Install LIME

Monitor and record fishing activity by installing the LIME device along with compatible fishing gear monitoring devices.

Use BRNKL to check and review temperature, humidity, barometric pressure, pitch angle, heel angle, and impact. Find out when something needs attention by turning on alerts.

The LIME device sends and receive data by connecting directly to mobile data networks.

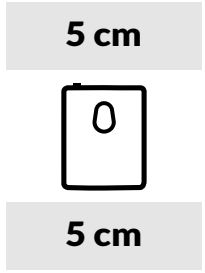
Install LIME device

To install the LIME device, follow these steps:

A | Select position

Select a position to install the LIME by following these guidelines:

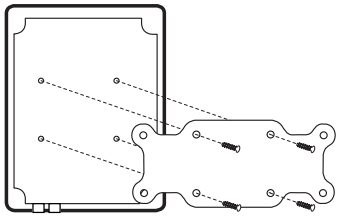
- Place indoors, close to the main battery bus.
- Ensure a stable mounting surface.
- Allow 5 cm (2") of clearance to access the top and bottom of the LIME.



- Allow for discreet wiring runs to other connected devices.
- If adding a camera:
  - Place within reach of the planned camera position. Standard camera cable length is 2 m (6 feet).

B | Attach mounting plate

1. Place the LIME face down.
2. Align the mounting plate with the holes on the rear of the LIME.



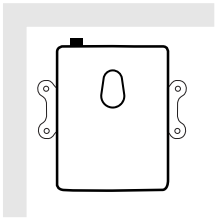
3. Attach the mounting plate using the four supplied screws.

x 4

C | Mount and secure

On the mounting surface:

1. Align the LIME/mount assembly squarely in the selected position.



2. Mark the screw holes in the mounting plate.

   On hardened surfaces, drill pilot holes as required.

3. Secure in place using the four supplied screws.

x 4

Basic setup | Step 4

Add GPS antenna

Track the location of fishing activity by adding a GPS antenna to LIME. Use BRNKL to check and track boat location. Find out when a boat leaves an area. by turning on alerts.

To add a GPS antenna, follow these steps:

1 | Install GPS antenna

2 | Connect GPS antenna

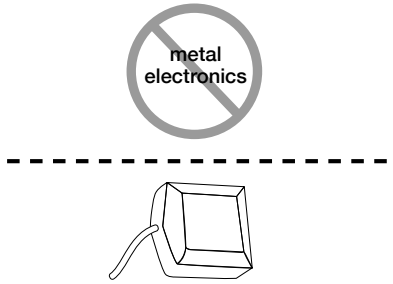
Install GPS antenna

To install a GPS antenna, follow these steps:

A | Select position

Select a position to install the antenna following these guidelines:

- Place indoors, in a discrete location.
- Face to view the sky and the horizon in more than one direction.
- Avoid overhead obstruction from metal surfaces or electronic devices



- Place within reach of the LIME, using the supplied 3 m (10 feet) antenna cable.
- Allow for a discreet cable run to the LIME.
- Ensure a flat and stable mounting surface.

B | Mount and secure

1. Clean and dry the mounting surface.
2. On the bottom of the antenna, remove the self-adhesive backing.
3. On the mounting surface, position the antenna with the bevelled top facing up.
4. Press and hold for 5 seconds to secure.

C | Run antenna cable to LIME

From the GPS antenna:

1. Run the the antenna cable to the LIME.

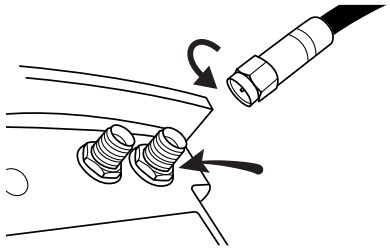
   Hide the cable in conduit, wall cavities, or wiring channels.
2. Secure the cable with cable ties and mounts.

Connect GPS antenna

To connect a GPS antenna:

On the bottom of the LIME:

1. Attach the antenna cable to the GPS antenna port.



   Turn the collar to fasten.
2. Bundle extra cable and secure with cable ties and mounts.

Basic setup | Step 5

Add house battery

Power LIME by connecting it to a house battery or battery bank. Use BRNKL to check and review battery voltage. Find out when the battery voltage gets low by turning on alerts.

To add a house battery, follow these steps:

1 | Prepare house battery wiring
2 | Connect house battery wiring
3 | Test battery connection
4 | Name house battery
5 | Set battery voltage range

BRNKL can monitor up to four batteries or battery banks.

Prepare house battery wiring

To prepare house battery wiring, follow these steps:

A | Make wiring runs

Make wiring runs following these guidelines:

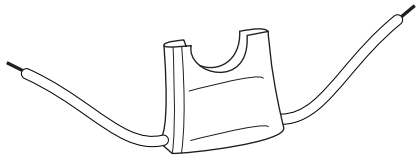
- DO NOT connect the wiring at this stage.
- Run two wires from the LIME:
  - One **red [+]** wire to the house battery bus.

    If the connection between the battery and bus is switched, run the red wire directly to the battery.
  - One **black [-]** wire to any common ground terminal.
- Leave 20 cm (8") of extra wire at all ends.
- Hide the wires in conduit, wall cavities, or wiring channels.
- Secure the wires with cable ties and mounts.

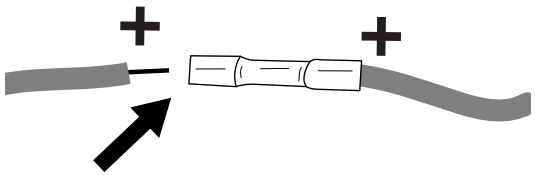
B | Prepare battery bus wiring

At the battery bus end of the wiring:

1. Trim any extra **red [+]** wire.
2. Strip 10 mm (1/2") of insulation from the ends of the **red [+]** wire and one **fuse holder [+]** lead.

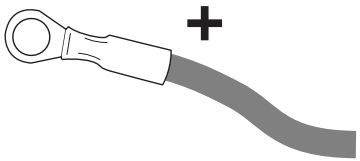


3. Connect and crimp the two wires with a heat-shrink butt connector.



5. Trim any extra wire from the unconnected **fuse holder [+]** lead.
6. Strip 10 mm of insulation from the end of the lead.
7. Connect and crimp a ring terminal to the lead.

   Size the ring terminal to fit the battery bus terminal.



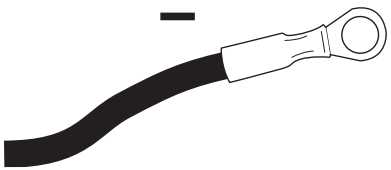
8. Heat seal the connections.

C | Prepare common ground wiring

At the common ground end of the wiring:

1. Trim any extra wire.
2. Strip 10 mm of insulation from the end of the **black [-]** wire.
3. Connect and crimp a ring terminal to the wire.

   Size the ring terminal to fit the common ground terminal.



4. Heat seal the connection.

D | Prepare LIME wiring

At the LIME end of the wiring:

1. Trim any extra wire.
2. Strip 5 mm of insulation from the end of the **red [+]** and **black [-]** wires.

Connect house battery wiring

To connect house battery wiring, follow these steps:

A | Connect wiring to battery bus

At the battery bus end of the wiring:

1. Attach the **fuse holder [+]** ring terminal to a **positive terminal [+]** on the battery bus.
2. Secure the wire with cable ties and mounts.

B | Connect wiring to common ground

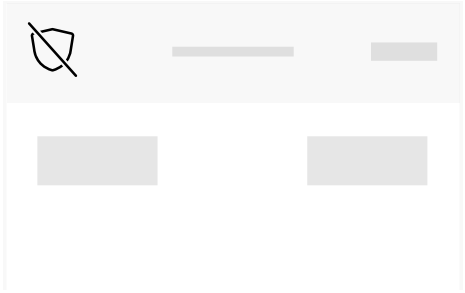
At the common ground end of the wiring:

1. Attach the **black [-]** wire ring terminal to the **common ground [-]** terminal.
2. Secure the wire with cable ties and mounts.

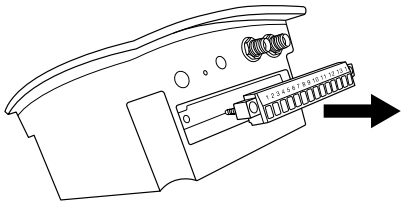
C | Connect wiring to LIME

At the LIME end of the wiring:

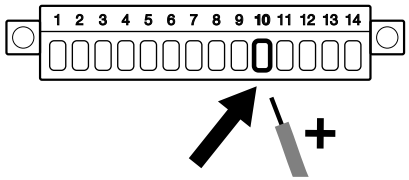
1. On the mobile device, open BRNKL and disarm [page 38].



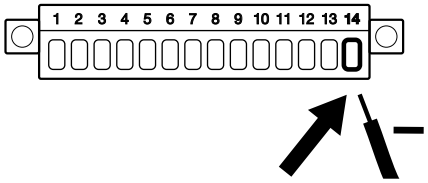
2. On the bottom of the LIME, remove the green connector [page 37].



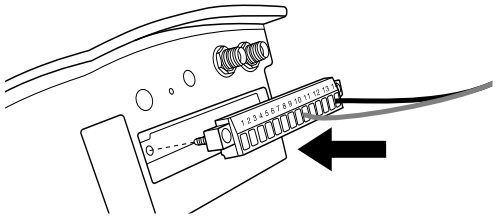
3. On the connector, loosen the screws above **slot 10** and **slot 14**.
4. Insert the **red [+]** wire into **slot 10**, then tighten the screw to fasten.



5. Insert the **black [-]** wire into **slot 14**, then tighten the screw to fasten.



6. Reattach the connector [page 37].



7. Secure the wires.

D | Insert fuse

At the battery bus end of the wiring:

- Insert a **3A** fuse into the fuse holder.

Test house battery connection

To test a house battery connection, follow these steps:

A | Wait 15 minutes

- Wait 15 minutes after connecting a device to LIME.

  This time allows BRNKL to update settings over the mobile data network.

B | Check battery voltage

On the mobile device:

1. Open BRNKL.

2. From **Map** or **Graphs**, select the grid view.
3. Go to **Battery 1** to see the voltage.

BRNKL shows a voltage **(V)** value when connected to the battery.

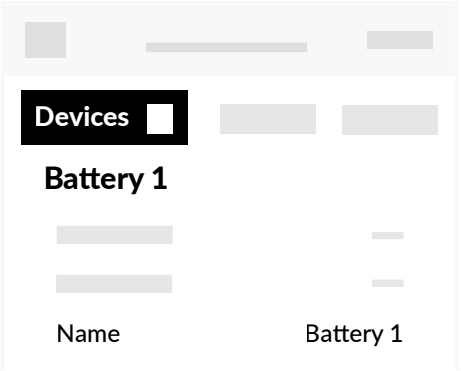
Name house battery

To name the house battery:

On the mobile device:

1. Open BRNKL.
2. From **Settings**, select **Devices**

3. Go to **Battery 1** settings.



4. In **Sensor Name**, enter a battery name.

   Example: *House battery*

5. **Save**.

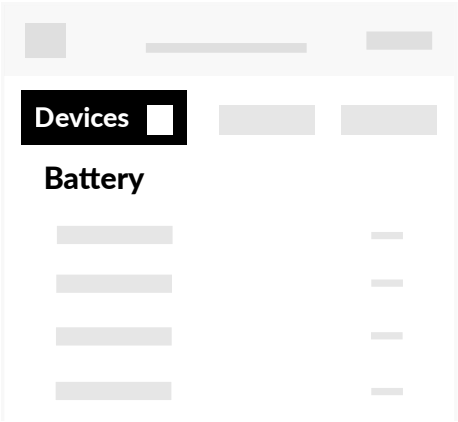
Set battery voltage range

To set a battery voltage range:

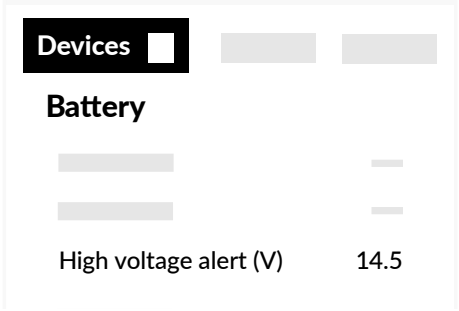
On the mobile device:

1. Open BRNKL.

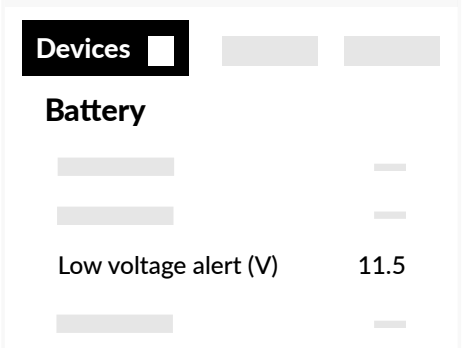
2. From **Settings**, select **Devices**, then go to the settings for the battery.



3. In the **High voltage alert (V)** setting:
   - For a 12v battery, enter *14.5*.
   - For a 24v battery, enter *29.0*.



4. In the **Low voltage alert (V)** setting:
   - For a 12v battery, enter *11.5*
   - For a 24v battery enter *23.0*.



5. **Save**.

Basic setup | Step 6

Add devices

Add any other devices before continuing to the next step.

- Add a device [page 26]

Basic setup | Step 7

Set and calibrate

Turn monitoring on or off for LIME sensors and connected devices. After connecting all devices, calibrate the built-in pitch and heel sensor.

To set and calibrate:

- Set monitoring
- Calibrate pitch and heel sensor

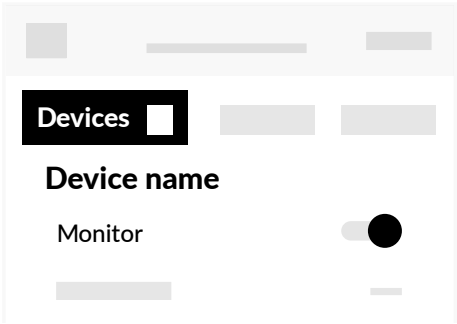
Set monitoring

Turn monitoring on or off for sensors and devices.

To set monitoring:

On the mobile device:

1. Open BRNKL
2. From **Settings**, select **Devices**.
3. In the settings for each sensor or device, turn **Monitor** on or off.



4. **Save**.

> To send an alert, BRNKL needs to monitor the related sensor or device.

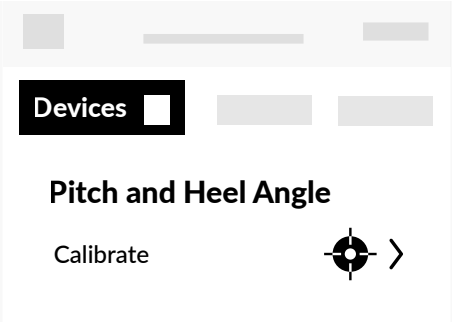
Calibrate pitch and heel sensor

Install LIME before calibrating the pitch and heel sensor.

To calibrate the pitch and heel sensor:

On the mobile device:

1. Open BRNKL.
2. From **Settings**, select **Devices**.
3. Go to **Pitch and Heel Angle**.
4. Select **Calibrate**.



5. **Save**.

> Recalibrate the pitch and heel sensor after moving or repositioning LIME.

ADD A DEVICE

Add a device to LIME:

- Add *Archipelago* laser sensor [page 27]
- Add *Archipelago* pressure sensor [page 31]
- Add other devices [page 35]

Add *Archipelago* laser sensor

Check and record fishing gear activity by adding an *Archipelago* laser sensor to LIME. Connect the sensor to a line drum, hauling shiv, or other fishing gear.

- What you need
- *Archipelago* laser sensor connections
- Change settings to support *Archipelago* laser sensor
- Test laser sensor connection

What you need

You need these things to add an *Archipelago* laser sensor to LIME:

Devices

- *Archipelago* laser sensor (1/4 watt 1k ohm resistor included)
- LIME, installed and connected to battery power
- iOS or Android mobile device, connected to internet (BRNKL installed)

Services

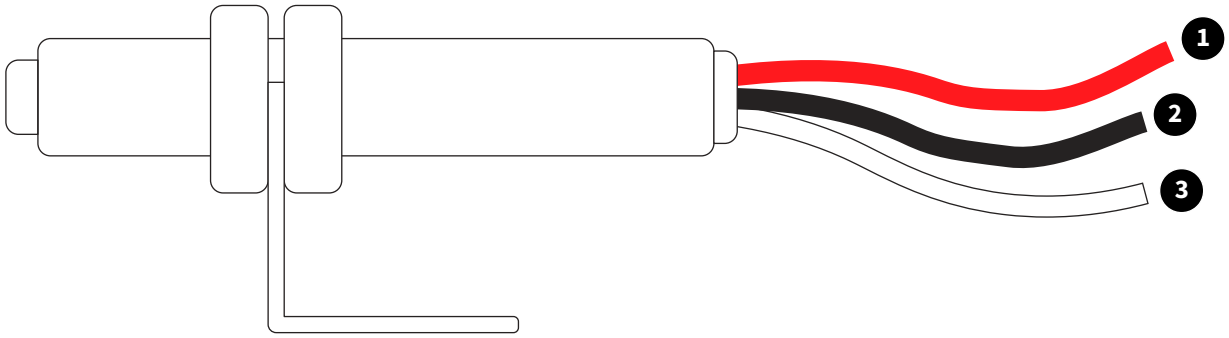
- BRNKL account
- LIME subscription

Supplies

- marine grade wire, 18AWG (red)
- marine grade wire, 18AWG (black)
- marine grade wire, 18AWG (white)
- 1 heat-shrink ring terminal, 22–18 AWG (red), sized to fit battery bus
- 1 heat-shrink ring terminal, 22–18 AWG (red), sized to fit common ground terminal

- 3 heat-shrink butt connectors, 22–18 AWG (red)
- cable ties
- cable tie mounts

Archipelago laser sensor connections



	Terminal	Connection
1	red	12V DC power
2	black	Common ground
3	white	LIME — Connector 9 — 1/4 watt resistor 1k Ω — 12V DC power

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Change settings to support *Archipelago* laser sensor

Change the default shore power settings to work with the *Archipelago* laser sensor.

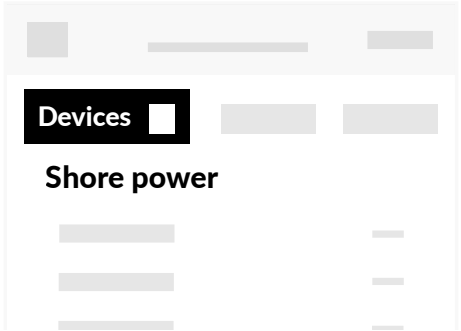
To change settings, following these steps:

A | Go to shore power settings

On the mobile device:

1. Open BRNKL.

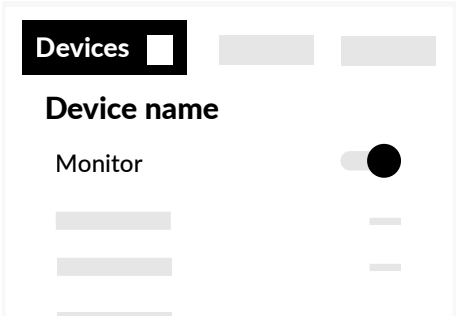
2. From **Settings**, select **Devices**.
3. Go to **Shore power** settings.



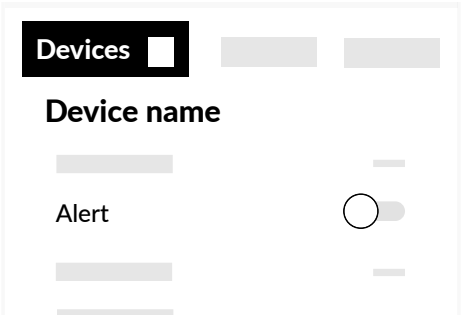
B | Change device settings

In **Shore Power** settings:

1. Turn ON **Monitor**.

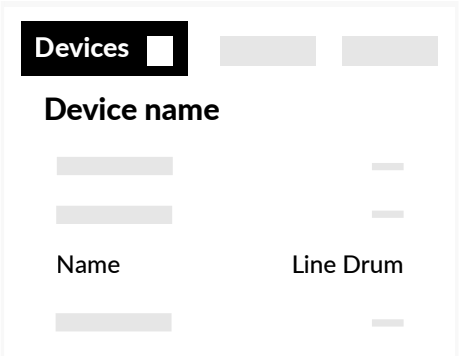


2. Turn OFF **Alert**.



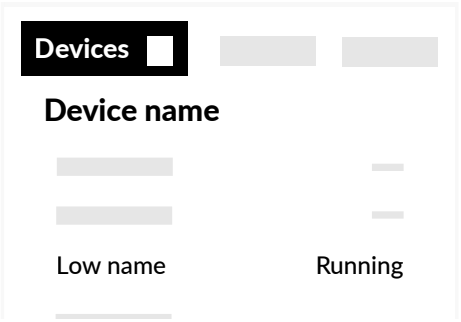
3. In **Name**, enter a new device name.

   Example: *Line Drum*



4. In **High name**, enter *Stopped*.

5. In **Low name**, enter *Running*.



6. **Save**.

Test *Archipelago* laser sensor connection

To test an *Archipelago* laser sensor connection, follow these steps:

A | Wait 15 minutes

- Wait 15 minutes after connecting a device to LIME.

  BRNKL needs time to update settings.

B | Run fishing gear test

1. Turn on the fishing gear connected to the sensor.
2. Run for 2 minutes, then turn off.

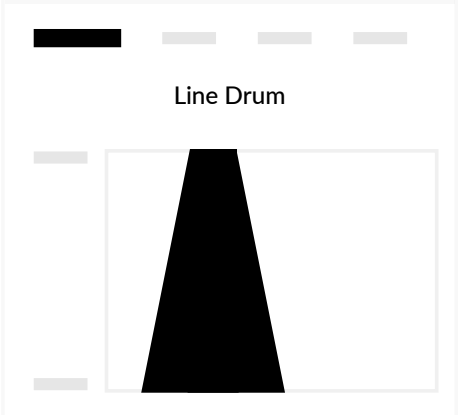
C | Review activity

1. Wait 2 minutes after running the fishing gear test.

   BRNKL needs time to update status.
2. On the mobile device, open BRNKL.

3. From **Graphs**, go to the sensor.

   Example: *Line Drum*



When connected, BRNKL reports activity during the gear test.

Add *Archipelago* pressure sensor

Check and record fishing gear activity by adding an *Archipelago* pressure sensor to LIME. Connect the sensor to a line drum, hauling shiv, or other fishing gear.

- What you need
- *Archipelago* pressure sensor connections
- Change settings to support *Archipelago* laser sensor
- Test laser sensor connection

What you need

You need these things to add an *Archipelago* laser sensor to LIME:

Devices

- *Archipelago* pressure sensor
- LIME, installed and connected to battery power
- iOS or Android mobile device, connected to internet (BRNKL installed)

Services

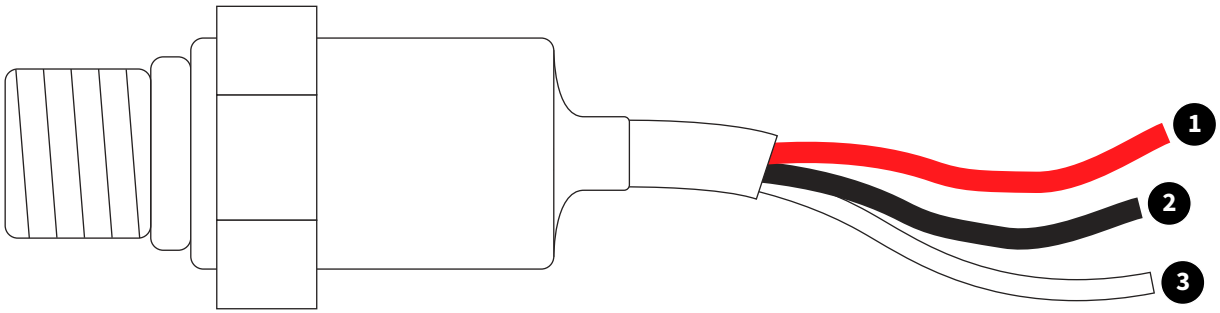
- BRNKL account
- LIME subscription

Supplies

- marine grade wire, 18AWG (red)
- marine grade wire, 18AWG (black)
- marine grade wire, 18AWG (white)
- 1 heat-shrink ring terminal, 22–18 AWG (red), sized to fit battery bus terminal
- 1 heat-shrink ring terminal, 22–18 AWG (red), sized to fit common ground terminal

- 3 heat-shrink butt connectors, 22–18 AWG (red)
- cable ties
- cable tie mounts

Archipelago pressure sensor connections



	Terminal	Connection
1	red	12V DC power
2	black	Common ground
3	white	LIME Connector 12 13

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Change settings to support *Archipelago* pressure sensor

Change BRNKL settings to work with the *Archipelago* pressure sensor.

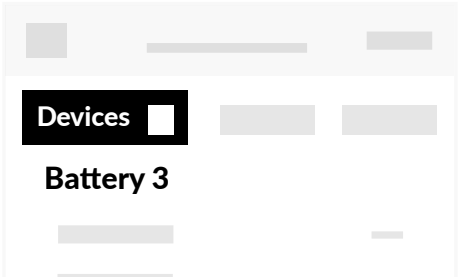
To change settings, following these steps:

A | Go to device settings

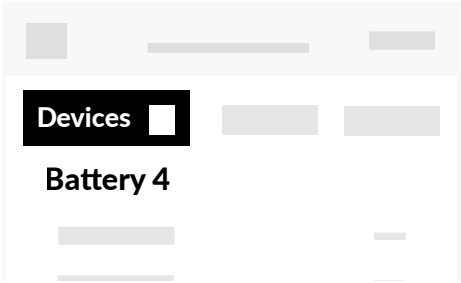
On the mobile device:

1. Open BRNKL.

2. From **Settings**, select **Devices**.
3. Do one of the following:
    - If the sensor is connected to **slot 12**, go to **Battery 3**.



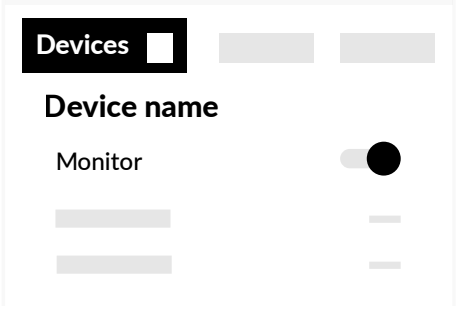
    - If the sensor is connected to **slot 13**, go to **Battery 4**.



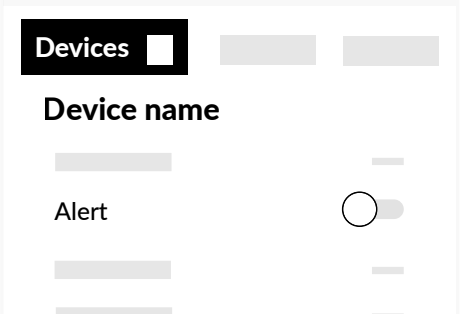
B | Change settings

In the device settings:

1. Turn ON **Monitor**.

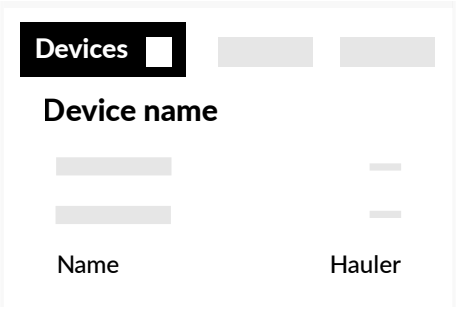


2. Turn OFF **Alert**.

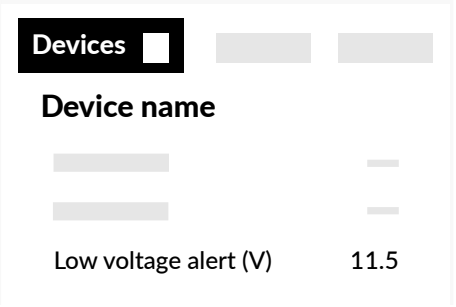


3. In **Name**, enter a new device name.

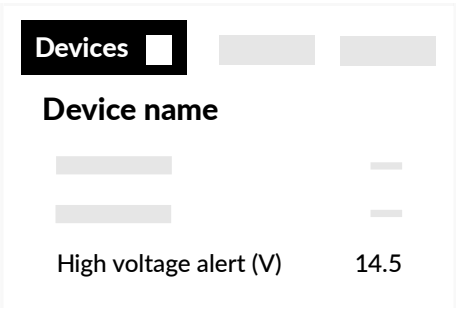
    Example: *Hauler*



4. In **High voltage alert (V)**, enter *7.0*



5. In **Low voltage alert (V)**, enter *0.5*



6. **Save**.

Test *Archipelago* pressure sensor connection

To test an *Archipelago* pressure sensor connection, follow these steps:

A | Wait 15 minutes

- Wait 15 minutes after connecting a device to LIME.

  BRNKL needs time to update settings.

B | Run fishing gear test

1. Turn on the fishing gear connected to the sensor.
2. Run for 2 minutes, then turn off.

C | Review activity

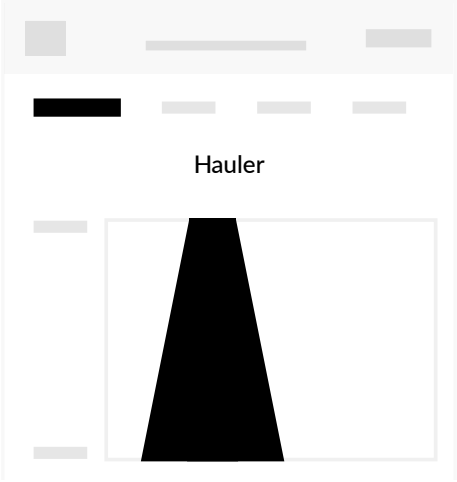
1. Wait 2 minutes after running the fishing gear test.

   BRNKL needs time to update status.

2. On the mobile device, open BRNKL.

3. From **Graphs**, go to the sensor.

   Example: *Hauler*



When connected, BRNKL reports activity during the gear test.

Add other devices

Add BRNKL-compatible devices. Use BRNKL to check devices, review activity, and find out when something needs attention.

BRNKL

Go to **brnkl.io** for information and help.

COMMON TASKS

Common setup tasks:

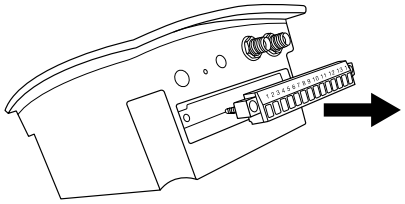
- Remove connector
- Reattach connector
- Arm BRNKL
- Disarm BRNKL

Remove connector

To remove the connector:

1. On the bottom of the LIME, find the green connector.
2. Loosen the screws at each end of the connector.

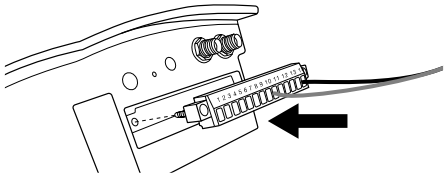
   Don't remove the screws.
3. Grasp and pull.



Reattach connector

To reattach the connector:

1. Align the connector with the opening on the bottom of the LIME.
2. Insert the connector.



3. Tighten the screws to fasten.

Arm BRNKL

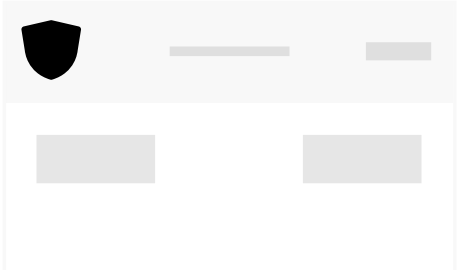
To arm BRNKL:

On the mobile device:

1. Open BRNKL.

2. From **Map**, **Graphs**, **Photos** or **Alerts**, go to the status bar.

3. If BRNKL shows **Disarmed**, select the status shield to arm.



Disarm BRNKL

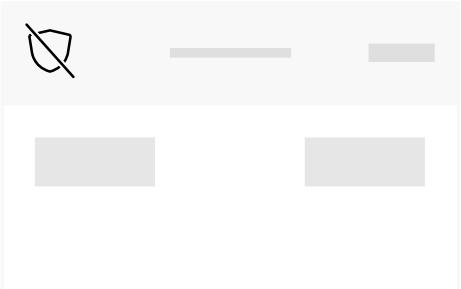
To disarm BRNKL:

On the mobile device:

1. Open BRNKL.

2. From **Map**, **Graphs**, **Photos** or **Alerts**, go to the status bar.

3. If BRNKL shows **Armed**, select the status shield to disarm.



HELP

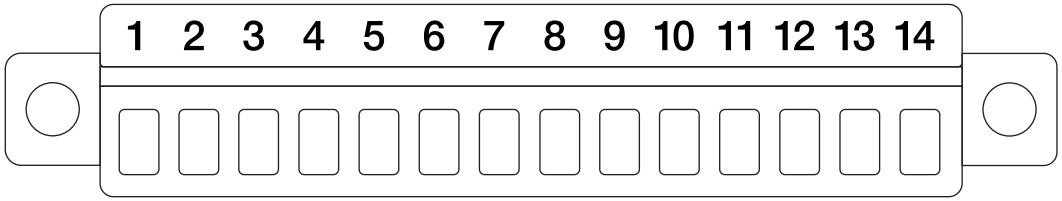
LIME and *Archipelago* sensors

Go to **archipelago.ca/resources** or contact Archipelago at +1 (250) 383-4535 or emservice@archipelago.ca for support.

BRNKL

Go to **help.brnkl.io** for help, guides, resources and other support.

LIME CONNECTIONS



Connector slot	Connection	Option
1 14	Common ground	
2 3	Digital output	Siren
		Strobe light
		AC device with controller
4 5 6 7	Digital input	Door/Window Sensor
		Bilge pump with DC controller

Connector slot	Connection	Option
8	Bilge pump	
9	Shore power	Archipelago laser sensor
10	House battery	
11	Battery	Ignition
		Bilge pump
		Shore power sensor
12 13	Battery	Archipelago pressure sensor
		Ignition
		Bilge pump
		Shore power sensor

LEGAL AND REGULATORY

Warranty, terms and conditions

For warranty, terms and conditions, go to **brnkl.io/terms**

FCC / Industry Canada Notices

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 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 A 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.

This device complies with Industry Canada's licence-exempt RSSs. 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.*

CAN ICES-3 (A)/NMB-3(A) – This Class A Digital Apparatus Complies with Canadian ICES-003. *Cet Appareil numerique de la classe (A) est conforme a la norme NMB-003 du Canada.*

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