

## 1. INTRODUCTION

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The Remora tracking unit uses 4 x “C” cell batteries. The circuitry is designed to handle battery cell voltages from 1.5V to 3.6V. This allows the Remora to operate off a range of primary cells including low cost Alkaline batteries and top of the range Lithium-Thionyl-Chloride batteries for longer battery life and operations in extreme temperatures.

## 2. CONSUMER ALAKALINE BATTERIES

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In field testing some of the brands of ‘consumer’ alkaline batteries have found to have a failure rate of between 2% and 3%.

In our experience this has been observed as a single cell failure after a few weeks in operation, and is observed by a sudden drop in the reported open circuit voltage. When analysing the batteries typically one of the cells has failed and shows a zero voltage when measured on a voltmeter.

The battery brand used to date is Duracell Ultra – purchased from a discount online supplier.

## 3. RECOMMENDATIONS

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### 3.1. Industrial

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We recommend that partners and installers use the best quality batteries possible and if using alkaline batteries source Industrial specification alkaline batteries from a recognised supplier.

### 3.2. Fresh

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It has been shown that batteries deteriorate over time.

Make sure that the batteries that you are buying are as fresh as possible. You can usually check the batch manufacture date or the expiry date on the battery to get an idea.

## 4. INDUSTRIAL BATTERIES

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Some of the suggested Industrial batteries are:

### 4.1. Alkaline

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- Panasonic LR14XW Industrial type
- Fujitsu LR14FH High Power
- Duracell Procell PC1400
- Energizer EN93

### 4.2. Lithium-Thionyl-Chloride

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- SAFT LSH14 – for extreme temperatures and high capacity