

## 1. INTRODUCTION

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The G100 has the option of installing an Iridium SBD modem card in it, plus the external Iridium antenna via a SMA 'pigtail'.

This allows the G100 to send data when the GSM network is not available.

Because of the higher costs of Iridium SBD data the G100 firmware has been designed to allow it to be configured to only send a subset of the normal data based on parameters.

This document is intended to provide you with a background as to how the Iridium functionality will work and to estimate what your data usage will be.

## 2. SWITCHING TO IRIDIUM

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**NB: In order to send data over Iridium, the G100 must be connected to external power, the Iridium modem will not operate off the internal battery.**

The G100 will always attempt to send data on GSM as a priority.

If the GSM modem cannot REGISTER either on the home network or on a roaming network within a period of time (a parameter that is typically 5 minutes) then the assumption is made that the modem is out of GSM coverage and the Iridium modem will be used.

As soon as the GSM modem gets signal and is able to register on the GSM network then the Iridium connection will no longer be used.

### 2.1. Full Data via GSM

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Remember that even though some important data may be sent as a subset via Iridium, as soon as the G100 is back in GSM coverage then it will upload the full stored detail of the all the logged data.

## 3. IRIDIUM LOGGING

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The following record types will be uploaded when the G100 is using Iridium:

### 3.1. Trip start and end

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Trip Start and Trip End will always be logged on sent when on Iridium.

### 3.2. Digital Inputs

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Optional logging of digital Inputs 0 through 7 based on a parameter mask. This allows you to select only the digital inputs that are important, for example a panic switch.

### 3.3. Periodic In-trip

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A parameter is used to determine how often to log and upload GPS data while the G100 is in a trip and cannot communicate on GSM.

Typically 10 minutes.

### 3.4. Accident / rollover

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Accident records types will always be logged and uploaded.

### **3.5. Iridium Heartbeat**

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This is specified as a multiple of the GSM heartbeat period. When the G100 is 'out of trip' for this period of time and is out of GSM coverage it will log and send a heartbeat message via Iridium. Typically every 12 hours.

## **4. IRIDIUM ENABLE PARAMETER**

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The G100 parameters include a global 'enable' option for Iridium. If this is not set then the G100 will not use Iridium at all to do any uploads.

## **5. RECORD SIZE**

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The G100 currently uses a 20 byte record to send the required data via Iridium.

In order to estimate your data usage you will need to estimate how long the G100 will be operating with no GSM coverage and what your parameters are set to.

The "Periodic In-Trip" parameter and the Iridium Heartbeat are the 2 parameters that will have the most impact on the volume of Iridium messages.