

SPECTRA / Optima 2.4

Low Battery Warning (LBW) Function

Firmware v2.00 & up

When the HPP-22 is plugged into the **Spectra 2.4** module there are two different modes to choose from:

Upgrade Mode: This mode allows you to change your firmware version on your Hitec products. This mode will allow you to upgrade a product to the most up-to-date firmware version, but it can also reverse the product firmware version upgrade, if you are not satisfied with the new version.

Low Battery Warning Function (LBW) Mode: This mode allows you to customize your **SPECTRA 2.4** Module's **LBW** activation level. Whenever your module detects the receiver's **SPC** input voltage level drop below the setup level, it will activate the alarm to notify you that your aircraft's battery is running low.

NOTICE

To have proper function of **Low Battery Warning (LBW)** Function, all your related products have to be updated as follows:

SPECTRA 2.4 module: v2.00 or higher

OPTIMA Receivers: v2.00 or higher

Aurora 9 and other Hitec AFHSS 2.4GHz radios: v1.07 or higher.

Using the Low Battery Warning (LBW) Function

Depending on how you setup the Spectra 2.4 Module and the LBW function the LBW will activate the alarm when it detects that the voltage has dropped below the pre-set value. There are two different ways to use the LBW

1. 4 ~ 5 Cell Mode:

This is a default setting of **Spectra 2.4 module**, and it detects regular four to five cell NiMH / NiCad batteries and selects the LBW level automatically. In this mode the use of the **SPC** connection is **NOT** required.

Four Cell: 4.5V or lower.

Five Cell: 5.5V or lower.

Setup Method:

- 1) Select 4, 5 Cell mode, and click "Save"
- 2) Click "Yes" to go on.

Low Battery Warning Level Setup

Battery

4, 5 Cell Customize

SPECTRA 2.4

Function

4, 5 Cell

Save Value

4 Cell : 4.5 V 5 Cell : 5.5 V

New Warning Level

35.0 V

Save

Back

2. Customize Mode:

You can customize the **Low Battery Warning (LBW)** Level of a receiver's battery input level through the Battery port for packs with voltages up to **7.4 volts** or through the **SPC** port for packs voltages of **3.5V to 35V**. If utilizing both the SPC and regular battery port only the SPC voltage will be used. The LBW alarm will be activated when the receiver's input battery level drops below your customized level.

When Li-Po battery is used: When a Li-Po battery is used as a receiver battery, you can customize the LBW and decide the warning voltage level to prevent unintended overdraw of Li-Po battery which could cause explosion or permanent damage of the battery itself.

* **Warning:** This data should be used as reference only, and the users should be aware that the data could be inaccurate depending on the type and quality of the battery.

When the SPC function is utilized: When the SPC port and the receiver battery port are simultaneously used with different batteries, SPC input voltage has priority and AURORA 9 will display the voltage level of SPC input only. If you are utilizing the SPC port, set the LBW voltage level for the main battery.

Sett-up Method:

1. Click on the "Customize" Mode to activate the function.
2. Use the scroll bar on the middle right of the window to adjust the level. Or you can also type in the desired warning level in the box left of the scroll bar.
3. Click "**Save**" then "**Yes**" to save and exit the program.

