

## Invicta Legion Application User Manual

SNLX, SNLMBT, SNL\* Part Numbers Only



## About

The Invicta Lithium Legion application can be downloaded to smartphones from the Apple App Store and Google Play for free. It is designed to work with SNLX, SNLMBT, and SNL\* batteries. If using on SNL batteries, this will have limited functionality, but no less than the original app. This app is not designed to work with SNLH or SNLSS.

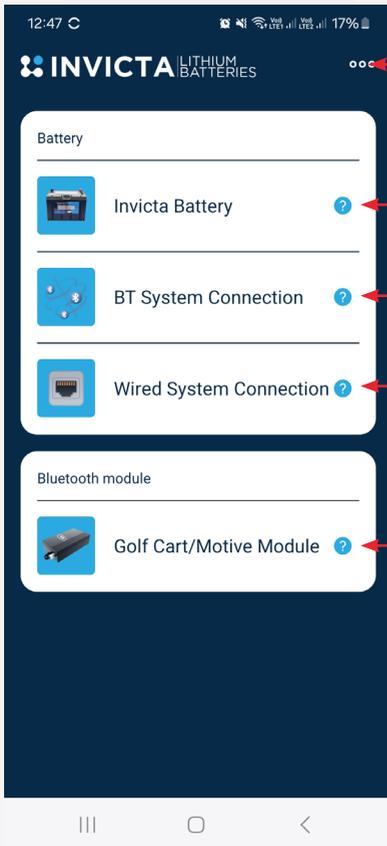
The application integrates Bluetooth technology with the BMS software to view, monitor, manage, and control individual and/or multiple batteries. The Legion app is required if setting up SNLX batteries in multiple systems or in parallel and/or series systems.



## Tips

- If using a SNLX battery or SNLMBT device, ensure the battery is turned on
- Ensure phone Bluetooth is turned on
- SNL Batteries will have limited functionality
- Not intended for SNLH and SNLSS batteries
- Allow location services
- Only one phone can be connected to a battery/system at a time
- Ensure the battery is not in sleep mode
- Password to change battery name: 1234
- Original battery name can be found on the silver sticker - SPBXXXXXXXXXXXX
- If batteries or cells become out of balance, perform at least two full discharge and charge cycles (0%-100%) before contacting customer service. A difference of 3% per battery and 300mV per cell is acceptable.

## Home Screen



Select this to view more options eg. language, unit, app version, company information

Select this to monitor a single battery

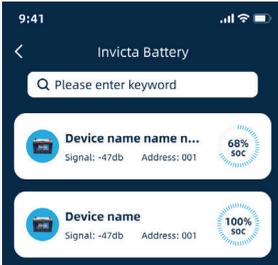
Select this to set up and monitor multiple batteries in a wireless system

Select this to set up and monitor multiple batteries in a wired system via CAN bus

Select this to monitor the Invicta Golf Cart batteries via the Bluetooth module SNLMBT

\*If monitoring a SNL battery, the user will only be able to use the 'Invicta Battery' function with limited functionality

## Invicta Battery Function



### Search interface

- Support fuzzy search device, use this to find your battery
- Displays Bluetooth name, signal strength, (SOC, address available SNLX batteries only)



### Device Overview Page

#### 1. Page

Device name - click three dots to change. Password is 1234

Info - General monitoring information

Log - Recorded protections

Details - Current protections and cell information

#### 2. SOC of equipment:

SOC<20%: icon in red

SOC>20%: icon is green

#### 3. The health status of the device

#### 4. Current status of the device:

Standby: No identification

Charging: Lightning symbol flashing

During Discharge: the lightning sign remains on

#### 5. The usable time of the device

#### 6. Current: positive charging value, negative discharging value

#### 7. Capacity: Equipment design capacity

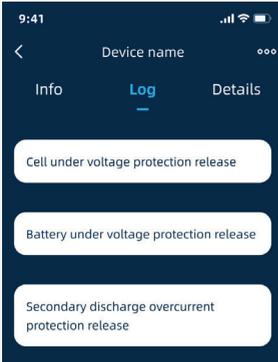
#### 8. Voltage: Current voltage of the device

#### 9. Power: Power = Voltage x Current

#### 10. Temperature: device average temperature

#### 11. Number of cycles

## Invicta Battery Function cont.



### Log Page

1. This will show recent protections. Logs are recorded for a limited time and will reset.



### Details Page

1. This will show current protections as red.

HV - High Voltage

LV - Low Voltage

COC - Charge Over Current

DOC - Discharge Over Current

DLT - Discharge Low Temp.

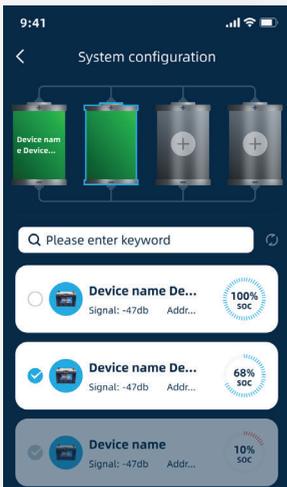
CLT - Charge Low Temp.

DHT - Discharge High Temp.

CHT - Charge High Temp.

2. Cell voltage - 300mV difference is acceptable. If difference is more, perform full discharge and charge cycle (0%-100%) at least two times before contacting customer service.

## BT System Connection



### Setup

Use this system to connect and monitor multiple batteries in series or parallel via a inter-battery Bluetooth connection. The user can set up multiple systems and monitor individual batteries in the system. Users can also connect and monitor multiple batteries via a wired connection, and is the preferred method if possible. See Wired System Connection for this method

To set up a BT system please follow the steps below.

1. Before connecting in series or parallel, ensure the batteries are off.
2. Once the batteries are off, connect the battery leads in a series or parallel configuration
3. Connect your accessories and check all connections are secure
4. Turn the batteries on and wait 10 seconds for power to be supplied
5. Open Invicta Legion Application and click BT System connection
6. Click the + sign and set the system name, voltage platform, series or parallel connection and quantity of batteries in the system.
7. Select the corresponding battery name to the corresponding position in the system
8. Ensure battery one is in the first position, battery two is in the second position etc.
9. For example - in a four battery system, do not place battery three in the first position.
10. Press save. To change or remove the system, press Re-configure or Release.
11. Attention third party installers - After testing on your phone, it is important to release the network and set it up on the customers phone during hand over.

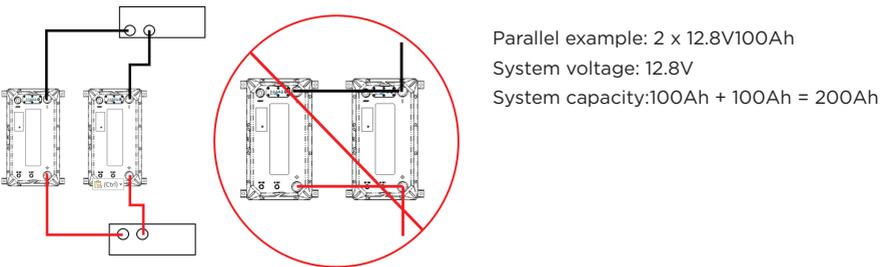
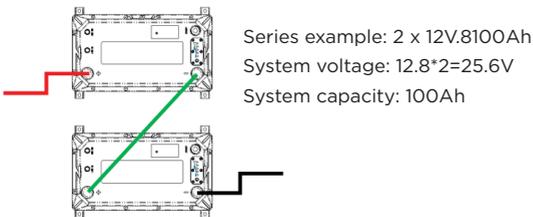
## Wired System Connection

### Setup

Use this system to connect and monitor multiple batteries in series and/or parallel via a wired/CAN bus connection. This is the preferred method when possible.

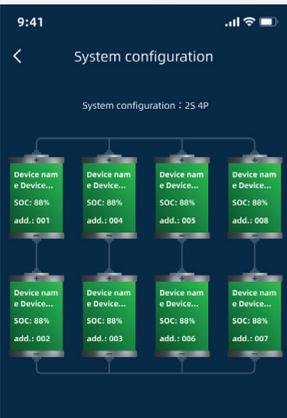
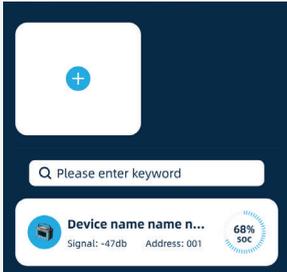
To set up a Wired system please follow the steps below.

1. Before connecting in series or parallel, ensure the batteries are off.
2. Once the batteries are off, connect the battery leads in a series and/or parallel configuration



3. Connect your accessories and check all connections are secure. If using a communication device, connect to Link-In on Battery 1. Only use approved Invicta Link Cables for connection to devices
4. Connect inter-battery Link cables. Only use approved Invicta Link Cables for inter-battery connection.
5. Battery 1 - Link Out > Battery 2 - Link In
6. Battery 2 - Link Out > Battery 3 - Link In etc.

## Wired System Connection cont.



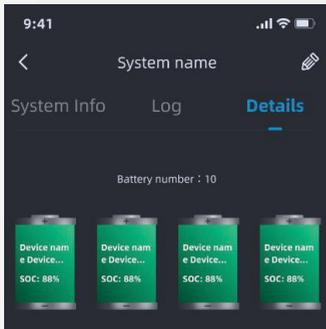
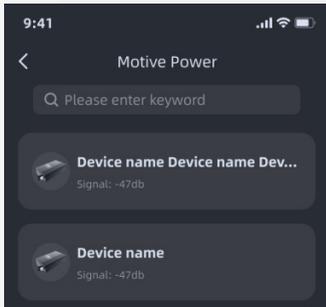
- Turn the batteries on in sequence and wait 10 seconds for power to be supplied. Press and hold reset button for 20sec. on Battery 1. Wait for lights to run and stop. This will take approx 2 min.
- Open Invicta Legion Application and click Wired System connection
- Click the + sign and set the system name, voltage platform, series or parallel connection and quantity of batteries in the system.

### Max Configuration - S = Series / P = Parallel

12V System	24V System	36V System	48V System
1S + 16P	1S 4P	1S 4P	1S 4P
2S 4P			
3S 4P			
4S 4P			

- Press Select Master Battery
- Select Master Batter (Battery 1)
- Ensure the corresponding battery name is connected to the corresponding position in the system
- Ensure battery one (Master) is in the first position, battery two is in the second position etc.
- For example - in a four battery system, do not place battery three in the first position.
- Press save. To change or remove the system, press Re-configure or Release.
- Attention third party installers - After testing on your phone, it is important to release the network and set it up on the customers phone during hand over.

## Golf Cart/Motive Module



### Golf Cart/Motive Monitoring

1. Ensure the battery/s are in the off position before configuration
2. Connect the battery and module as per the instructions.
3. Important tip - ensure battery is setup in parallel configuration (do not series or parallel master slave)
4. Important tip - ensure the resistor cable is connected on the battery (not the module)
5. Once all connections are secured, turn the battery/s on. Wait 2 minutes, blue light on module will be active
6. Open Golf Cart/Motive Module function
7. Select the module
8. Check Log page - this will show any protections
9. Check Details page - this has individual battery information. Click battery to view battery information

