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User Guide

SoloProtect ID US

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1. Introduction – About SoloProtect ID

SoloProtect ID is the only lone worker device specifically designed as an identity card holder designed to be easy to wear and discreet to use. Containing mobile-phone (GSM) technology, the device enables a 24/7 link to a dedicated state of the art Alarm Receiving Centre in the event a worker requires assistance.

At the push of a button, a trained SoloProtect ARC Operator is listening to an abusive or violent situation on your behalf, and recording audio for future use if necessary (admissible evidence in court proceedings etc). The call handler will then escalate the situation in line with what is an appropriate response - including alerting Emergency Services more efficiently than a 999 call (one level higher, via a URN direct into a regional Police control centre).

1.1 About This Guide

This user guide provides all the information you need to set up, operate and take care of your SoloProtect ID.

This document will detail:

- SoloProtect ID Layout and key functions

- Initial Set Up and Care and Maintenance

- Detail the functions of SoloProtect ID

- Technical Specifications

- Warranty

2. SoloProtect ID Layout and Key Functions

2.1 SoloProtect ID Layout

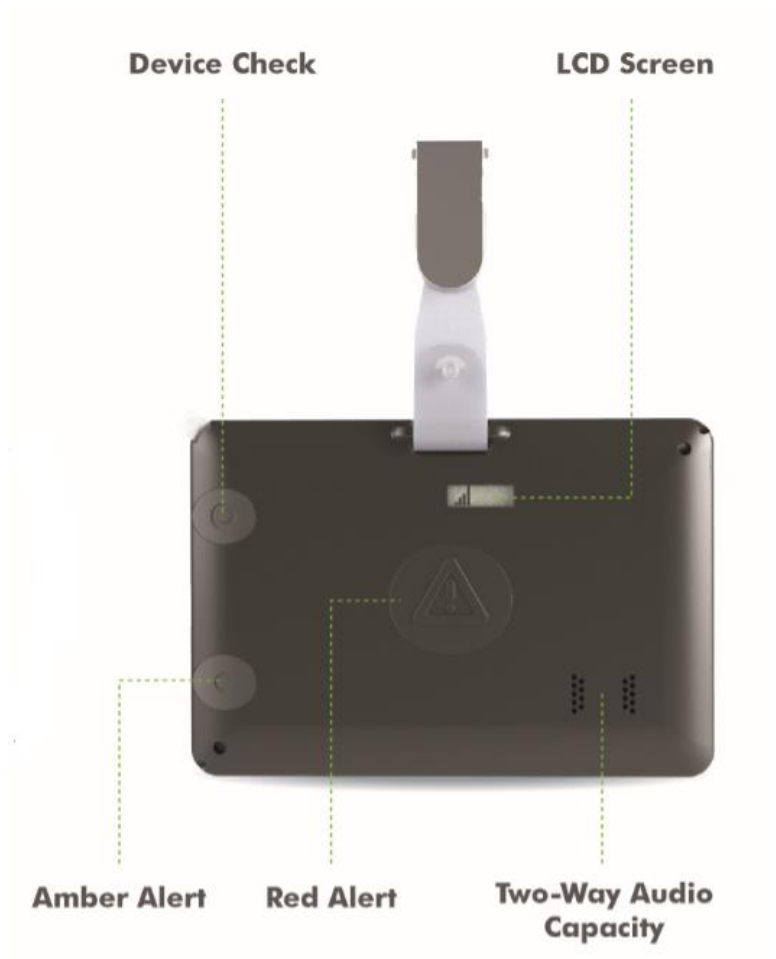


Figure 1: SoloProtect ID Main Functions

2.2 Key Functions

2.2.1 Device Check

This function allows you to check the Battery, Signal and GNSS on your SoloProtect ID and can be done at any time throughout your working day.

2.2.2 Amber Alert (Status Check in the USA and Canada)*

This function allows you to leave a brief Voice message before you begin each visit or each time you move location by detailing where you are and for how long.

2.2.3 Red Alert

This function allows you to discreetly raise an Alarm to our dedicated Alarm Receiving Centre whenever you feel vulnerable or threatened.

2.2.4 Incapacitation (ManDown)

This function can automatically initiate a Red Alert if your SoloProtect ID detects you have become incapacitated.

2.2.5 GNSS (Global Navigation Satellite System)

This function can assist our Alarm Receiving Centre in the event of a Red Alert and is used in conjunction with your Amber Alert* Voice message to assist in determining your Location.

This function can also be used to log to a secondary Mobile Workforce Platform (MWM).

**Amber Alert is known as a 'Status Check' in the USA and Canada*

3. Initial Set Up and Care and Maintenance

3.1 Initial Set Up

3.1.1 What's included

The box containing your SoloProtect ID includes the following items:

- SoloProtect ID
- Quick Reference Guide
- Lanyard with Lanyard rip plug pin attached
- Lapel clip
- Charger (including your country's adapter)

3.1.2 Installing the Lanyard or Lapel Clip

You install the lanyard pin in the corner circled attaching the pin to the longer part of the lanyard. The shorter part of the lanyard loops into the opposite corner for landscape ID card, or loops into the corner below for a portrait ID card. The attachment in the circled corner is by way of a plastic pin which fits tightly in its socket but will pull out if tugged firmly.



Figure 2: Inserting the Lanyard

The pin provided fits in the socket one way only. The pin is held in place by a magnet and pip and the pin will 'click' into its correct location in the socket.



Figure 3: Lanyard PIN

If you do not want to use the lanyard, you can attach a label clip as per Figure 2. If you are not using the lanyard, you must still insert the pin into the socket in the corner circled to prevent dust or dirt from entering the socket and to ensure the Rip Alert is not activated.

The lanyard is made of one long piece and one short piece joined by a clip. The lanyard pin must be attached to the long piece. Thread the fine loop at one end of the lanyard part way through the attachment hole in the pin.

Thread the other end of the lanyard through the loop of cord that has passed through the hole in the pin. Pull the lanyard tight so that the loop of cord is snug around the pin.

Insert the lanyard pin into its socket highlighted in Figure 2 and Figure 3.

3.1.3 Initial Charge of your SoloProtect ID

Your SoloProtect ID must be fully charged before you attempt to use it to condition the battery fully. We recommend leaving the device on charge for a minimum of 2 hours the first time it is charged using the SoloProtect supplied charger.

3.1.4 Inserting your ID Card

Fit your ID card into the slot at the right side of your SoloProtect ID (as you look at the front) and slide it in until it is fully inserted. To remove your card, slide the ID card towards the exit slot. You may initially feel a slight resistance until the card starts to slide out.

The front of your SoloProtect ID is shown below. With the ID card slid out, you can see the multifunction user buttons.



Figure 4: Inserting an ID card

3.2 Care and Maintenance

SoloProtect ID is purposely designed so that you do not need to perform any routine maintenance procedures. However, you should note the following points about cleaning and general care.

3.2.1 Cleaning

Use a damp cloth (not wet) to remove any dirt from your SoloProtect ID. Be very careful not to allow water into the unit.

Do not use any alcohol or chemical cleaning agents of any type.

3.2.2 Moisture Resistance

SoloProtect ID is not waterproof and you should take care not to expose the unit to liquids of any kind, including water, rain, steam and extreme humidity.

3.2.3 Impact Damage

SoloProtect ID is made from a tough ABS plastic case. It is designed to resist a certain amount of damage caused by general use, but will not withstand heavy impacts.

4. How to Use your SoloProtect ID

4.1 Functionality

4.1.1 Charging

Your SoloProtect ID must be fully charged before you use it. We recommend leaving the device on charge for a minimum of 2 hours per day or at the end of each shift using the SoloProtect supplied charger. Your SoloProtect ID cannot be used whilst on charge, however once removed from charge it is automatically turned on and ready to use.

When your SoloProtect ID is connected to the charger, the battery symbol on the display is active. As the battery charges, the battery symbol shows more cells and the LEDs change colour from flashing red, to flashing amber. When the battery is fully charged, the LEDs change to constant green.



Figure 5: Charging your SoloProtect ID

4.1.2 Switching your SoloProtect ID on and off

To check your SoloProtect ID is on, look for the power symbol in the left of the display. You can also press the Device Check button for 2 seconds. If the LCD and LEDs do not start flashing, the device is off.

To switch your SoloProtect ID on, press the Device Check and Amber Alert buttons together for 2.5 seconds until the LCD and LEDs start flashing. The device vibrates once briefly to confirm it has turned on, and then will go through its bootup sequence which also includes 5 further buzzes as well as displaying all the LED colours and all the LCD symbols. You will also hear beeps out of the speaker.

To switch your SoloProtect ID off, press the Device Check and Amber buttons together for 2.5 seconds until the device vibrates twice.



Figure 6: Turning your SoloProtect ID On and Off

When your SoloProtect ID is on, it registers with the GSM network and is ready to communicate to our Alarm Receiving Centre.

4.1.3 Device Check

You can check your SoloProtect ID battery level and signal strength before each visit or location change, thus making sure that your SoloProtect ID can operate effectively if needed.

Press and hold the Device Check button for 1.5 seconds until the display and LEDs start to flash. After a short while, the display will show first the battery symbol and a colour, then the signal symbol and a colour.



Figure 7: SoloProtect ID Device Check

<i>Battery</i>	<i>Symbol</i>	<i>Colour</i>	<i>State</i>
Good	3 cells	Green	>75%
Normal	2 cells	Amber	>35%
Low	1 cell	Amber	<35%
Poor	1 cell (Flash)	Red	<1 hour
Critical	0 cells (Flash)	Red (Flash)	<15 mins

Table 1: Battery Indication Table

<i>Signal</i>	<i>Symbol</i>	<i>Colour</i>
Strong	4 bars	Green
Good	3 bars	Amber
Medium	2 bars	Amber
Low	1 bar	Red
Critical	0 bars	Red

Table 2: Signal Indication Table

When both the battery/signal symbols and LEDs have displayed their respective status for five seconds, the symbols and LEDs are turned off and the device is ready for use.

If either of the LED colours are red, you should not rely on your device in an emergency.

When the battery symbol has only one cell remaining (and has an amber LED colour), you should recharge your device as soon as possible.

If your SoloProtect ID is consistently indicating Low to Critical Signal, please contact our SoloProtect Customer Support Team.

If your SoloProtect ID is in an Amber Alert* state or a Red Alert state when the Device check button is pressed, the LEDs change to amber or red for two seconds to give an indication of the state:

- Constant amber for two seconds indicates an Amber Alert is in progress.
- Constant red for two seconds indicates a Red Alert is in progress – the Alert symbol will be on the display throughout the alert.

Please note for GNSS enabled devices you will see a blue Satellite Icon at the end of the Device Check – please refer to the GNSS Section of this manual for further details.

*Amber Alert is known as a ‘Status Check’ in the USA and Canada

4.1.4 Amber Alert (Status Check in the USA and Canada)

An Amber Alert is a short voice message to our ARC which is then saved and listened to in the event of a Red Alert. The more relevant information you leave in this message the more it will help the ARC Operator in the event of a subsequent Red Alert.

Press the Amber Alert button for at least 1.5 seconds to start an Amber Alert. Your SoloProtect ID gives three short vibrations to confirm your action.



Figure 8: SoloProtect ID Amber Alert (Status Check in the USA and Canada)

The LEDs show constant amber while the call is being connected and then turns to flashing amber when the call connection has been made. The flashing amber LEDs are the prompt to start your voice message. The device will vibrate once when the LEDs switch from constant to flashing to aid indication that the call is now connected.

Ten seconds before the end of this call period, the LEDs change back to constant amber to warn you that the call period is soon ending. When the voice call period ends, the LEDs go out.

**When you start the Amber Alert, the device attempts to dial, to allow your voice message to be left. If the voice call cannot be connected, it will retry connecting the call a number of times. If your call fails to connect after the retries then your SoloProtect ID will let you know by giving one long vibration.

**If you experience this behaviour consistently, please contact our SoloProtect Customer Support Team.

*** SAR has been evaluated with a maximum SAR value reported of 0.59W/Kg @ 10mm separation from head.

4.1.5 Amber Alert Timer (Status Check in the USA and Canada)*

An Amber Alert Timer runs for a period of time after your short Amber Voice message has ended.

Your options when in an Amber Alert Timer period are to cancel it, to extend the period, or to allow it to escalate into a Red Alert.

- You can press the Amber Alert button for more than 1.5 seconds to cancel the Amber Alert Timer period. This signifies that the potential danger did not arise, or that you are now away from the hazardous situation. Your SoloProtect ID signals confirmation by giving two short vibrations.
- You can quickly press the Amber Alert button twice for less than 1.5 seconds per press to extend the Amber Alert Timer period. The device gives a short burst of vibration to confirm the extension. The end of the extension period is signalled in the same way as the original Amber Alert Timer period and you can continue to extend for as long as you need.
- If you do nothing when the Amber Alert Timer period ends, with the implication that you were not able to take any action, your SoloProtect ID enters the Red Alert state.

You do not have to wait for the signalled end of the Amber Alert Timer period to cancel it or extend it. Pressing the Amber Alert button for more or less than 1.5 seconds at any time during the Amber Alert Timer period will cancel or extend the period, as described above.

At the end of the Amber Alert Timer period, the device gives five long bursts of vibration to remind you to take action.

*Check with your Employer or your SoloProtect Account Manger as to whether you have this function enabled.

4.1.6 Red Alert Activation methods

A Red Alert is a Voice call that can be raised by you if you feel in distress, danger or if injured or seriously ill. Our dedicated ARC Operators listen, monitor and escalate to Emergency Services if required.

There are 4 ways to activate your Red Alert:

1. Red Alert Button Press - Press and hold the Red Alert Button on your SoloProtect ID



Figure 9: SoloProtect ID Red Alert Button Press

2. Rip Alarm - Forcible removal of the Lanyard Rip pin from your SoloProtect ID eg. Someone tries to take your SoloProtect ID from you (function not available from the lapel clip).



Figure 10: SoloProtect ID Red Alert from Rip pin

3. Allowing your Amber Alert Timer* to expire - explained in Section 4.1.5
4. Incapacitation Alert (ManDown) - explained in Section 4.1.7

When any Red Alert is started, your SoloProtect ID gives three short bursts of vibration to confirm the state. Your SoloProtect ID opens a voice call to our Alarm Receiving Centre and enables the microphone, so that our ARC Operators can listen to and/or record the situation.

During an active Red Alert call, your SoloProtect ID will periodically vibrate like a heartbeat (two short pulses, repeated for the duration of the call) This is to provide reassurance to you that the call is active and open, and that someone is listening to and/or recording events.

If a Red Alert call is closed accidentally then your SoloProtect ID allows our ARC Operators to dial back into your device discreetly, you will feel 5 short buzzes. This gives reassurance that the Red Alert situation is again being monitored.

Additionally, our ARC Operators will be able to talk to you via the loudspeaker in your device. They will only communicate with you if you make a verbal request to them instructing them to talk. At all other times our Arc Operators will not speak to maintain the discreet and covert nature of your SoloProtect ID.

**When you start the Red Alert, the device attempts to dial. If the voice call cannot be connected, it will retry connecting the call a configured number of times. If your call fails to connect after the configured amount of retries then your SoloProtect ID will let you know giving 1 long vibration.

**If you experience this behaviour consistently, please contact our SoloProtect Customer Support Team.

*Amber Alert is known as a 'Status Check' in the USA and Canada

4.1.7 Incapacitation Alert (ManDown)*

SoloProtect ID detects tilt, and non-movement in combination. Typically if tilted and motionless for a period of 2 minutes (standard set-up), the unit will enter a pre-alarm phase and start to vibrate in order to make the user aware the device is going to alarm if left unchecked. If the device is not moved for a further 2 minutes, then it will automatically raise an Incapacitation Alarm and contact our ARC.

When your Incapacitation Alert is started, your SoloProtect ID gives three short bursts of vibration to confirm the state. Your SoloProtect ID opens a voice call to the designated number and enables the microphone, so that our ARC Operators can listen to and/or record the situation.

During an active Incapacitation call, your SoloProtect ID will periodically vibrate like a heartbeat (three short pulses, repeated for the duration of the call) This is to provide reassurance to you that the call is active and open, and that someone is listening to and/or recording events.

If an Incapacitation call is closed accidentally then your device allows our ARC Operators to dial back into your device discreetly, you will feel 5 short buzzes. This gives reassurance that the Red Alert situation is again being monitored.

Additionally, our ARC Operators will be able to talk to you via the loudspeaker in your device.



Figure 11: SoloProtect ID Loud Speaker during Incapacitation Alarm

Incapacitation detection is always disabled when the unit is on its charger or switched off.

*Check with your Employer or your SoloProtect Account Manger as to whether you have this function enabled.

4.1.8 Closing down your Red Alert or Incapacitation Alert (ManDown)

Once you feel that your situation no longer needs monitoring you can close your Alert down.

If your Red Alert activation was raised by the Rip Alarm, you must first re-insert the lanyard plug.

The Red Alert call can only be closed by you. After you feel your set of 2 vibrations or 3 vibrations, press and hold the Red Alert button for 1.5 seconds, you will feel 2 longer vibrations. Your Red Alert call is now closed.



Figure 12: Closing a Red Alert Alarm

4.1.9 GNSS (Global Navigation Satellite System)

Your SoloProtect ID can be configured so that a GNSS Location request is made in the following situations:

- When you press any of your SoloProtect ID buttons
- When you check the status of your SoloProtect ID
- When you enter an Amber Alert state*
*Amber Alert is known as a 'Status Check' in the USA and Canada
- When you enter a Red Alert state
- To log into a SoloProtect Mobile Management Platform (MWM)*

*MWM - please contact your Business Development Manager for more details of this service

In the event of a serious incident, transmission of your location along with your Amber Alert Voice message will help ensure a speedier response in sending you assistance.

Your current GNSS location fix status is transmitted at the end of a Device Check. The Satellite LCD and LED flashes blue for up to two minutes if the device is searching for a GNSS fix and displays a steady blue for five seconds if the latest GNSS location fix gave a valid location. The steady blue "valid GNSS fix" indication is accompanied by a single short vibration.



Figure 13: GNSS fix – Device Check

Your GNSS location is also requested and transmitted during any open Red Alert Voice call.

You should always perform a Device Check and get a GNSS location fix after turning your SoloProtect ID on or moving outside from indoors.

GNSS requires a clear line of sight to the sky, not obstructed by buildings or other obstacles. The GNSS location operation will not work whilst the unit is indoors.

4.1.10 Multifunction Buttons – UK*

The 3 multi-function buttons on the front of the device are usually covered by your ID Card. These buttons are not designed for discreet use or to be deployed as part of a situation where you require assistance due to your safety being compromised.

Your SoloProtect ID can be configured so that 3 buttons underneath the ID card can be used to:

- Make a non-emergency phone call to a pre-defined phone number when you press a button
- Send a non-emergency SMS to a pre-defined phone number when you press a button
- To log to a SoloProtect Mobile Management Platform (MWM)*

*MWM - please contact your Business Development Manager for more details of this service

For example, these buttons can be programmed to let a Manager or authorised person know you have returned safely home after a shift or you have arrived safely at a visit.



Figure 14: Multifunction or User Buttons

*Check with your Employer or your SoloProtect Account Manger as to whether you have this function enabled.

4.2 Ready2Talk (US and Canada only) – Multi-Function Buttons*

The 3 multi-function buttons on the front of the device are usually covered by your ID Card. These buttons are not designed for discreet use or to be deployed as part of a situation where you require assistance due to your safety being compromised.

A Pre-designated multi-function button can be used to trigger a live 2-way voice call to the SoloProtect EDC via the Ready2Talk function. SoloProtect Ready2Talk is only to be used in non-alarm situations.

For example, if you have an uneasy feeling when walking to your vehicle late at night, it would be appropriate to initiate Ready2Talk so that you have the added comfort of talking to an Operator until you reach your vehicle.

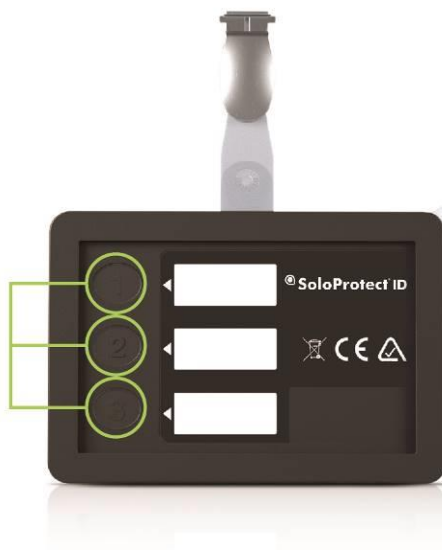


Figure 15: Ready2Talk (US and Canada only) – Multi-Function Buttons

*Check with your Employer or your SoloProtect Account Manger as to whether you have this function enabled.
Only available in the US and Canada.

4.3 SoloProtect ID Key Indicators

4.3.1 LCD and LED Table

The following table summarises the indications given by your SoloProtect ID, both by the LCD/LEDs.

Device state	Symbol	LED	Meaning
On charge	1 battery cell (flash)	Red (flash)	Trickle charging
	2 or 3 battery cells (1 cell flashing)	Amber (flash)	Charging
	3 battery cells	Green	Charging complete
	Battery Outer Only	Purple	Charging Fault Occurred
Device checking	Battery (flash) Signal (flash)	Red (flash)	Indicates start of status display
	3 battery cells	Green	Battery condition good (>75%)
	2 battery cells	Amber	Battery condition normal (<75%)
	1 battery cell	Amber	Battery condition low (<35%)
	1 battery cell (Flash)	Red	Battery condition poor (<1 hour)
	0 battery cells (Flash)	Red (Flash)	Battery condition critical (<15 mins)
	4 signal bars	Green	Signal quality strong
	3 signal bars	Amber	Signal quality good

Device state	Symbol	LED	Meaning
	2 signal bars	Amber	Signal quality medium
	1 signal bar	Red	Signal quality low
	0 signal bars	Red	Signal quality – none or critical
	Alert	Amber (2 secs)	An Amber Alert is in progress (Device Check in the USA and Canada)
	Alert	Red (2 secs)	A Red Alert is in progress
	GNSS	Blue (flash)	Searching for a valid GNSS location fix
	GNSS	Blue (5 secs)	A valid GNSS location fix was found
Amber Alert (Device Check In the USA and Canada)	Alert	Amber	Call being connected, and then also for last 10 seconds of call
	Alert	Amber (flash)	Call connected (until last 10 seconds)
Red Alert	Alert	None	Red alert active
Incapacitation (Mandown)	Alert	Red	Pre Alert and subsequent Incapacitation alarm active
Multi-Function Call (Ready2Talk)	None	Blue	Call being connected, and then also for last 10 seconds of call
	None	Blue (flash)	Call connected (until last 10 seconds)
At power on	All symbols, then battery/signal (flash)	Cycle through colours, then Red (flash)	Critical Battery or Signal
	battery/signal (alternate flash)	Red (alternate flash), then device power off	Signal Fault or Issue

Table 3: LED/LCD Indication Table

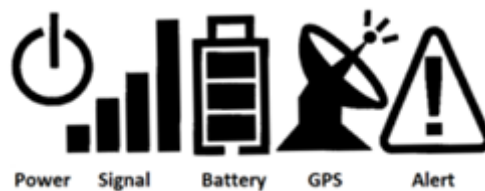


Figure 16: LCD Symbols

4.3.2 Vibration Patterns

The following table summarises the vibration indications given by your SoloProtect ID. The Vibration patterns aid the use of SoloProtect ID for the visually impaired.

SoloProtect ID Action	Vibration pattern
Confirmation of switch to Power On mode	Single short pulses
Confirmation of switch to Power Off mode	Two short pulses
Confirmation of start of Device Check	Three short pulses
Confirmation that neither the network coverage or battery strength are red	Single short pulse
Confirmation that the latest GNSS location fix gave a valid location	Single short pulse
Confirmation of start of Amber* or Red Alert	Three short pulses
'Heartbeat' confirmation of Red Alert call still active	Two short pulses (at configured interval)
Confirmation to commence voice message on Amber Alert*	Single short pulse
End of Amber Alert Timer* period – action required or a Red Alert will follow	Five long pulses
Confirmation of extension of Amber Alert* period	Single short pulse
Confirmation of termination of Amber Alert*	Two short pulses
Confirmation of termination of Red Alert	Two longer pulses
Confirmation of start of Multi-Function call (ready2talk)	Two short pulses
Confirmation of start of Multi-Function SMS	Three short pulses
Incapacitation (ManDown) Pre-Alert warning	Continual long pulses and beeps for the duration of the Pre-Alert period
Confirmation of start of Incapacitation	Five short pulses
'Heartbeat' confirmation of Incapacitation Red Alert call still active	Three short pulses (at configured interval)
ANY call requested but out of coverage – unable to make Voice call	<u>Single long pulse</u>

*Amber Alert is known as a 'Status Check' in the USA and Canada

Table 4: Vibration indication Table

5. SoloProtect ID Technical Specification

5.1 Technical Specification Table

Data	Item
Dimensions	95 x 65 x 12 mm
Overall weight	70g (not including lanyard)
Operating temperature range	-10°C to +40°C
Operating humidity range	0-95% non-condensing
Communication system	Dual-band GSM
GSM frequency – Dual-band	850 MHz, 1900 MHz
Battery life – standby	48 hours (estimated)
Battery life – talk time	3 hours (estimated)
Case	ABS plastic
SAR level (see below)	1.46 W/kg @ 0mm separation from body
SAR level (see below)	0.59 W/kg @ 10mm separation from head
GNSS	SiRF Star V Acquisition: -146 dBm Tracking: - 165dBm
FCC ID	Contains FCC ID: VTJS10977U
Industry Canada	Contains IC: 7467A-S10977U

Table 5: Technical Specification Table

5.2 Compliance with FCC and IC Rules and Regulations

FCC Compliance Statement and RF Exposure Statement

The SOLO-ID-US 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.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. SAR has been evaluated with a maximum SAR value reported of 1.46W/kg @ 0mm separation from body and 0.59W/Kg @ 10mm separation from head. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IC Compliance 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.

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.

The SOLO-ID-US has been designed to comply with safety requirements for exposure to radio waves (SAR). SAR testing has been performed in accordance with RSS-102, with the SOLO-ID-US transmitting at its highest certified power level in all used frequency bands. The highest SAR value for the SOLO-ID-US when tested was 1.46W/Kg @ 0mm separation from body and 0.59W/Kg @ 10mm separation from head. Please follow the instructions included in the user guide for product installation and use.

Le SOLO-ID-US est conçu pour se conformer aux exigences de sécurité pour l'exposition aux ondes radio (SAR). Tests SAR a été effectué conformément à la norme RSS-102, avec le SOLO-ID-US à son niveau de puissance maximum certifié dans toutes les bandes de fréquences utilisées. La valeur SAR maximale pour le SOLO-ID-US lorsqu'il est testé était 1.46W/Kg @ 0mm de séparation du corps et 0.59W / Kg @ 10mm de séparation de la tête. S'il vous plaît suivez les instructions incluses dans le guide utilisateur pour l'installation du produit et son utilisation.

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

5.3 Risks Associated with Pacemakers

Due to the maximum SAR values, SoloProtect ID should not impair the performance of implanted pacemakers. However, the general recommendation is to maintain at least 15 centimetres between a GSM-based device and a pacemaker. If you are in any doubt, seek advice and clarification from your physician and/or the manufacturer of your specific pacemaker.

Numerous studies have been performed to assess the risks of such devices impairing the correct functioning of pacemakers.

There is a general consensus across the studies found in regard to the following:

- The degree of protection of pacemakers against the effects of RFEE depend on the design of pacemaker. The latest pacemakers with ceramic filters appear to immune to RFEE.

- Exposure to pacemakers of RFEE depends on the proximity of the mobile phone type device. Recommendations suggest the minimum distance between pacemaker and mobile phone type device to be in the range 10 – 20 cm.
- Exposure to pacemakers of RFEE depends on the RFEE emission levels of the mobile phone type device.
- The effects of interference due to exposure to RFEE in pacemakers are temporary. Once the source of RFEE emissions is removed the pacemaker reverts back to correct functionality.
- Mobile phone based devices can potentially cause interference with pacemakers when in use on a call and when in standby, but not when turned off.
- Those at highest risk are individuals who are completely dependent on pacemakers (those individuals that cannot generate spontaneous cardiac rhythm).

Part of the conclusion in the above mentioned testing is that due to its low SAR value 'There is very low health risk for persons with cardiac pacemakers or other active medical implants'

Regardless, if in any doubt the wearer should seek advice from their doctor or the manufacturer of their pacemaker.

5.4 Risks Associated with Pregnancy

Referring to the previous statement above on Specific Absorption Rate (SAR).

Due to the relatively low maximum SAR value, SoloProtect ID should not pose any risk to individuals whilst pregnant. Any user of SoloProtect ID who registers any concern about using SoloProtect ID whilst pregnant should seek advice from their GP.'

5.5 Use of SoloProtect ID in Restricted Areas

As with mobile phones, should be in accordance with regulations, protocols and stipulations relating to the specific environment. Where the use of mobile phones is prohibited, SoloProtect ID should be turned off. There may be risks associated with interference with equipment sensitive to RFEE (such as aircraft, hospitals and healthcare facilities) or potentially explosive environments (such as petrol stations and chemical plants).

5.6 Disposal and Recycling Information

This product must not be disposed of as unsorted municipal waste. Please dispose of this product in accordance with local environmental laws and guidelines, by returning it to your point of sale or to your municipal collection point for recycling. Note that this product contains a battery that cannot be removed by the customer. For advice on disposal, please contact SoloProtect.

6. SoloProtect ID Warranty

Please refer to the Terms and Conditions in [Section 13 - Warranties](#) of your SoloProtect Client Service Agreement for more details or Contact your SoloProtect Account Manager.

7. Glossary of Terms

Term	Definition
2G	Second Generation wireless telephone technology which digitally encrypts calls and messages for a specific recipient.
AGC	Automatic Gain Control.
AGNSS, A-GNSS	Assisted GNSS
Alert	an inbound call, message, or event to an ARC.
Amber Alert (device Check in USA and Canada)	an alert left at the ARC detailing the users current location, situation, and status in order to aid the operator in dealing with any subsequent alerts.
APN	Access Point Name
ARC	Alarm Receiving Centre – a 24/7 communications centre that answers calls from lone worker devices and responds as required.
BS8484	a British Standard on the provision of lone worker services and devices.
CLI	Caller Line Identification often known as Caller ID
Config Server	This Server processes and transmits configuration data to a SoloProtect ID device so that it can be reprogrammed remotely.
COTS	Commercial Off The Shelf
EDGE	Enhanced Data rates for GSM Evolution – allows improved data transmission rates over the GSM network.
Event Log	Record of specific data recorded and time stamped. This includes GNSS location fix data and Device checks.
Geo-fence	A virtual boundary i.e. one based on location rather than a physical fence, wall etc. A geo-fence is usually defined as a radius about a fixed point defined by latitude and longitude coordinates.
GNSS	Global Navigation Satellite System such as GPS, Glonass, and similar.
GPRS	General Packet Radio Service – a more reliable and faster means of sending data over the GSM network than SMS messaging.
GPS	See GNSS
GSM	Global System for Mobile Communications – a standard for cellular mobile communications, as used today for most mobile phones.
Heartbeat	an indication to the user periodically that shows the device is actively in alert mode and transmitting to the ARC.
ICCID	SIM Serial Number
SoloProtect ID	a cellular based lone worker device based around an Identity Card Holder.
IMSI	International Mobile Subscriber Identity – a unique number that identifies a particular SIM and thus a particular subscriber account.

Term	Definition
Lone Worker Device	a device defined under standard BS8484 for the protection of workers who have risk of attack or incapacitation hazards whilst operating out of line of sight of co-workers.
Incapacitation	an event/status where the user is physically incapacitated – usually occurring following a slip, trip, or fall.
Incapacitation Alert	a high priority Incapacitation event requiring an immediate respond from the ARC
Mapping/Logging Server	This receives and stores all mapping/logging data from the device so it can be accessed by the ARC (Alarm Receiving Centre) if needed.
MNC	Mobile Network Code
Monitoring Station	see ARC
MWM	Mobile Workforce Management – a web based mapping and alerting platform provided to SoloProtect customers to provide enhanced features for their user base.
NFC	Near Field Communications – an RF technology that allows two items to communicate when in close proximity.
OS	Operating System
PPP	Point to Point Protocol
Red Alert	a high priority user triggered event requiring an immediate respond from the ARC
SIM	Subscriber Identity Module – a secure store for the subscriber information (e.g. the IMSI) for mobile equipment (e.g. GSM modem or phone).
SMS	Short Message Service – a text-based message facility for GSM phones.
SoloProtect	SoloProtect – A lone worker device manufacturer and monitoring services provider.
SP,SPUK	see SoloProtect
TCP/IP	Transmission Control Protocol/Internet Protocol – the standardized suite of protocols used to connect hosts over the internet. It provides end-to-end connectivity specifying how data should be formatted, addressed, transmitted, routed and received at the destination.
TTF	Time To First Fix
User Profile	a User Profile is a set of information about the device user stored at the ARC for the purpose of assisting the operator in handling any Alert.

Table 6: Glossary of Terms