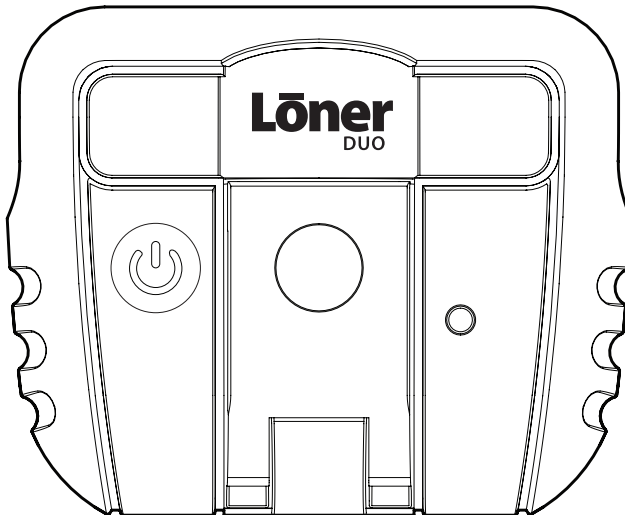


# User Guide

# Lōner DUO

A Mobile Worker Safety Device  
Complementing Loner Mobile





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## Warranty

Your Löner Duo™ powered by Blackline GPS is warranted against defects in materials and workmanship for up to one year from date of purchase. For further details regarding your Blackline GPS warranty, please refer to your Terms and Conditions of Service.

### More Information and Support

Visit <http://blacklinesafety.com> for more information.

### Declaration of Conformity

Blackline GPS hereby declares that this product incorporating Radio and Telecommunications Terminal Equipment functionality is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A copy of the original Declaration of Conformity is available at: [www.blacklinegps.com/ce](http://www.blacklinegps.com/ce)

### FCC Compliance

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.

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 manufacturer could void the user's authority to operate the equipment.

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 further assistance.

## Industry Canada Compliance / Notification d'Industrie Canada

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. / Ce dispositif est conforme au(x) format(s) RSS libre(s) d'Industrie Canada. Son fonctionnement est assujéti aux deux conditions suivantes : (1) Cet appareil ne peut causer d'interférences nuisibles, et (2) cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant provoquer un mauvais fonctionnement du dispositif.

### RF Exposure Statement / Déclaration d'exposition RF

For body worn operation, Löner Duo has been assessed for RF exposure and meets the requirements of FCC KDB447498 and IC RSS-102. / Pour utilisation sur le corps, Löner Duo a été évalué pour l'exposition aux RF et répond aux exigences de la FCC KDB447498 et IC RSS-102.

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# Safety Precautions

Blackline GPS takes your safety and the safety of those around you very seriously. It is important for you to be aware of the following precautions.



## **DANGER**

Do not place a Blackline GPS Product in or near an open flame or in the presence of flammable gases or fumes.

Operation of any electrical equipment in potentially explosive atmospheres can constitute a safety hazard.



## **WARNING**

When in a hospital or other health care facility, observe the restrictions on the use of mobile devices, such as cellular phones. Do not operate Blackline GPS Products where you are not able to operate your mobile/cellular phone.

Switch Blackline GPS Products off before boarding an aircraft and make sure that it cannot be inadvertently turned on. The operation of wireless appliances, including Blackline GPS Products is forbidden aboard aircraft to prevent interference with communication systems.

Road safety comes first. Do not operate a Blackline GPS Product while you are driving a vehicle. Park your vehicle before operating a Blackline GPS product, or using your mobile phone to interface to the Blackline GPS service.

Electrical equipment may be hazardous if misused. Operation of this Product, or similar Products, must always be supervised by an adult. Do not allow children access to the interior of any electrical Product and do not permit them to handle any cables.

**Do Not:**

Operate Blackline GPS products outside their specified operating temperature. Consult the specifications section.

Store Blackline GPS products outside their specified storage temperature. Consult the specifications section.

Operate Blackline GPS products outside their specified humidity rating. Consult the specifications section.

Dispose of Blackline GPS products in your household trash. Seek advice from your local electronics recycling authority. Blackline products may contain an internal lithium-ion battery pack.

# Getting Started

## Service Activation

Your Loner Duo requires a valid Loner Mobile application license operating on a supported smart phone. Contact your company's safety coordinator or Blackline GPS customer care at [customercare@blacklinegps.com](mailto:customercare@blacklinegps.com) to obtain a license.

Please see Using the Loner Duo for detailed instructions.

**NOTE:** *Service activation requires a valid credit card or, a credit account setup with Blackline GPS .*

## Overview

The Blackline GPS Loner Duo provides multi-layered safety for you as a mobile worker when it is connected via Bluetooth to a smartphone operating the Loner Mobile software. This guide provides information that you will find helpful to comfortably operate your Loner Duo. The unit contains the following internal components:

- Bluetooth radio
- 350 mAh rechargeable battery
- Tri-axis accelerometers
- Gyroscope
- Vibration motor
- Emergency Latch
- Power Button and Indicator Light
- Indicator Light Array
- Alarm Beeper
- USB interface for charging
- Integrated weather proof and dust proof case



## Requirements

The Loner Duo promotes a safe work environment for you when:

- Bluetooth communication has been established with the smartphone running Loner Mobile.
  - The Loner Duo and the smart phone both have sufficient battery capacity to operate.
  - You are wearing the device and carrying the associated smartphone.
- ❖ The Loner Mobile application must be activated in a Loner Portal account. For complete protection Loner Mobile must have a cellular connection and good GPS signal strength.

## Contents

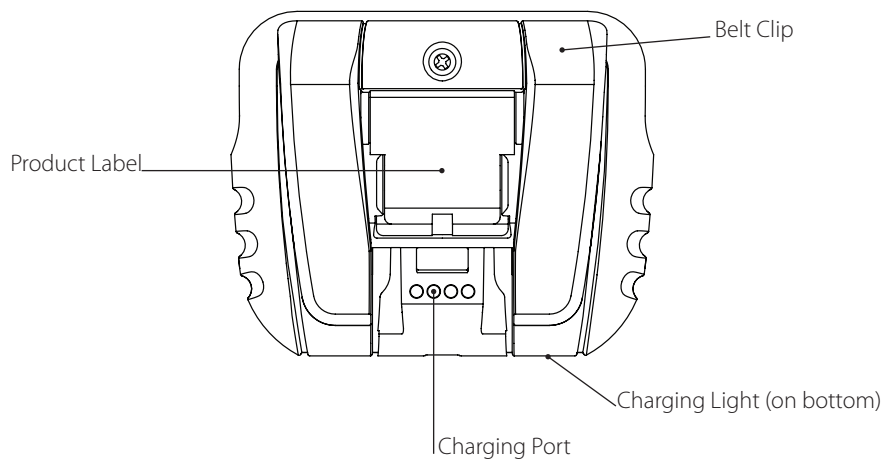
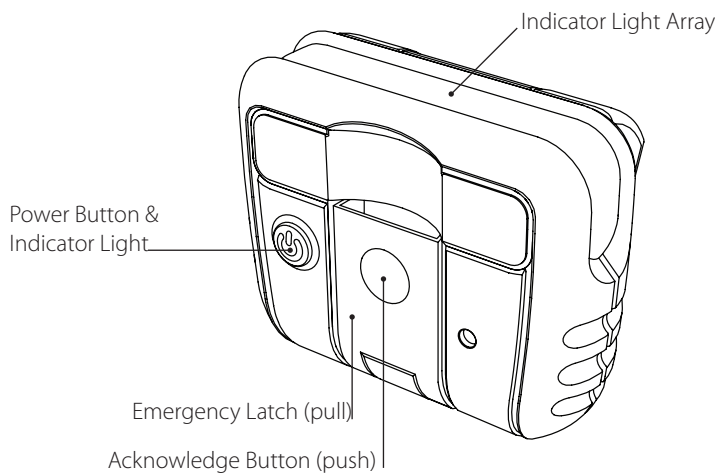
- Loner Duo™
- Micro USB charging clip
- Charging cable
- Wall charger

# Using the Loner Duo

## Loner Duo Hardware Details


The Loner Duo is rugged and purpose-built for monitoring you as a mobile worker. Physical details are outlined below.

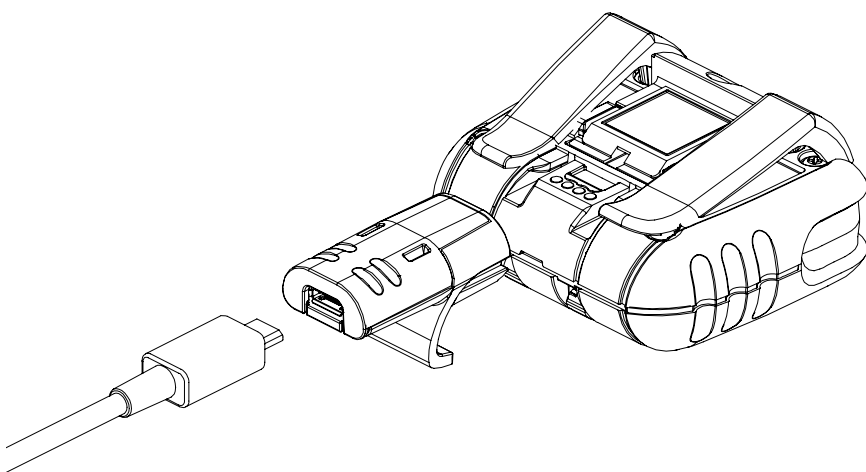
Physical Feature	Use
Charging Port	Charges the Loner Duo.
Power Button & Indicator Light	Powers the Loner Duo and indicates the Bluetooth connection status.
Acknowledge Button	Acknowledges alert messages on the Loner Duo.
Indicator Light Array	Indicates the Loner Duo is in an Alarm state.
Emergency Latch	Sends an emergency alert to monitoring personnel.
Charging Light	Indicates the charging state.
Product Label	Provides device information including serial number.
Belt Clip	Attaches the Loner Duo to a belt.



## Charging Loner Duo

Plug the wall charger into an electrical outlet.

1. Insert the Micro USB Cable Plug into the corresponding Micro USB Charging Jack on the charging clip ensuring the USB symbol  on the cable faces the flat side of the charging clip.
  2. Slide the charging clip onto the Loner Duo using the guides to align the clip with the Charging Port on the device.
  3. Completely charge the Loner Duo for two hours.
  4. Remove the charging clip from the Loner Duo.
- ❖ Charging status can be determined by observing the Charging Light. See the section Loner Duo Light Behaviour for more detailed information.



## Pairing the Loner Duo with a Smartphone

The first time the Loner Duo powers on, you must pair it with a smartphone running the Loner Mobile application.

1. Press the Power Button to turn the Loner Duo on. The Loner Duo will turn on, the green Indicator Light will blink and the beeper, Indicator Light Array and vibration motor will announce the chirp pattern.
2. Ensure the Bluetooth is enabled on your smart phone.
3. In the Loner Mobile application, from the Menu select Loner Duo Status.
4. In the Loner Duo Status screen, from the Loner Duo menu select Enable Loner Duo Function.

5. In the Löner Duo search screen, select Search to search for available Bluetooth devices. This process may take a few minutes as all Bluetooth devices within range will be displayed.
  6. Select the Löner Duo from the list that corresponds to the Unit ID on the Product Label.
  7. The smart phone and the Löner Duo will establish communications.
  8. Once paired, the Löner Duo green Indicator Light will remain on continuously.
- ❖ If the Löner Duo fails to connect via Bluetooth to the smart phone, the device will enter the no Bluetooth alarm pattern.

## Turning the Löner Duo On (previously paired)

If the Löner Duo has been previously paired, follow the steps below for turning on the device:

1. Press the Power Button to turn the Löner Duo on.
  2. The beeper, alarm status light and vibrator will announce the chirp pattern.
  3. The Power Button Indicator Light will blink as the Löner Duo connects to the paired Löner Mobile smartphone.
  4. While the Löner Duo retains a Bluetooth connection, the Power Button Indicator Light will remain on.
- ❖ If the Löner Duo fails to connect via Bluetooth to the smartphone, the device will enter the no Bluetooth alarm pattern.

## Turning the Löner Duo Off

If the Löner Duo is no longer required, follow these steps for turning off the device:

1. Press and hold the Power Button for three seconds to power the unit off.
2. The beeper sounds for three long beeps during the time the Power Button is pressed.
3. The vibrator vibrates for three long pulses.
4. At the end of the three seconds the beeper, vibrator and Power Button Indicator Light turn off.

## Loner Duo Light Behaviour

The Loner Duo features a Power Button Indicator Light and a Red Charging Light. Please see below for the light behaviour.

<b>Light Behaviour</b>	<b>Power Button Indicator Light</b>	<b>Red Charging Light</b>
<b>Light Flashing</b>	Indicates the Loner Duo is powered and connecting to the smartphone.	Indicates the Loner Duo is charging.
<b>Light On</b>	Indicates that the Loner Duo is powered and connected to the smartphone.	Indicates that the Loner Duo is fully charged.
<b>Light Off</b>	Indicates that the Loner Duo is powered off or the battery is depleted.	Indicates that the Loner Duo is not charging.

- ❖ The Loner Duo is referred to as having no Bluetooth connection when the Power Button Indicator Light is blinking or the device is powered off.
- ❖ The Loner Duo is referred to as having a Bluetooth connection when the Power Button Indicator Light is on continuously.
- ❖ The Red Charging Light functions when the device is connected to a micro USB cable for charging.

## Loner Duo Annunciation Patterns

The Loner Duo features audible, tactile and visual indicators for annunciating different types of messages. Please see below for these patterns.

Type	Beeper	Vibration Motor	Indicator Light Array
Low Alarm	Slow alarm Pattern	Single repeating vibrate	Slow flash
High Alarm	Fast alarm pattern	Double repeating vibrate	Fast flash
Low Battery	Single beep once every 5 sec	Single vibrate once every 5 sec	Single flash once every 5 sec
Bluetooth	Slow double beep	Single repeating vibrate	Slow double flash
Chirp	Single beep	Single vibrate	Single flash

## Using the Loner Duo

When safety monitoring is required, perform the following steps to ensure you are being protected.

1. Launch the Loner Mobile application on your smart phone.
2. Press the Power Button to turn on the Loner Duo.
3. The Power Button Indicator Light on the Loner Duo will blink while establishing a Bluetooth connection with the smart phone.
4. Wait for the device to establish a Bluetooth connection. The Power Button Indicator Light remains on continuously.
5. Wear the Loner Duo on your belt at your hip at all times that you require remote safety monitoring.
6. Perform your work duties as you normally would. The Loner Duo automates remote monitoring of your safety.
7. When remote monitoring of your safety is no longer required, power down the Loner Duo and close the Loner Mobile application.

## About Bluetooth

Bluetooth is a low power communication protocol that requires the Loner Duo and the smart phone to be within close proximity of each other. To ensure constant communication between the Loner Duo and the smartphone, keep both devices with you.

# Alerts

Alert messages are configured for Loner Mobile and Loner Duo through the Loner Portal web application. Alerts are displayed in Loner Portal and can be sent via email and SMS to safety monitoring personnel.

## Alerts

An alert is a message that communicates a device or system level event such as an Emergency Alert or a Low Battery Alert. Depending on the priority level of the Alert, different action must be taken by safety-monitoring personnel.

Priority Level 1 = Immediate action – mobile worker may need assistance.

Priority Level 2 = No immediate action required, but future action may be necessary.

Priority Level 3 = No action required – informational message

Alert	Details	Priority Level
<b>Emergency Alert</b>	Loner Duo will send an Emergency Alert if the Emergency Latch has been opened, or the silent emergency alarm has been activated.	1
<b>Fall Detected Alert</b>	Loner Duo will send a Fall Detected Alert when the device has detected a fall <i>and</i> you have not canceled the pending message within 30 seconds.	1
<b>No-motion Alert</b>	Loner Duo will send a No-motion Alert when the device does not detect motion for 2 minutes <i>and</i> you have not canceled the pending message within 30 seconds.	1
<b>Missed Check-in Alert</b>	Loner Duo will initiate the pending Missed Check-in Alert if you have not checked in with Loner Mobile. You have 30 seconds to cancel before a Missed Check-in Alert is sent.	1
<b>Low Battery</b>	Loner Duo will send a Low Battery Alert if the internal battery level falls below 10%.	2

❖ For No-motion alert, options from 0 – 30 minutes are available. (0 Indicates the feature is disabled.)



## Initiating an Emergency Alert (Emergency Latch Use)

If you are in an emergency situation, perform the following:

1. Open the Emergency Latch.
2. Loner Duo will annunciate the alarm pattern to notify others nearby of the event.
3. Loner Duo will instantly send an Emergency Message to Loner Mobile.
4. Loner Mobile will acknowledge the message and instantly send the Emergency Message to monitoring personnel.
5. Loner Mobile will annunciate the Emergency Alarm pattern based on the LonerMobile\_Emergency Ring Tone configuration.
6. The alarm pattern on the Loner Duo and Loner Mobile will continue until the Emergency Alert has been canceled on the Loner Duo, or in the Loner Mobile application, or the battery is depleted.

❖ Another Emergency Alert will not occur until the Emergency Alert has been canceled.

### Canceling an Emergency Alert (Emergency Latch Use):

1. Return the Emergency Latch to the closed position.
2. Press and hold the Acknowledge Button for 3 seconds.
3. Cancel the alert in Loner Mobile.

❖ After three seconds, the alarm pattern will be silenced and the Loner Duo will return to regular operation.

❖ If the user cancels an Emergency Alert, this does not clear the alert within the Loner Portal user account. Monitoring personnel are required to address the safety incident.

## Initiating a Silent Emergency Alert

If you are in an emergency situation, where you prefer to not alert others in the area (a silent emergency), perform the following:

1. Push and hold the Acknowledge Button for 10 seconds.
2. Loner Duo will vibrate for 5 seconds, pause and then vibrate for 5 more seconds.
3. A Silent Emergency Message will be sent to Loner Mobile.
4. Loner Duo will NOT annunciate the alarm pattern (it will remain silent).

5. Loner Mobile will acknowledge the message and instantly send the Emergency Message to monitoring personnel.
  6. Loner Mobile will NOT annunciate the Emergency Alarm pattern (it will remain silent).
  7. The Silent Alarm can be canceled in Loner Mobile at any time.
- ❖ The Loner Duo will return to normal operation. If the user cancels a Silent Emergency Alert in Loner Mobile, this does not clear the alert within the Loner Portal user account. Monitoring personnel are required to address the safety incident.

## About Activity/Motion Monitoring

The Loner Duo is constantly monitoring your motion. If the Loner Duo has not detected motion for two minutes, it will enter the alarm mode and annunciate the low alarm pattern to indicate a pending No-motion alert. If you do not require assistance, you have 30 seconds to cancel the alert.

### Canceling a pending No-motion Alert:

1. Press the Acknowledge Button for 1 second.
2. After one second, the alarm pattern will be silenced and the Loner Duo will return to regular operation.

If you have not cancelled the alert within 30 seconds, the No-motion Alert is sent, initiating the alert escalation process. The Loner Duo will annunciate the high alarm pattern until the alert is canceled or the battery is depleted.

### Canceling a No-motion Alert:

1. Press and hold the Acknowledge Button for 3 seconds.
  2. After three seconds, the alarm pattern will be silenced and the Loner Duo will return to regular operation.
- ❖ If the user cancels a No-motion Alert, this does not clear the alert within the Loner Portal user account. Monitoring personnel are required to address the safety incident.

## About Fall Detection

The Loner Duo is constantly monitoring your motion for falls. If the Loner Duo detects a fall, it will enter the alarm mode and annunciate the low alarm pattern to indicate a pending Fall Detected alert. If you do not require assistance, you have 30 seconds to cancel the alert.

### Cancelling a pending Fall Detected Alert:

1. Press the Acknowledge Button for 1 second.
2. After one second, the alarm pattern will be silenced and the Loner Duo will return to regular operation.

- ❖ If you have not cancelled the alert within 30 seconds, the Fall Detected Alert is sent, initiating the alert escalation process. The Loner Duo will annunciate the high alarm pattern until the alert is canceled or the battery is depleted.

**Cancelling a Fall Detected Alert:**

1. Press and hold the Acknowledge Button for 3 seconds.
  2. After three seconds, the alarm pattern will be silenced and the Loner Duo will return to regular operation.
- ❖ If the user cancels a Fall Detection Alert, this does not clear the alert within the Loner Portal user account. Monitoring personnel are required to address the safety incident.

**Missed Check-in Alert**

The Loner Duo will receive a Missed Check-in Alert if the Loner Mobile application is configured to have you periodically check in. If the Loner Duo receives a Missed Check-in Alert, it will enter the alarm mode and annunciate the low alarm pattern to indicate a pending Missed Check-in Alert. If you do not require assistance, you have 30 seconds to cancel the alert.

**Canceling a pending Missed Check-in Alert:**

1. Press the Acknowledge Button for 1 second.
2. After one second, the alarm pattern will be silenced and the Loner Duo will return to regular operation.

If you have not cancelled the alert within 30 seconds, the Missed Check-in Alert is sent, initiating the alert escalation process. The Loner Duo will annunciate the high alarm pattern until the alert is cancelled or the battery is depleted.

**Cancelling a Missed Check-in Alert**

1. Press and hold the Acknowledge Button for 3 seconds.
  2. After three seconds, the alarm pattern will be silenced and the Loner Duo will return to regular operation.
- ❖ If the user cancels a Missed Check-in Alert, this does not clear the alert within the Loner Portal user account. Monitoring personnel are required to address the safety incident.

## About Low Battery Detection

The Loner Duo monitors the battery level of the device. If the battery level drops below 10% of battery capacity, a Low Battery Alert will be sent and the Loner Duo will annunciate the low battery alarm pattern.

The Loner Duo will continue all of the alarms until one of the following occurs:

- The Loner Duo is powered off.
  - The Loner Duo automatically shuts down with a depleted battery.
  - The Loner Duo is plugged in for recharging.
- ❖ The Loner Duo sends a Loner Duo Powered Off by Low Battery message via Bluetooth to the paired smartphone before finally powering off.

## Performance Expectations of the Fall Detection System:

The Loner Duo utilizes gyroscope and accelerometers to determine the motion of normal human activity and thus determine when an extreme event, such as a fall, occurs. Accuracy of the system depends on the user wearing the Loner Duo correctly on the belt at the hip.

# Specifications

## Specifications for Löner Duo

### Software Compatibility

Löner Mobile version 3.x for BlackBerry

### Size & Weight

**Size:** 51 mm W x 32 mm H x 62 mm L (2.01"W x 1.26"H x 2.44"L)

**Weight:** 75 g (2.65 oz)

### Safety Features

**Fall detection technology:** Tri-axis accelerometers, tri-axis gyros, plus software processing

**Emergency latch:** Release latch to trigger alert

**Silent emergency:** Press and hold Acknowledge Button to trigger alert

**Worker motion monitoring:** Configurable time window (1 – 30 min or off)

**Worker check-in (optional):** Required check-in period (5 – 180 min)

### Buttons & Indicator Lights

**Power button:** Power on/off

**Acknowledge button:** Check-in/Silent emergency/cancel pending alerts/acknowledge alerts

**Emergency latch:** Send emergency alert

**Red indicator light array plus vibration & buzzer:**

Safety alert triggered

**Green indicator light:** Blinking (powered), continuous (connected)

### User Notification

**Indicators:** Acoustic buzzer, LEDs, and vibration motor

**Acoustic buzzer sound pressure level:** 90 dB @ 10 cm (90 dB @ 3.94")

### Wireless Communication

Bluetooth version 2, Class 2

### Alert Messages

Fall detected

Emergency

No-motion

Missed check-in

Low battery

Power off

### Power & Battery

**Rechargeable Li-ion battery:** 350 mAh capacity

**Battery life:** 12 hours continuous operation

**Charging connector:** 4-pin sealed connection

### Environmental

**Storage temperature:** -30° C to 75° C (-22° F to 167° F)

**Operating temperature:** -20° C to 55° C (-4° F to 131° F)

**Charging temperature:** 0 to 45° C (32 to 113° F)

**Ingress protection:** Designed to meet IP65

### Approvals

FCC Part 15 Subpart B, FCC ID: W77LNRDUO,

Industry Canada 8255A-LNRDUO

### Device Requirements

Bluetooth communication must be paired to smartphone

Löner Mobile must be installed on smartphone

Löner Mobile must be activated within Löner Portal web app

### Warranty

One year limited factory warranty

### Löner Portal Web Application

**Features include:** Alarm banner, event history, device location

mapping, device management, alert & notification settings and more.

# Loner Duo Care

## Considerations Regarding Use and Storage of the Loner Duo

The Loner Duo meets IP65 ingress protection ensuring that under normal operation no dirt or water can enter the device.

Storage temperature range of: -30 to 75°C (-22 to 167°F).

Operating temperature range of: -20 to 55°C (-4 to 131°F).

Charging temperature: 0 to 45° C (32 to 113° F).

❖ More details can be found in the specifications section.

# Customer Care

## Customer Care for the Loner Duo

Customer Care for the Loner Duo is available between the hours of 8 AM and 5 PM Mountain Time.

North America toll-free: **1-877-869-7212** | International: **+1-403-451-0327**

Email: **support@blacklinegps.com**

**[www.blacklinetracking.com](http://www.blacklinetracking.com)**



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