Backup power

# USB Cables

Be aware that USB cables have different quality and that can negatively affect speed of charging and wasted power.

Quick problem description:

<https://www.youtube.com/watch?v=PcX-Yzpc8LE>

# Power Banks

That is the most common way but with some points to be aware of:

1. Phone battery capacity
2. Measured working time of a phone with Locus Map and Live Tracking enabled
   1. If you use it for navigation too then power drain will be higher
3. If your phone works for 8 hours with desired features enabled and has 3000 mAh capacity battery, then 10000mAh power bank will keep your phone at least for 24hours. Some power will be lost during charging.
4. Powerback should provide current of 1A or 2.1A. Both should be enough to charge your phone while using Locus and Live Tracking
5. To minimize the chance of malfunction or fraud on capacity use power banks from verified manufacturers

Pros

1. High capacity and low price
2. Can be recharged

Cons

1. If powerbank breaks it is difficult to fix it on field
2. Requires charger

Examplesi:

<https://www.komputronik.pl/category/10353/power-bank.html?a%5B1370%5D%5B%5D=10000&a%5B1370%5D%5B%5D=12000&filter=1&showBuyActiveOnly=1&sort=1&by=f_price_10&showProducts=1>

# Battery cases for 18650

LiIon batteries 18650 are quite common and cheap. Case allows to charge other devices by usb cable

1. Buy only good brands (LG, Sony, etc.) with capacity not higher than 3000-3500mAh
2. Exotic brands can be fake
3. Be careful buying batteries with capacity above 3500mAh
4. Cases allow to use 1 or more batteries

Additional benefits:

1. It is easy to borrow one
2. Batteries can be charged separately (in car, at HQ) when case is in use with other ones

Examples:

1. Smallest, cheapest with 1A current  
   <https://allegro.pl/oferta/folomov-a1-ladowarka-magnetyczna-usb-power-bank-7702998912>
2. Easy to open for one cell  
   <https://www.piekarz.pl/35598-obudowa-powerbank-powerbank-a-ph-18650-1/>
3. Case for 2 cells  
   <https://abc-rc.pl/pl/products/obudowa-do-powerbank-na-2-akumulatory-18650-usb-5v-1a-4-diody-led-latarka-10065.html>
4. Good quality case for 18650  
   <https://sklep.avt.pl/ladowarka-akumulatorow-cylindrycznych-li-ion-18650-xtar-pb2-z-funkcja-powerbank.html>