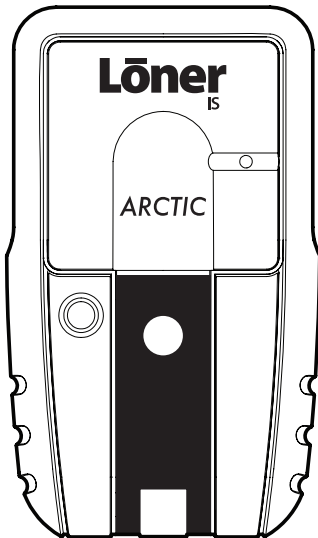


Intrinsically Safe

User Guide

Lōner^{IS} ARCTIC

Mobile Worker Safety Device



blacklinegps

Protect. Share. Connect.

Legal Notices

Information in this document is subject to change without notice. This document is provided "as is" and Blackline GPS Inc. ("Blackline GPS" or "Blackline") and its affiliated companies and partners assume no responsibility for any typographical, technical or other inaccuracies in this document. Blackline GPS reserves the right to periodically change information that is contained in this document. However, Blackline GPS makes no commitment to provide any such changes, updates, enhancements or other additions to this document to you in a timely manner or at all.

Copyright © 2013 Blackline GPS Inc. All rights reserved.

Except as expressly provided herein, no part of this manual may be reproduced, copied, transmitted, disseminated, downloaded, or stored in any storage medium, for any purpose without the express prior written consent of Blackline GPS Inc. ("Blackline" or "Blackline GPS"). Blackline GPS hereby grants permission to download a single copy of this manual onto some form of electronic storage medium to be viewed and to print one copy of this manual or any revision hereto, provided that such electronic or printed copy of this manual must contain the complete text of this copyright notice. Further, any unauthorized commercial distribution of this manual or any revision hereto is strictly prohibited.

The Blackline GPS families of related marks, images and symbols, including Löner, Löner IS, Löner IS Arctic, Löner SMD, Löner Mobile, UltimateSense, Protect, Share, Connect, and Blackline GPS are the exclusive properties and trademarks of Blackline GPS Inc. The BlackBerry and RIM families of related marks, images and symbols are the exclusive properties and trademarks of Research In Motion Limited. All other brands, product names, company names, trademarks and service marks are the properties of their respective owners.

Warranty

Your Löner 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://www.blacklinesafety.com> for more information.



FCC Notice

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

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: <http://www.blacklinegps.com/ce>

FCC RF Exposure Statement

This device is only authorized for use in mobile applications. This Class B digital apparatus complies with Canadian ICES-003.

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 further assistance.

Industry Canada Notice

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.

Table of Contents

Safety Precautions

DANGER	4
WARNING	4

Getting Started

Activate your Device	6
----------------------------	---

Overview

Intrinsically Safe	7
Requirements	7
Contents	7

Using Loner IS

Loner IS Hardware Details	8
Charging Loner IS	10
Turning Loner IS Off	11
Loner IS Light Behaviour	11
Loner IS Light Annunciation Patterns	12
Ensuring Protection with Loner IS	12

Alerts

Understanding Alerts	13
Initiating an Emergency Alert (Emergency Latch Use)	14
Canceling an Emergency Alert (Emergency Latch Use)	14
Initiating a Silent Emergency Alert	14

Motion/Activity Monitoring	14
Cancelling a Pending No-motion Alert	15
Cancelling a No-motion Alert	15
About Fall Detection	16
Cancelling a Pending Fall Detected Alert	16
Cancelling a Fall Detected Alert	16
About Checking In	16
Cancelling a Pending Missed Check-in Alert:.....	16
Cancelling a Missed Check-in Alert	17
Low Battery Detection	17

Specifications

Specifications for Löner IS	19
-----------------------------------	----

Löner IS Care

Consideration Regarding Use and Storage of Löner IS.....	20
--	----

Customer Care

Customer Care for Löner IS	20
----------------------------------	----

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 the Loner IS Arctic product in or near an open flame.



WARNING

To reduce the risk of ignition of a flammable atmosphere, batteries must only be charged in an area known to be nonflammable.

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. To prevent interference with communication systems the operation of wireless applications, including Blackline GPS products, is forbidden aboard aircraft. Failure to observe these instructions may lead to the suspension or denial of cellular services to the offender, legal action, or both.

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:

- Do not operate Blackline GPS products outside their specified operating temperature. Consult the specifications section.
- Do not store Blackline GPS products outside their specified storage temperature. Consult the specifications section.
- Do not operate Blackline GPS products outside their specified humidity rating. Consult the specifications section.
- Do not dispose of Blackline GPS products in your household trash. Seek advice from your local electronics recycling authority. Blackline products contain an internal lithium-ion battery pack.

Getting Started

Activate your Device

Activation of Loner IS® Arctic device is managed within your Loner Portal account by the Blackline GPS Customer Care team. If a Loner Portal account has not been created, the Blackline GPS Customer Care team can provide assistance.

1-877-869-7212

support@blacklinegps.com

NOTE: Service activation requires a valid credit card and the Unit ID and Activation Code.

Overview

The Blackline GPS™ Loner IS Arctic dedicated safety device provides multi-layered safety for you as a mobile worker. This guide provides information that you will find helpful to comfortably operate your Loner IS Arctic device. Your Loner IS Arctic device contains the following internal components:

- Wireless radio and antenna
- High sensitivity GPS receiver
- Ultimate Sense® GPS antenna
- Large capacity 1500 mAh rechargeable battery
- Tri-axis accelerometer
- Tri-axis 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

Intrinsically Safe

Blackline's Löner IS Arctic device is a UL 913-certified Intrinsically Safe Apparatus for Use Class I, Division 1, Groups A – D and Class II, Division 1, Groups E – G in hazardous (classified) locations.

Please consult with your organization's safety professional for further information regarding the topic of intrinsic safety and any policies, procedures, facilities, or locations within facilities that may be related to intrinsic safety.

Requirements

Löner IS Arctic promotes a safe work environment for you when:

- The device has been activated on a Löner Portal user account.
- The device has sufficient battery capacity to operate.
- The device has sufficient wireless signal level to communicate data.
- The device has sufficient GPS signal coverage to compute locations.
- You are wearing the device.

Contents

- Löner IS Arctic
- Micro USB Charging Clip
- Charging cable
- Wall Charger



Löner IS Arctic Service Plan

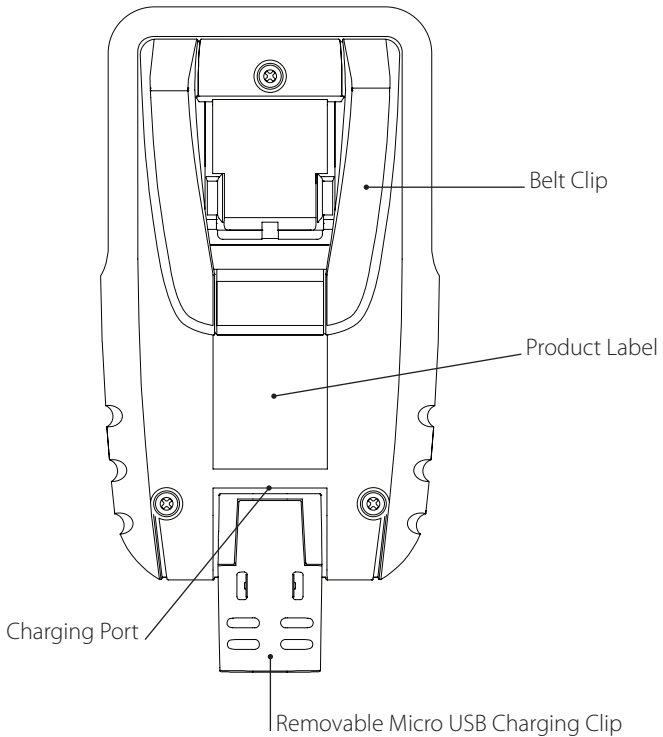
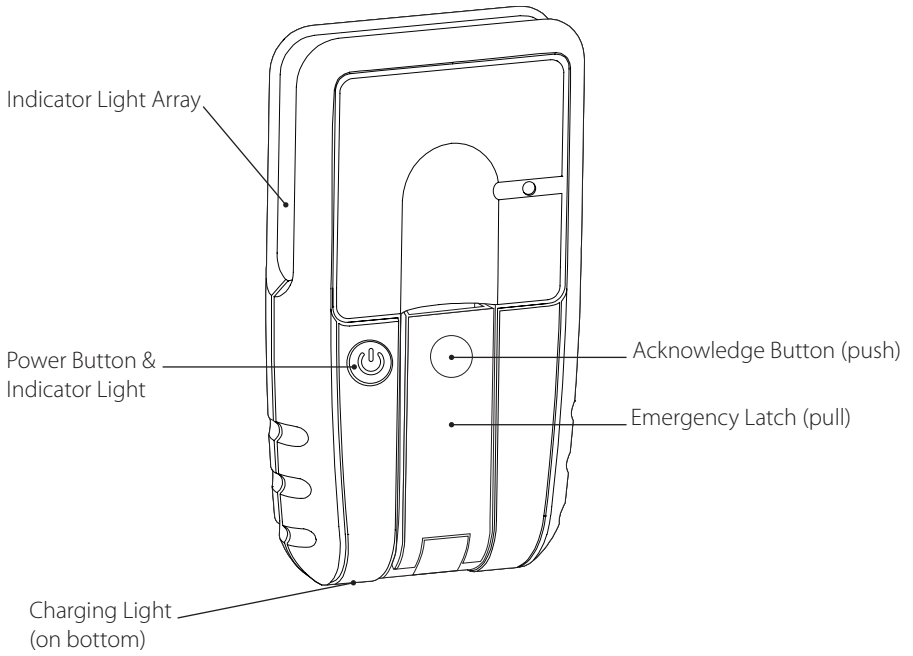
Various service plan options are available depending on your feature level requirements. Contact Blackline for more information.

Using Loner IS Arctic

Loner IS Arctic Hardware Details


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

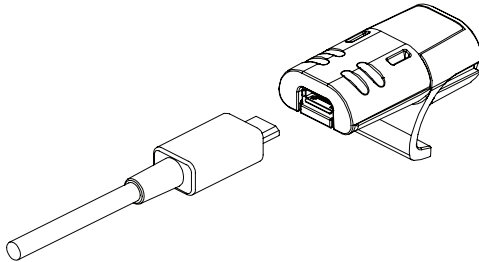
Physical Feature	Use
Power Button & Indicator Light	Powers Loner IS Arctic and indicates cellular connection status
Acknowledge Button	Acknowledges alert messages on Loner IS Arctic
Indicator Light Array	Indicates Loner IS Arctic is in an Alarm state
Emergency Latch	Sends an emergency alert to monitoring personnel
Charging Light	Indicates the charging state
Product Label	Provides device information, unit ID and activation code
Belt Clip	Attaches Loner IS Arctic to a belt
Charging Port	Charges Loner IS Arctic
Removable Micro USB Charging Clip	Adapts Micro USB cable to charging port for charging Loner IS Arctic



Charging Loner IS Arctic

The charging state can be determined by observing the charging light. See the section Loner IS Arctic Light Behaviour for more detailed information.

1. Plug the Wall Charger into an electrical outlet.
 2. Insert the Micro USB Cable Plug into the corresponding Micro USB Charging Jack on the charging clip 
 3. Slide the charging clip onto Loner IS Arctic using the guides to align the clip with the charging port on the device.
 4. Completely charge Loner IS Arctic for 6 hours.
 5. Remove the charging clip from Loner IS Arctic.
- ❖ Charging Loner IS Arctic will turn the device Off ensuring it will not trigger alerts while charging. Blackline GPS recommends charging Loner IS Arctic after each shift to ensure the device is fully charged for the next shift.
 - ❖ **WARNING:** To reduce the risk of ignition of a flammable atmosphere, batteries must only be charged in an area known to be nonflammable.



Turning Loner IS Arctic On

1. Press the Power Button to turn Loner IS Arctic on.
The beeper, alarm status light and vibration motor will announce the chirp pattern. The power button indicator light will blink as Loner IS Arctic connects to the wireless network. While Loner IS Arctic retains a wireless connection, the power button indicator light will remain on.

Loner IS Arctic needs to have sufficient battery power to connect to the wireless network. Connection takes approximately one minute.

- ❖ If Loner IS Arctic fails to connect to the wireless network, the device will enter the no communication alarm pattern.

Turning Löner IS Arctic Off

If Löner IS Arctic 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 device off. The beeper will sound three long beeps while the power button is pressed. The vibration motor vibrates for three long pulses. The beeper, vibration motor and Power Button Indicator Light will turn off after three seconds.
- ❖ The Löner IS Arctic will flash the indicator light array during the shutdown sequence.
 - ❖ If Löner IS Arctic is plugged in to charge, it will automatically turn off to avoid false alerts.

Löner IS Arctic Light Behaviour

Löner IS Arctic features a Power Button Indicator Light and a Red Charging Light. Please see below for the light behaviour.

Light Behaviour	Power Button Indicator Light	Red Charging Light
Light flashing	Indicates Löner IS Arctic is powered and connecting to the wireless network.	Indicates Löner IS Arctic is charging.
Light On	Indicates that Löner IS Arctic is powered and connected to the wireless network.	Indicates that Löner IS Arctic is fully charged.
Light Off	Indicates that Löner IS Arctic is powered off or the battery is depleted.	Indicates that Löner IS Arctic is not charging.

- ❖ Löner IS Arctic is referred to as being offline and is not connected to the Löner Network when the Power Button Indicator Light is blinking or the device is powered off. Löner IS Arctic is referred to as being online and connected to the Löner Network 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 IS Arctic Light Annunciation Patterns

Loner IS Arctic 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 minutes	No vibration	Single flash once every 5 minutes
No communication	No beeper	No vibration	Slow double flash
Chirp	Single beep	Single vibrate	Single flash

Ensuring Protection with Loner IS Arctic

When safety monitoring is required, perform the following to ensure you are being protected with Loner IS Arctic.

1. Press the power button to turn on Loner IS Arctic.
The Power Button Indicator Light on Loner IS Arctic will blink while establishing a network connection. The vibration motor vibrates and the beeper annunciates the power on sequence. Loner IS Arctic will continue to flash the Power Button Indicator Light while it is establishing a network connection.
2. When the Loner IS Arctic establishes a network connection the Power Button Indicator Light remains on continuously.
3. Wear Loner IS Arctic on your belt at your hip at all times that you require remote safety monitoring. Perform your work duties as you normally would. Loner IS Arctic automates remote monitoring of your safety.
4. Power down Loner IS Arctic when remote monitoring of your safety is no longer required.

❖ The Loner IS Arctic logo must face outward, away from your body for optimum GPS and fall detection performance.

Alerts

Alert messages are configured for Loner IS Arctic through the Loner Portal web app. Loner Portal displays alerts and they can be sent via email and SMS to safety monitoring personnel.

Understanding 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	Explanation	Priority
Emergency alert	Loner IS Arctic sends an Emergency Alert if the Emergency Latch has been opened or the silent emergency alarm has been activated.	1
Fall detected alert	Loner IS Arctic sends a Fall Detected Alert when the device has detected a fall AND you have not canceled the pending message within 30 seconds.	1
No-motion alert	Loner IS Arctic sends a No-motion Alert when the device does not detect motion for 2 minutes AND you have not canceled the pending message within 30 seconds.	1
Missed check-in alert	Loner IS Arctic sends a Missed Check-in alert when you have not checked in during the 30 second check in period (if configured).	1
Failed scheduled location (No GPS)	Loner IS Arctic sends a Failed Scheduled Location message when it is unable to obtain a GPS location.	2
Low-battery notification	Loner IS Arctic sends a Low Battery Alert if the internal battery level falls below 10%.	2
Log-on notification	Loner IS Arctic sends a message when it logs onto the network.	3

❖ 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:

Open the Emergency Latch.

Loner IS Arctic will instantly send an Emergency Message to Loner Background Services. Loner IS Arctic will announce the high alarm pattern to notify others nearby of the event.

- ❖ The alarm pattern on Loner IS Arctic will continue until the Emergency Alert has been canceled 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.

After three seconds, the alarm pattern will be silenced and Loner IS Arctic 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 would prefer to not alert others in the area (a silent emergency), perform the following:

1. Push and hold the acknowledge button for 5 seconds.

Loner IS Arctic will vibrate for 3 seconds, pause and then vibrate for 2 more seconds. A Silent Emergency Message will be sent to monitoring personnel.

- ❖ Loner IS Arctic will NOT announce the alarm pattern (it will remain silent).
- ❖ Loner IS Arctic will return to normal operation. You are not required to cancel the Silent Emergency. Monitoring personnel are required to address the safety incident.

Motion/Activity Monitoring

Loner IS Arctic is constantly monitoring your motion. If Loner IS Arctic has not detected motion for five minutes, it will enter the alarm mode and announce 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.

Cancelling a Pending No-motion Alert

1. Press the acknowledge button for 1 second.
After one second, the alarm pattern will be silenced and Loner IS Arctic 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. Loner IS Arctic will announce the high alarm pattern and will continue until the alert is canceled or the battery is depleted.

Cancelling a No-motion Alert

1. Press and hold the acknowledge button for 3 seconds.
After three seconds, the alarm pattern will be silenced and Loner IS Arctic 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

Loner IS Arctic is constantly monitoring your motion for falls. If Loner IS Arctic detects a fall, it will enter the alarm mode and announce 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.

Performance Expectations of the Fall Detection System

Loner IS Arctic utilizes the gyroscope and accelerometer to determine the motion of normal human activity and thus determines when an extreme event occurs, such as a fall. Accuracy of the system depends on you wearing Loner IS Arctic correctly—on the belt at the hip.

Canceling a Pending Fall Detected Alert

1. Press the acknowledge button for 1 second.
After one second, the alarm pattern will be silenced and Loner IS Arctic 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. Loner IS Arctic will announce the high alarm pattern and will continue until the alert is canceled or the battery is depleted.

Canceling a Fall Detected Alert

1. Press and hold the acknowledge button for 3 seconds.
After three seconds, the alarm pattern will be silenced and the Loner IS Arctic will return to regular operation.
- ❖ If the user cancels a fall detected alert, this does not clear the alert within the Loner Portal user account. Monitoring personnel are required to address the safety incident.

About Checking In

Loner IS Arctic can be configured in Loner Portal to have you periodically check in. During the Check-in period, Loner IS Arctic will enter the alarm mode and announce 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.
After one second, the alarm pattern will be silenced and Loner IS Arctic 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. Löner IS Arctic 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.
After three seconds, the alarm pattern will be silenced and Löner IS Arctic will return to regular operation.
- ❖ If the user cancels a Missed Check-in Alert, this does not clear the alert within the Löner Portal user account. Monitoring personnel are required to address the safety incident.

Low Battery Detection

Löner IS Arctic 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 Löner IS Arctic will annunciate the low battery alarm pattern.

Löner IS Arctic will continue all of the alarms until one of the following occurs:

Löner IS Arctic automatically shuts down with a depleted battery;
Löner IS Arctic is plugged in for charging.

- ❖ Löner IS Arctic sends a Löner IS Arctic Powered Off by Low Battery message to the Löner Background Services before finally powering off.
- ❖ If Löner IS Arctic powers off with low battery, it will annunciate with a three second beep, vibrate and indicator light array flash.

Specifications

Specifications for Löner IS Arctic

Size & Weight

Size: 63 mm W x 107 mm L x 27 mm D (2.48" W x 4.21" L x 1.1" D)

Weight: 152 g (5.4 oz)

Safety Features

Fall detection technology: Tri-axis accelerometer, tri-axis gyro, plus software processing

Emergency latch: Release latch to trigger alert

Silent emergency: Press & 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 and buzzer: Safety alert triggered

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

User Notification

Indicators: Acoustic beeper, LEDs, and vibration motor

Acoustic beeper sound pressure level: ~90 dB @ 10 cm (~90 dB @ 3.94")

Wireless Communication

Radio: Quad-band GSM/GPRS (800, 900, 1800, 1900 MHz)

Antenna: Internal quad-band

Bidirectional communication

Firmware upgrade over-the-air (FOTA)

Location Technology

GPS Radio: 20 Channel high sensitivity, mobile assisted

GPS Antenna: Internal Ultimate Sense 2nd GPS antenna extends operation in weak GPS signal conditions

GPS Accuracy: ~5 m (16 ft) Outdoors, ~50 m (165 ft) indoors

GPS Real-time location turnaround time: ~20 seconds

Cell ID Technology: Makes use of multiple cell IDs where available

Cell ID Accuracy: ~200 m to 1,000 m

Mobile Messaging Methods

Email, text message (SMS)

Alert Messages

Fall Detected

Emergency

Silent Emergency

No-motion

Missed Check-in

Low Battery

Power off

Power & Battery

Rechargeable Li-ion battery: 1500 mAh Li-ion

Battery Life: 24 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°C to 45°C (32°F to 113°F)

Ingress Protection: Designed to meet IP65

Approvals

FCC Part 15 Subpart B, FCC ID: QIPBGS2, Industry Canada 7830A-

BGS2, PTCRB type approval

Intrinsically safe: Class I, Division 1, Groups A – D and Class II,

Division 1, Groups E – G, T4

Class I Zone 0, Group IIC, T4

Device Requirements

Blackline GPS activated service plan

GSM/GPRS wireless communication coverage

GPS signal coverage required for GPS locating

Warranty

One year limited factory warranty

Wireless Coverage and Activated Service Plans

Wireless coverage: Nearly 150 countries

Service plan options: Contact Blackline

Löner Portal Web Application

Features include: Alarm banner, event history, device location mapping, device management, alert & notification settings, and more.

Loner IS Arctic Care

Consideration Regarding Use and Storage of Loner IS Arctic

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

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

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

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

❖ More details can be found in the specifications section.

Customer Care

Customer Care for Loner IS Arctic

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

North America toll-free: **1-877-869-7212** | International: **+1-403-451-0325**

Email: support@blacklinegps.com

www.blacklinesafety.com



Wireless Coverage

Loner IS Arctic provides wireless coverage within most populated areas of Canada and the United States and can be extended to nearly 150 countries. Contact Blackline GPS for more information.

blacklinegps

Protect. Share. Connect.

www.blacklinegps.com