

Thorns guide

# Display App / Display Colour App

for Jeti Duplex DS/DC transmitter with colour display



Status: 21 1.0

Transmitter firmware: 5.05

Date: 16. May 2022

## Table of contents

<b>1.</b>	<b>Introductory words.....</b>	<b>4</b>
<b>2.</b>	<b>Acknowledgements .....</b>	<b>5</b>
<b>3.</b>	<b>Installation .....</b>	<b>6</b>
3.1	What is new .....	6
3.2	Which version should I install? .....	7
3.3	Reference .....	8
3.4	Activate .....	12
<b>4.</b>	<b>What you need to know .....</b>	<b>14</b>
<b>5.</b>	<b>General configuration.....</b>	<b>15</b>
5.1	Sensors without name.....	15
5.2	Data source selection .....	16
5.3	Use of an MTAG sensor .....	19
5.4	Show options .....	20
5.4.1	Show options: <i>General</i> .....	21
5.4.1.1.1	Optical warning at max height.....	21
5.4.1.1.2	Landing gear / Flaps.....	22
5.4.1.1.3	Tow release / Ignition .....	25
5.4.1.1.4	3 Telemetry window change via switch.....	27
5.4.1.1.5	Display channel (servo channel) .....	31
5.4.1.1.6	Announcement of actual values .....	32
5.4.1.1.7	Flight phase switch .....	33
5.4.1.1.8	Announcement of the actual height every X meters.....	34
5.4.1.1.9	Query min. & max. Values .....	34
5.4.1.1.10	Timer .....	36
5.4.1.1.11	Motor monitoring .....	37
5.4.1.1.12	Start flight time/engine.....	39
5.4.1.1.13	Reset values .....	41
5.4.1.1.14	Flights .....	42
5.4.1.1.15	Trigger sensor.....	44
5.4.1.1.16	Model image .....	45
5.4.1.1.17	Middle logo .....	46
5.4.1.1.18	Medium battery/tank .....	47

5.4.1.1.19	Save / Load .....	49
5.4.1.1.20	Hide pilot name .....	50
5.4.1.1.21	Sort page 2 alphabetically .....	51
5.4.2	Option <i>electric</i> .....	52
5.4.3	<i>Internal combustion engine</i> options.....	54
5.4.4	Option <i>Central Box</i> .....	55
5.4.5	<i>Expert menu</i> option .....	56
<b>6.</b>	<b>Design of the display pages .....</b>	<b>57</b>
6.1	Display page registration .....	57
6.2	Facilitated tile setup .....	58
6.3	Capacity and tank are displayed in color .....	61
6.4	GPS coordinates .....	62
<b>7.</b>	<b>Available display tiles .....</b>	<b>63</b>
7.1	Examples of display pages .....	71
<b>8.</b>	<b>Help &amp; Feedback .....</b>	<b>77</b>
<b>9.</b>	<b>Disclaimer .....</b>	<b>77</b>
<b>10.</b>	<b>Menu tree .....</b>	<b>77</b>
10.1	General configuration .....	78
<b>11.</b>	<b>Overview of selected sensors .....</b>	<b>80</b>

## 1. Introductory words

With the support of the [script language Lua](#), current Jeti Duplex transmitters of the DS and DC series offer the possibility to execute scripts created by the user and thus to implement customized, additional functionalities into the transmitter. The API provided by the transmitter firmware for this purpose can be viewed [directly at Jeti](#), along with further information.

In their core function, the **Display App / Display Colour App** described below offer an extensive and powerful option for the highly customizable display of telemetry data on the transmitter display, which goes far beyond the possibilities of the transmitter firmware. Beyond the mere display, extensive additional functions are offered. For example, a flight counter, programmable alarms, voice outputs and much more are available.

This manual provides comprehensive information on how to install and set up the app on a Jeti Duplex transmitter and gives an overview of the currently implemented functionalities.

## 2. Acknowledgements

In addition to the effort I put into programming the new versions, this manual, originally written by **Morote** (Jetiforum), was also revised with considerable time.

In a small team, we have incorporated the new features and have improved the structure and operation of the manual:

- Navigation by hyperlink (references)
- Menu tree where clicking on an option box links to the appropriate place in the document

improved. My thanks go, alphabetically by name, to:

- **Fastmover** (Jetiforum)
- **Figo** (Jetiforum) for the creation of the graphical mini-images (see [5.4.1.1.2](#) and [5.4.1.1.3](#))
- **Gessi0** (Jetiforum)
- **Klaus & Klaus**
- **robinhood** (Jetiforum)

Furthermore, to the unnamed **helpers who** proof read this manual and to the **testers** for their extensive testing of the **Display App / Display Colour App**.

### 3. Installation

#### 3.1 What is new

- Optical warning at max height
- Now 6 data sources possible
- Landing Gear / Flaps
- Tow release and Ignition
- 3 telemetry windows changed by switch
- Display channel (servo channel)
- Fuel tank symbol
- Pre-flight alarm
- Warning when engine monitoring is active – 1<sup>st</sup> image
- Easier to set up tiles
- Capacity and tank are shown in colour
- GPS coordinates
- Examples of display pages
- Individual colour adjustment of the **Display App / Display Colour App** via [EditColors App](#)
- Easy navigation
  - within the document by hyperlinks (blue font/blue underlined)
  - through the [Menu](#) tree

#### Note for users of the previous version:

- Where there used to be 2 tiles, there is now only one (distance, GPS, distance, fuel gauge (Tank Percent) and battery gauge (Battery Percent)). New tiles have been added for this space. So when you replace the app, other tiles are suddenly visible in the telemetry window. Replace these with the tiles you want in each case. The **Display App / Display Colour App** now automatically recognizes in which unit (e.g.: m/s, km/h) the sensor delivers the data and converts accordingly. Alarms in [newCalCa App](#) are now defined in the **Display App / Display Colour App**.
- Battery icons are now in grey (example Figure 3 [Abbildung 3: Display Colour](#))
- Encoder, means a switch or proportional control that activates a function

### 3.2 Which version should I install?

The new app is now available in two versions:

- Display                      Rounded tiles with fine frame
- Display Colour            Square tiles without frame and font on coloured backgrounds

If you want to change the default colour settings comfortably, you have to install the [EditColors app](#) as well:

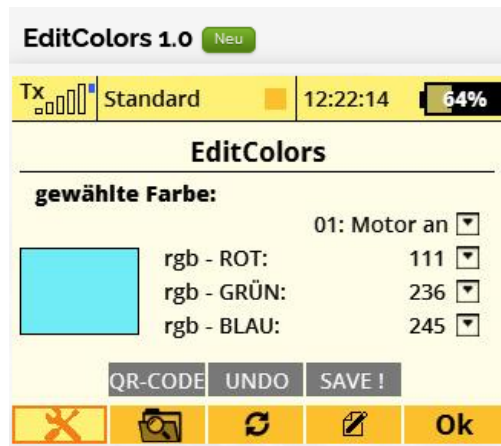


Figure 1: Edit Colours App



Figure 2: Display v5

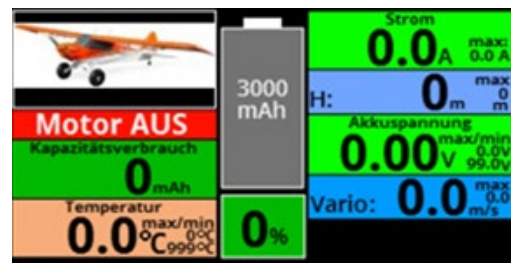


Figure 3: Display Colour

Decision support: See [Examples of display pages](#)

### 3.3 Reference

All files necessary for the setup and operation of the app can be downloaded from the [Thornshomepage](#):

#### Display-App V5.01 Neu

#### Für alle Jeti-Sender mit Farbdisplay geeignet

Zur individuellen Gestaltung des JETI-Sender-Display's!  
Ein **MUSS** für jeden Jeti-Begeisterten!

Currently available in German, Italian and English!

[HANDBUCH](#)

#### Display Color V1.01 Neu

#### ES WIRD BUNT!

Für alle Jeti-Sender mit Farbdisplay geeignet

Zur individuellen Gestaltung des JETI-Sender-Display's!  
Ein **MUSS** für jeden Jeti-Begeisterten!

Currently available in German, Italian and English!

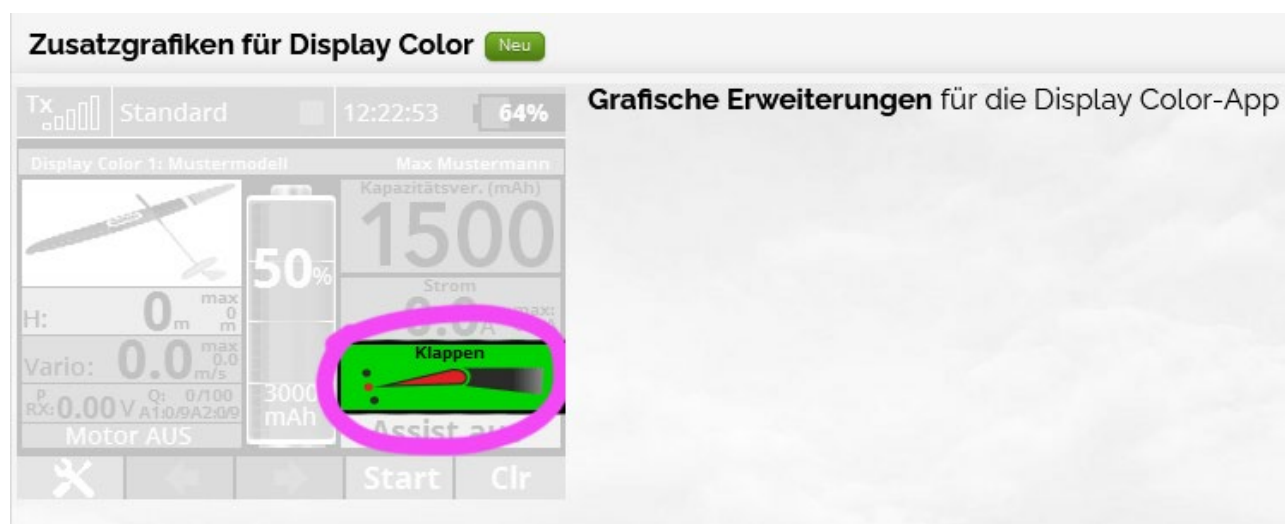
Connect the transmitter to a PC via USB (see transmitter instructions). Thereby it registers itself in the file explorer as mass storage and it can be accessed directly. Now copy:

Downloaded archive (PC)	Copy to	Target (transmitter)
Display.lc		\Apps
Entire folder <b>display</b>		\Apps

All other files do not need to be copied.



If you want to use graphics for [landing gear/flaps](#) or [tow release/ignition](#) in the respective app, you have to download them as well:



The respective installation is described in the chapters [Landing Gear / Flaps](#) or [Tow release/ignition](#).

There are also additional image files on the [homepage that](#) can be used for personalization, e.g. the battery display:

**Akku-Symbole für die Display-App (gesamte Höhe)** Beliebt

Erforderliche Display-App Version: **mindestens 3.3**

The screenshot shows the 'Carbon Cup' model selected. The battery symbol is a vertical bar with a green top and red bottom, indicating 84% charge. The interface includes fields for flight time (00:11), motor status (Motor An), and various flight statistics like capacity (9 mAh) and current (3.0 A).

**Akku-Symbole für die Display-App (2/3 Höhe)** Beliebt

Erforderliche Display-App Version: **mindestens 3.2**

The screenshot shows the 'Ecureuil Mini' model selected. The battery symbol is a vertical bar with a green top and red bottom, indicating 100% charge. The interface includes fields for flight time (00:00), motor status (Motor Aus), and various flight statistics like flight count (0:36).

**Akku-Symbole "Double" für die Display-App** Beliebt

Erforderliche Display-App Version: **mindestens 4.0**

Ideal zur Akku-Anzeige von 2-motorigen Modellen

The screenshot shows the 'Mustermodell' model selected. The battery symbol is a vertical bar with a green top and red bottom, indicating 50% charge. The interface includes fields for True Air Speed (0 km/h), temperature (0.0°C), current (0.0 A), and various flight statistics like flight count (0:17).



If used, these must also be copied to the transmitter in the \Apps\Display directory.



The described version of the **Display App / Display Colour App** is currently suitable for all Jeti Duplex transmitters with colour display.



According to Jeti's recommendation, Lua apps must not be used for providing **security relevant features**, these must always be realized via the native transmitter firmware!



All paths through transmitter menus described in the manual refer to the factory layout and may differ accordingly if the menu layout has been personalized. Paths through the transmitter menus are shown in this manual as follows: **Level 1** **Level 2**



**Level n**

### 3.4 Activate

After the above copying steps, the app can be used. Jeti provides that Lua apps are always used model memory specific. This means that the app must be activated separately in each model memory in which it is to be used:

- Under Application/ User Applications, you will find the app manager.

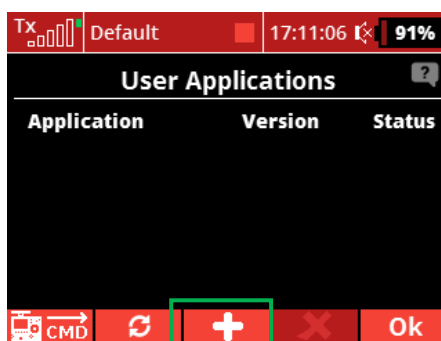


Figure 4: View of the app manager with no selected app

- Select the + symbol,; saved app(s) will appear. If several apps exist, the app must be selected using the arrow keys.

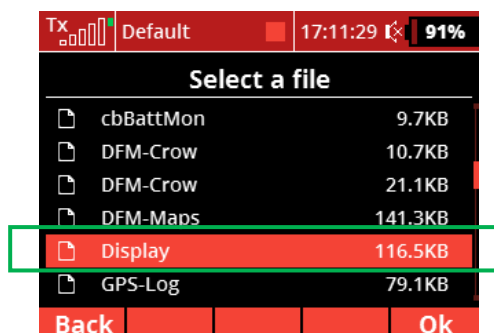


Figure 5: Selectable app in the app manager

and pressing **Ok**, the app will then be loaded and assigned to the currently selected model memory. Jeti currently supports up to 10 apps per model memory

- After starting the **Display App / Display Colour App**, it is listed in the App Manager with the version number. The status field provides feedback on the current status of the app and the memory usage of the transmitter processor:

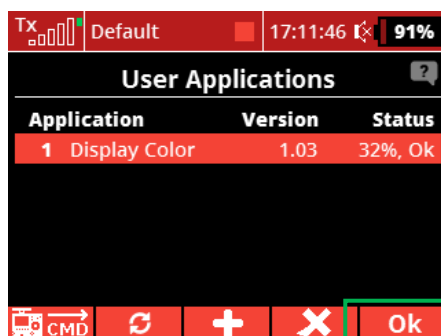


Figure 6 App selected and loaded

Further details can be found in the operating instructions of the transmitter.

- After successfully adding the **Display App / Display Colour App**, the app registers itself with the name in the main menu at the end of the menu list. The configuration of the app is carried out via this path in the further course:

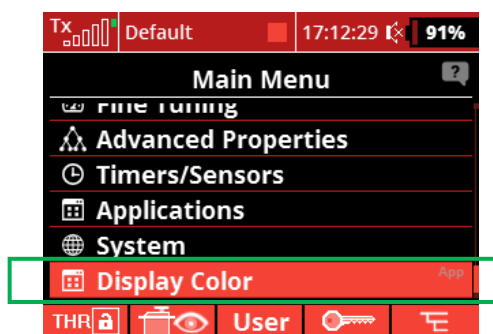


Figure 7: List end of the main menu



The RAM available in the transmitter for Lua apps is limited by Jeti for reasons of operational safety. The load of the available resources is displayed and monitored in the App Manager. As soon as the sum of all currently running apps reaches 100%, Lua is automatically deactivated to ensure safe operation of the transmitter. However, it is not the current value that is evaluated, but the maximum reached. For example, the **Display App / Display Colour App** on a DC-24 typically generates a 32% utilization. When using the [2nd page alphabetical sort](#) function, the utilization increases only briefly to approx 63%. when page 2 is selected. However, this value is recorded in the App Manager until the transmitter is restarted. If several (load-intensive) apps are used within a model memory, special attention should therefore be paid to this point. For example, the sort function should not be used if the load from other apps is already in the range of 50 % and more.

#### 4. What you need to know

Telemetry-capable devices connected to the receiving system (e.g. dedicated telemetry sensors, but also controllers with integrated telemetry, as well as central boxes) register with the system as individual devices and make their respective telemetry values available via addresses (numbers). Examples of sensors can be found [here](#). There can be no address conflicts when connecting more than one sensor, as the data is reported to the transmitter in the simplified form **sensor name:address:value**. If the sensor is known to the system, the data/channels provided by it can be displayed under Timers/Sensors, Sensors/Logging Setup. Further configuration of sensors is described in [Selection of data sources](#).

## 5. General configuration

The general configuration is the start page of the **Display App / Display Colour App**. Model memory-specific configurations are made here, for example battery capacities, alarms or announcements are defined. The individual options are explained below.

### 5.1 Sensors without name

As described under [What you need to know](#), a telemetry sensor usually registers in the system with its name. This name is then specified when assigning data sources (see [Selection of data sources](#)). However, some devices register without their own name, so that such an assignment is then not possible. If such a device is used (e.g. Spirit), the *Sensors without names* function must be activated.

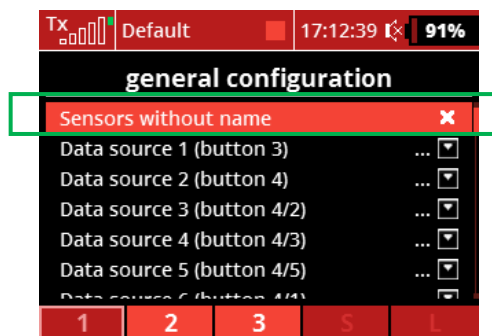


Figure 8: Sensors without name

## 5.2 Data source selection

If the sensor is known to the system, it is possible to display under the sensor data/channels provided by it.

**Stoppuhren/Sensoren** **Sensoren/Aufzeichnung** (Timers/Sensors, Sensors/Logging Setup)

The **Display App / Display Colour App** now supports the supply of telemetry data from up to 6 data sources (data source 1 - 6). In order to be able to process their supplied sensor data, they must be assigned accordingly within the app. For this purpose, a corresponding device/telemetry sensor is continuously assigned to the data sources 1 - 6. After selecting one of the 6 options, a list of the devices logged on to the system is displayed so that the desired device can be selected by its name.

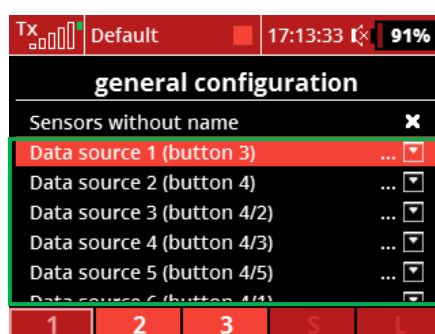


Figure 9: Selection of data sources

Here in the example a Central Box 200:

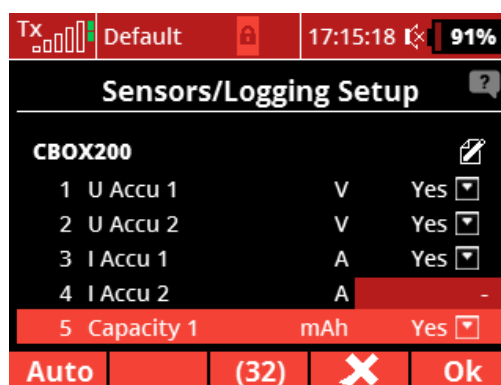


Figure 10: Telemetry values supplied by the Central Box 200

After a sensor has been assigned to a data source under [Selection of data sources](#), the corresponding addresses must still be assigned here: (Push button 3)



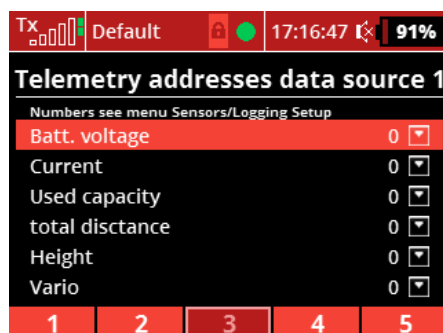


Figure 11: Selection of sensors of data source 1

### Example:

Data source 1 provides:	<b>Telemetry value to</b>	<b>On address</b>
	Battery voltage	1
	Power	2
	Capacity	3
	consumption	
	Height	5
	Vario	6

For this purpose, the setting in the **Display App / Display Colour App**:

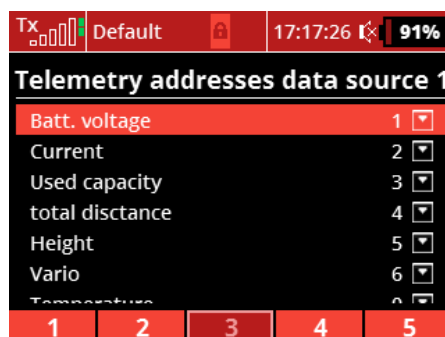


Figure 12: Example



With an existing connection to the receiver (including the return channel), the Lua interpreter will crash if telemetry addresses are assigned that are not sent via the return channel. Therefore, the connection to the receiver must always be disconnected before using the corresponding pages in the **Display App / Display Colour App**. If one of the pages is selected while the radio connection is established, an optical and acoustic warning message is issued by the transmitter; it is then not possible to select telemetry addresses. A crash of the app is thus effectively prevented.



Figure 13: Warning message

### 5.3 Use of an MTAG sensor

With the MTAG sensor, Hacker offers a Jeti-compatible RFID (Radio-Frequency **ID**entification) sensor. This sensor can read compatible RFID chips at a distance of a few centimetres and provide stored data as telemetry values. Typically, these chips are attached directly to the flight battery and store characteristic battery data, including capacity. The MTAG sensor is now mounted directly in the model in the immediate vicinity of the battery and can thus read out the data of the currently installed battery.

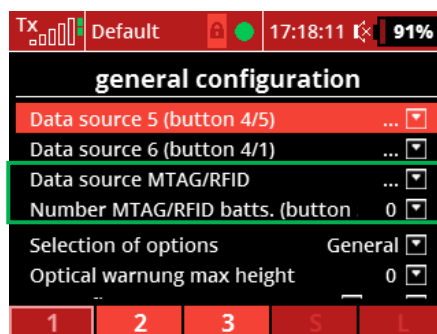


Figure 14: Use of an MTAG sensor

Analogous to the selection of other data sources (see [Selection of data sources](#)), an MTAG sensor must also be registered within the app. The *MTAG/RFID data source* option is used for this purpose. Such a sensor is usually used if the model is operated with several different batteries and these are to be detected automatically accordingly. Consequently, the *Number of MTAG/RFID batteries* option (**key 5**) defines the number of batteries that are to be detected in the model by the sensor.

## 5.4 Show options

Due to limitations on the part of the transmitter firmware, only a limited number of lines can be displayed within a display page. However, this does not do justice to the extensive possibilities of the **Display App / Display Colour App**; more lines are required than can be displayed in order to configure all functions. Typically, however, not all functions are needed at the same time for a model. For example, combustion engine-specific functions are generally not relevant for an electric model. The *Show options* function can be used to specifically show certain functions of the **Display App / Display Colour App** that are usually only required for certain model types. This makes it possible to implement all options within the line limit. (General Configuration on page 1 – and scroll down)

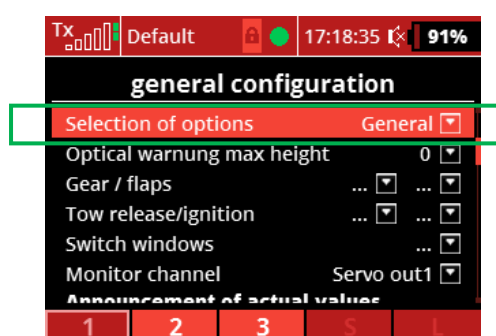


Figure 15: Showing options

Certain groups of functions can be shown or hidden depending on the type of model used. Available options are:

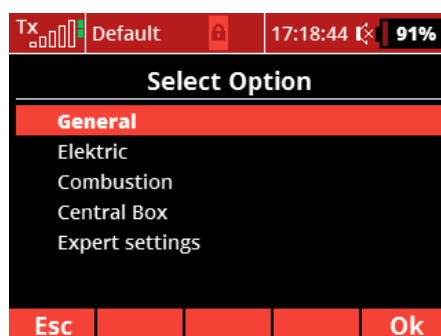


Image 16: Select options



Hidden options remain active even if they are not visible. For example, settings can be set for a [central box](#) and then switched to [electric](#) or [combustion](#). The settings made remain active.

## 5.4.1 Show options: *General*

### 5.4.1.1.1 Optical warning at max height

When the height to be entered here is reached in meters:

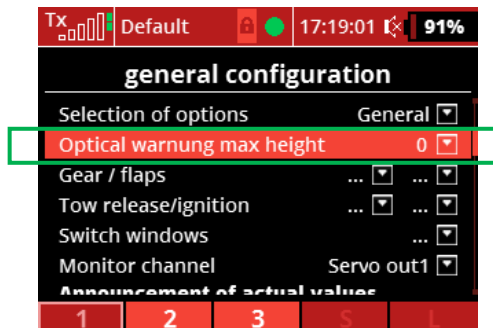


Figure 17: Optical warning at max height (note the rare Jeti spelling mistake)

the background colour of the tile changes to blue.



Figure 18: Optical altitude alarm

In **Display Colour**, in addition to the blue background, a **red** exclamation mark is displayed.

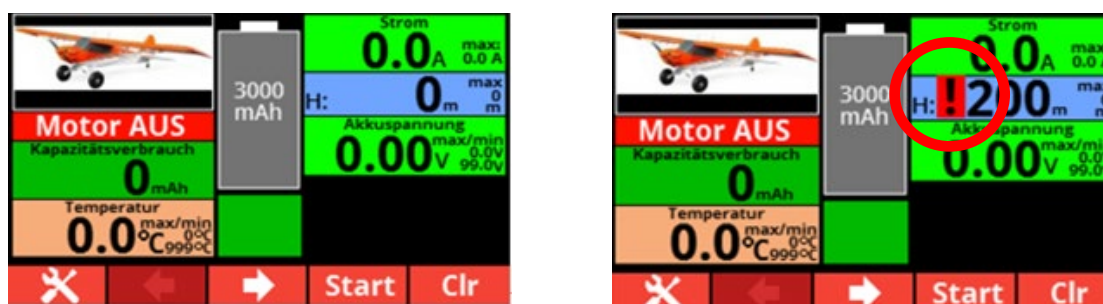


Figure 19: Optical altitude alarm(Display Colour App)

### 5.4.1.1.2 Landing gear / Flaps

The status of the landing gear and/or flaps is displayed graphically when the switches specified here are actuated.

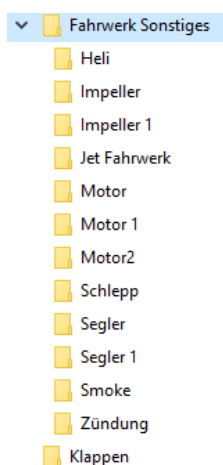


This functionality is purely the visualization of the landing gear or the flaps. The definition and the switch itself must be done via the transmitter firmware. Usually the same encoder is defined for the app and the switching of the function itself, so that both always happen simultaneously.

Different graphics are available for powered aircraft and gliders. For example, the flaps can be displayed in two or also three positions. The use of a 3-step switch shows the flaps in the positions:

- Retracted
- ½ extended
- extended

Directory structure of the downloaded archive (see [reference](#)):



**Figure 20: Directories of the additional graphics**

Following are the representations of the graphics and the directory name where they are stored:

Directory	Landing gear extended	Landing gear retracted
Engine 1		
Sailor / Sailor 1		
Jet landing gear		

Motor



Engine 2









Heli



It is necessary to copy the desired pairs of graphics from the PC to the directory **..\Apps\Display**.

Since there are only 3 tiles for airplane, glider and jet, you have to decide which tile you want to overwrite with it when using the heli.

The **flap graphics** are located in the **Flaps** subdirectory

File name	Image
Flaps_DOWN	
Flaps_MID	
Flaps_UP	
Flaps_DOWN1	
Flaps_MID1	
Flaps_UP1	

It is necessary to copy the desired graphics from the PC to the directory **..\Apps\Display**.



### 5.4.1.1.3 Tow release / Ignition

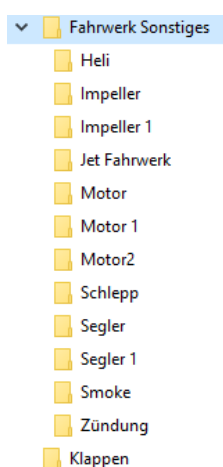
The state of the tow release (open/closed), the impeller (extended/retracted) and the ignition/smoke (on/off) are displayed graphically when the switches are defined. The graphics for the tow release and the ignition are stored in the directory `.../Apps/Display`.



This functionality is purely the visualization of the tow release or the ignition. The definition and the switch itself must be done via the transmitter firmware. **Usually, the same encoder is defined for the app and the switching of the function itself, so that both always happen simultaneously.**

Two switches are available for the **tow release** and **ignition**. In contrast to the **tow release**, there are three possible symbols (impeller, ignition and smoke) to choose from for **ignition**. So you have to decide which of the three symbols should be on the switch for ignition.

Directory structure of the downloaded archive (see [reference](#)):



**Figure 21: Directories of the additional graphics**

Following are the representations of the graphics and the directory name where they are stored:

Directory	to	from
Impeller		
Impeller 1		
Ignition		

Smoke



Tow



It is necessary to copy the desired pairs of graphics from the PC to the directory **..\Apps\Display**.

### 5.4.1.1.4 3 Telemetry window change via switch

The display app provides up to three display windows for the tiles. However, the transmitter firmware only allows two windows to be used for an app. There are several ways to still use two or three display windows.

#### Possibility 1

The **Display App / Display Colour App** offers at; **Timers/Sensors, Displayed Telemetry** to install two display pages.

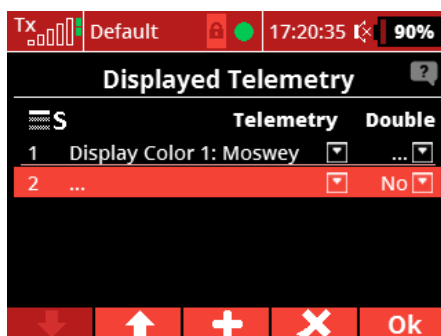


Figure 22: Telemetry display overview

By selection of another  a second display is offered for selection:

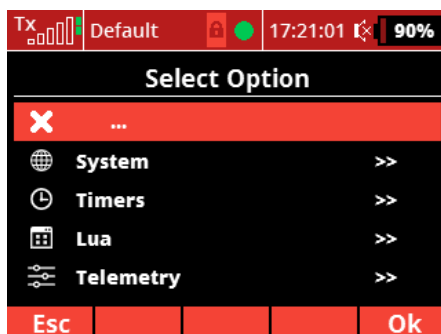


Figure 23: Select another Lua app

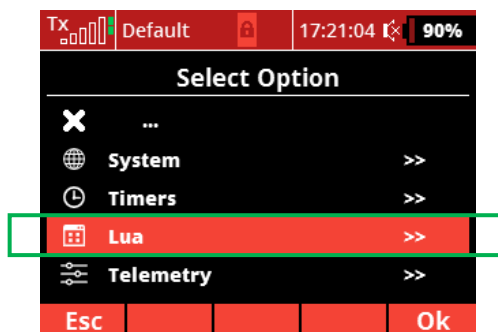


Figure 24: Select Lua

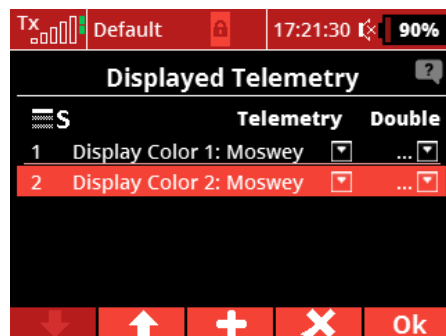


Figure 25: Here you can see the 2 apps as described above

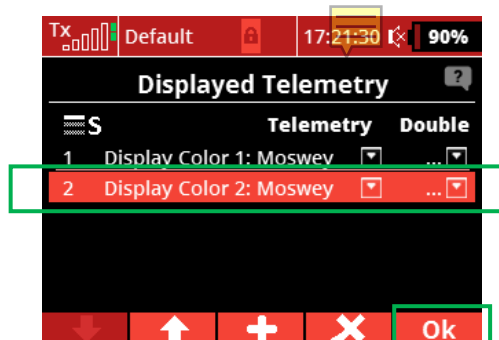



Figure 26: For the 2nd window the 2nd app has to be selected



Figure 27: Save the setting with Ok



A switch for *changing the windows* is not provided, since switching between the display pages is done via .

Display page three cannot be selected and displayed here!

## Possibility 2

The switch for *changing the windows* is defined as a 2-step switch:



Figure 28: Definition of a 2-stage switch

However, by defining this switch, it is **only** possible to switch between the **first** and the **third** window within the **Display App / Display Colour App**.



It is only possible to switch between window one and window three!

It can only be switched when you are in window one.

A change from window two to three is not possible!



If display page two is installed as described in [option1](#), it can still be accessed via .



### Possibility 3


The switch for *changing windows* is defined as a 3-step switch:



Figure 29: Definition of a 3-step switch

Now all three display pages can be called up with the switch. However, the switch must be defined as a proportional switch.



If display page two is installed as described in [option1](#), it can still be accessed via  via .



If display page 2 is not to be called up via the *function keys*, it is also not necessary to create it under *Stopwatches / Sensors / Telemetry display*. It is sufficient to define the switch.

#### 5.4.1.1.5 Display channel (servo channel)

Display channel corresponds in principle to the servo monitor of the transmitter firmware. The position of the selected servo output is displayed in percent (-150 % to + 150 %) incl. min. /max. values.

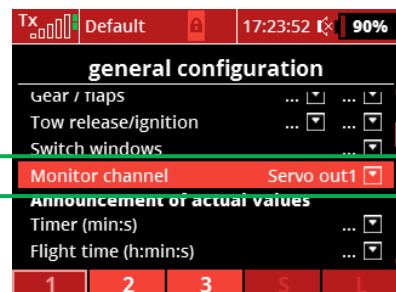


Figure 30: Selected servo output  
(unfortunately cut off. Can not be changed. )

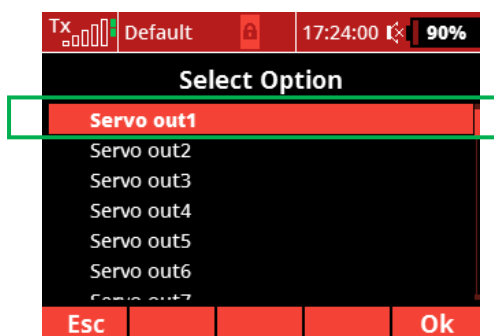


Figure 31: Selected servo output (1-24)

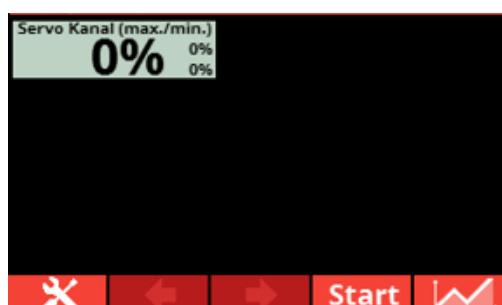


Figure 32: Display in the app

#### 5.4.1.1.6 Announcement of actual values

The actual values that can be selected here can be output directly via voice output:

- Remaining time of the timer in min:s
- Flight time in h:min:s

For this purpose, an encoder is assigned to the desired announcement, which then triggers the announcement.

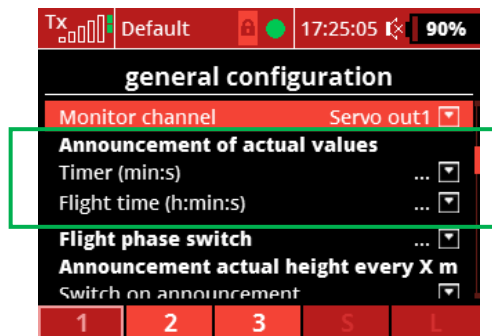


Figure 33: Function block *display of actual values*



#### 5.4.1.1.7 Flight phase switch

The **Display App / Display Colour App** offers the possibility to display a display tile with the current flight phase on a display page created within the app (see [Facilitated Tile Setup](#)). The *Flight Phase Switch* function is used to set the encoder for switching the display. Supported are two- and three-stage switches in the *proportional* setting.

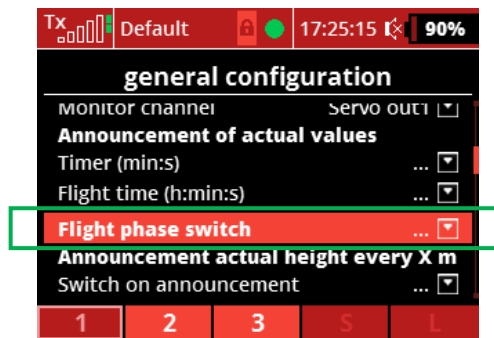


Figure 34: Flight phase changeover switch



This functionality is purely the visualization of a flight phase name. The definition and switching of the flight phases themselves must be done via the transmitter firmware. Usually, the same **encoder** is defined for the *flight phase switch of* the app and the switching of the phases themselves, so that both always happen simultaneously.

#### 5.4.1.1.8 Announcement of the actual height every X meters

This function is primarily used to support thermal flying and allows the actual altitude to be announced at defined altitude intervals.

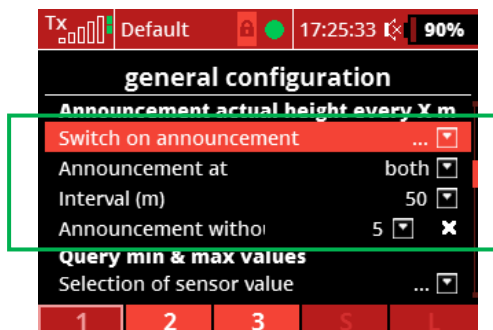


Figure 35: Function block *Announcement of actual height every X m*

The Enable *announcement* line is used to define the encoder with which the function can be switched on and off.

In the following line *Announcement at*, you can specify whether an announcement should only be made at:

- Rise
- Sink
- for any form of height change

The *Interval (m)* line is used to define the announcement interval in meters. For example, with a value of 50 and an announcement for climbing, an announcement of the current altitude is made every 50 m of altitude gain, while no announcement is made for altitude loss.

With the line *Announcement without motor it is* possible to limit announcements to phases in which the drive is switched off. In addition to the activation of the functionality itself, a motor current in amperes must be defined here, which serves as a switchover threshold. If the battery current measured by the telemetry sensor is above this value, this is interpreted as a switched-on motor and the announcement is suppressed accordingly.

This function allows automated altitude announcements depending on the detected altitude change and is primarily used to support thermal flying.

#### 5.4.1.1.9 Query min. & max. Values

In some cases it is of interest to learn the previous minimum and maximum values of a telemetry sensor during the flight. For this purpose, the **Display App / Display Colour App** offers a voice output option.

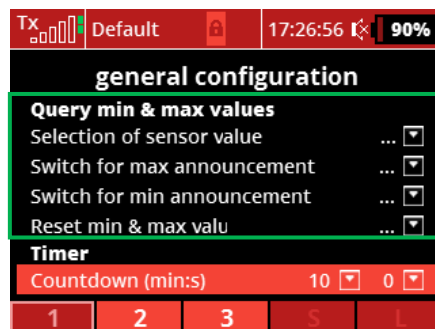


Figure 36: Function block *query of min & max values*

The desired value is defined in the line *Selection of sensor value*. Subsequently, the encoder *for the announcement of the* previous maximum value is defined in the respective lines by means of the switch for *Max announcement*, and the encoder for the announcement of the previous minimum value is defined by means of the *switch for Min announcement*. The option *Reset min. & max.* offers the possibility to assign an encoder with which the min. & max. values recorded so far can be reset at any time. Values can be reset at any time.

#### 5.4.1.1.10 Timer

The *Timer* function allows you to define a countdown at the end of which a sound can be played. There is a separate display tile for displaying the current residual value.

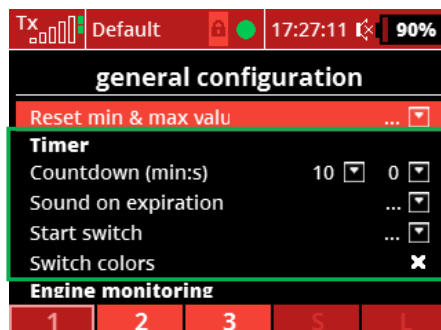


Figure 37: *Timer* function block

The target time is specified in the *Countdown (min:s)* line. Due to the separation into minutes and seconds, a setting to the second is possible here. At the end of the countdown, a sound file can be played, this is stored accordingly in the *Sound at end* line. Furthermore, the encoder for the start of the countdown is defined in the *Start switch* line. The countdown runs exclusively as long as this encoder is in the switched-on position. This means that the countdown can also be actively paused if necessary.



When using the display tile on a telemetry page, the time is displayed in the respective primary colour of the colour scheme selected in the transmitter firmware. After half of the running time, the display automatically changes to the secondary colour. Thus it can be seen at a glance whether the countdown is above or below half the runtime. The *Change colours* line is used to reverse the order of the two colours.



- Below a remaining time of 1 minute, the display colour is always **red** regardless of the setting.
- If the timer reaches the value 0, it counts on without transition with negative values, so it can always be seen how far the timer has been overrun.
- If no start switch is assigned, the countdown is instead triggered *proportionally* via the *P2/P4* encoder assignment (see [Start flight time/motor](#)).
- At the start of the countdown a voice output can take place. The corresponding file must have the name "*Timer Start.wav*" and be stored in the folder ... \Audio\de.

#### 5.4.1.1.11 Motor monitoring

The transmitter firmware allows the programming of a motor lock. If this is active, the value of the corresponding encoder is **fixed at -100 %**. Changes to the encoder status have **no** effect.

For additional information and protection, the status of the motor can be displayed by the **Display App / Display Colour App** and signalled acoustically and via vibration (if supported by the transmitter).



The *motor monitoring* function is for illustration purposes only and does not itself provide a motor inhibit. This must always be programmed via the transmitter firmware.

The corresponding encoder is defined with the *On/Off switch*. It is therefore important to ensure that exactly the same encoder is used that has already been programmed in the transmitter firmware as the encoder for the motor inhibit.

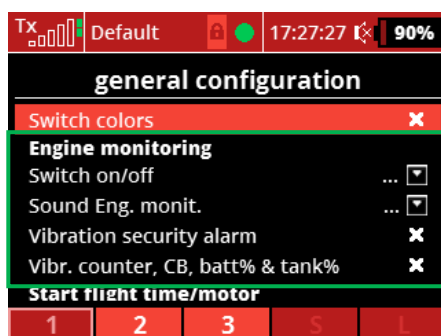


Figure 38: *Motor monitoring* function block



The direction of action of the *motor monitoring* function in the **Display App / Display Colour App** is exactly reversed to the direction of action of the motor inhibit in the transmitter firmware.

A sound file can be stored in the *Sound motor monitoring* line. This is played if the motor encoder is moved to a position other than *Off* when the motor inhibit is active. Furthermore, a vibration *alarm* can be triggered in parallel to the voice output via the *Vibration safety* alarm line.



The *Vibration safety alarm* function also has an effect in another place: If the menu for assigning telemetry addresses (see [What you need to know](#)) is called up while the connection to the receiver is established, this also triggers a vibration alarm (if supported).

For this function there are supporting display tiles, which can show the current status of the engine monitoring on a display page (see [Facilitated setup of tiles](#)). If the motor monitoring is activated and the throttle stick *P2/P4* is defined *proportionally* under [Start flight time/motor](#), these two full-page warnings appear alternately on the display when the throttle stick is moved from the zero position:



Figure 39: Warning with active motor monitoring - 1st image



Figure 40: Warning with active motor monitoring - 2nd image



As *P2/P4 proportional* of course any switch can be defined as throttle stick.

With the help of *Vibr. Counter, CB, Battery% & Tank%* the warning messages for when [counter expiration](#), [central box](#), remaining battery [charge](#) and [remaining tank content are](#) in addition to possible sound files a vibration alarm is added. Of course, this only makes sense if you have this function.

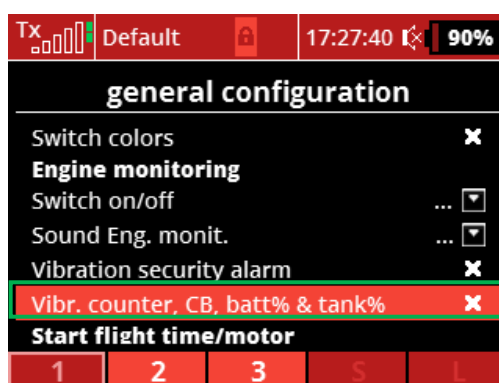


Figure 41: Function Vibration Counter, CB, Battery% & Tank%.

#### 5.4.1.1.12 Start flight time/engine

The **Display App / Display Colour App** provides special timers for recording flight time and motor runtime, which can be configured in this function block. A corresponding display tile exists for displaying the respective actual values (see Facilitated [tile setup](#)).

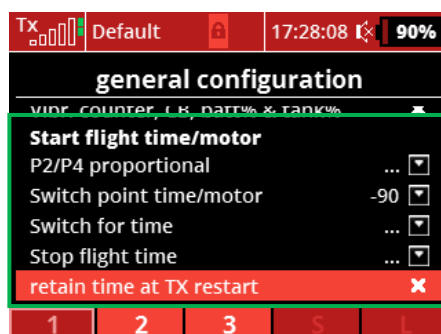


Figure 42: Function block *start flight time/motor*

In the line *P2/P4 proportional the* encoder for the start of the two timers is stored. Typically, the gas/motor encoder (if available) is selected here. If it is a stick unit or a rotary/slide controller, *proportional* must be selected. With this setting, both timers start when the drive is switched on/activated. In the line *Switch point time/mot the* switching threshold is defined at which the respective timers are started. While the flight time timer continues to run continuously after initial activation, the motor timer only counts when the current encoder value is above the defined threshold.



If a switch is *proportionally assigned in line P2/ P4* and this is activated when the *Motor monitoring* moves, alternating warnings with active Engine monitoring – 1st image and warning when engine monitoring is active – 2nd image displayed.

If no motor timer is required and only the flight time timer alone is desired, an alternative possibility is provided: Nothing is entered in the *P2/P4 proportional* line, instead the encoder *for the flight time timer* is then defined in the *Switch for time* line. Again, this will continue to run continuously from the first time it is actuated. In contrast to the case described above, only a flight time timer is started, but no motor timer.



Only **one of** the two options *P2/P4 proportional* or *switch for time may be* used at any time. If both are configured at the same time, there will be problems with the motor timer!

The line *Stop flight time* can be used to define an encoder that pauses the flight time timer as long as it remains in the corresponding switched-on position. If the encoder is switched back to *off*, the flight time timer continues to run.

By default, restarting the transmitter resets both timers to 0. This behaviour can be prevented by selecting the option *Keep time on transmitter restart*. If this function is activated, the timer values are saved at the time the transmitter is switched off and are available again when the transmitter is switched on again.



#### 5.4.1.1.13 Reset values

Selected values can be reset quickly and easily via assigned encoders. The following options are available here:

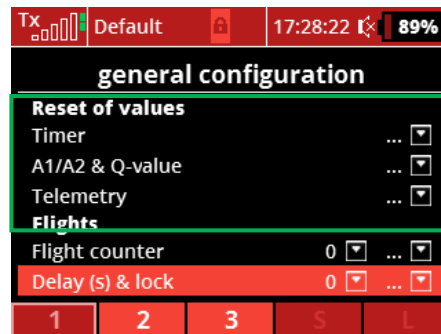


Figure 43: *Reset values* function block

- *Timer*: Resets all timers ([flight timer](#), [motor timer](#) and [timer/countdown](#)).
- *A1/A2 & Q value*: Resets the antenna and Q values of all connected receivers.
- *Telemetry*: Resets all possibly existing minimum and maximum values of telemetry measured variables.

#### 5.4.1.1.14 Flights

The **Display App / Display Colour App** offers an integrated function for counting flights with a model. As soon as there is an uninterrupted connection to the receiver for more than 2 minutes, the flight counter is increased by one.

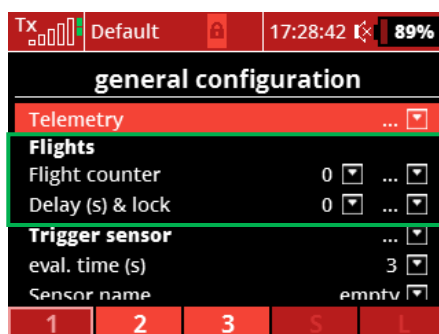


Figure 44: Function block *flights*



The received signal was deliberately used as the data source for flight detection and not, for example, the altitude, since it cannot be assumed that every model contains the corresponding sensor technology. The reception quality, on the other hand, is always transmitted for all receivers. Consequently, the flight counter does not increment automatically during stopovers. For this purpose, the receiver power supply must be briefly interrupted after the intermediate landing.

If the flight counter is to be corrected manually or, for example, flights with the model are to be added before the flight counter is used, the desired number of flights is entered in the *Flight count* line in the left-hand field. In addition, an encoder is assigned. By actuating the encoder, the flight counter is overwritten with the manually entered value. Afterwards, the encoder assignment should be deleted and the input mask should be reset to the value 0 in order to avoid accidental incorrect operation.

When flying at a great distance and/or in unfavourable conditions, the connection of the return channel may be lost for a short time, so that the transmitter no longer receives any telemetry data. If the return channel connection is then re-established and thus data is transmitted again, this would be incorrectly counted as a new flight. To counter this problem, the *Delay (s)* function was introduced. A value in seconds is entered there. Aborts that do not last longer than the entered value will now no longer cause an additional flight to be counted.



The return channel transmits with significantly reduced power compared to the transmit channel and therefore usually aborts first. This means that the model can still be controlled. Nevertheless, aborts of the return channel are to be regarded as a warning signal and should never be ignored lightly.

Frequently, adjustments, etc. are made to the model on the ground which require a connection between transmitter and receiver. As soon as such a connection lasts longer than 2 minutes, it is erroneously counted as a flight. This behaviour can also be prevented. In the *Delay (s) & Backup* line, a backup encoder can be defined in addition to the delay time described above. If this is active, the flight counter works as usual. If, on the other hand, it is inactive, the flight counter will not be incremented even when connected to the receiver (over 2 minutes).

For visualization, the **Display App / Display Colour App** offers a special display tile (see [Facilitating the setup of tiles](#)). Two values are always displayed. To the right of the colon is the total number of flights, to the left of the colon is the number of flights since the last day change (00:00).



Figure 45: Display tile of the *flight counter* function

#### 5.4.1.1.15 Trigger sensor

With the *Trigger Sensor* function, the **Display App / Display Colour App** offers a convenient option for recording maximum values within a time window. The return values of the function can be displayed on a display page via a special display tile (see [Facilitated Tile Setup](#)).

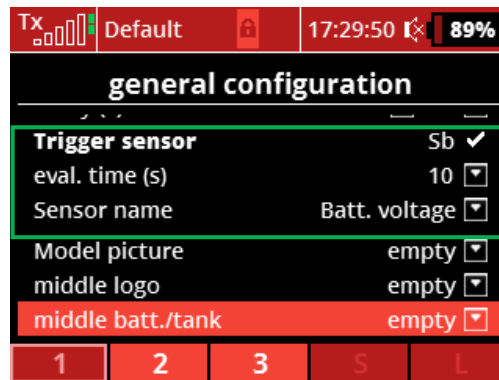


Figure 46: *Trigger sensor* function block

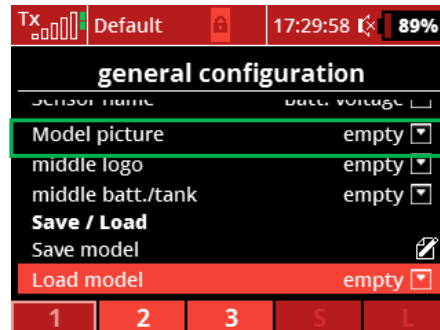
First, the encoder for the start of the evaluation is defined in the line *Trigger sensor*. Furthermore, the time window to be evaluated in seconds and the telemetry value to be evaluated are defined in the lines Evaluated time (*s*) and *Sensor name*.

In the example shown, the speed is evaluated over a period of 10 s with each actuation of the encoder *Sj*. The maximum recorded within this time is then shown in the display tile.

The function monitors a telemetry value over a defined period of time and returns the maximum within the period.

#### 5.4.1.1.16 Model image

The **Display App / Display Colour App** offers the possibility to store a photo as a display tile on a display page (see [Easier setup of tiles](#)). If such a tile is to be used, the desired *image is referred to in the Model image* line.

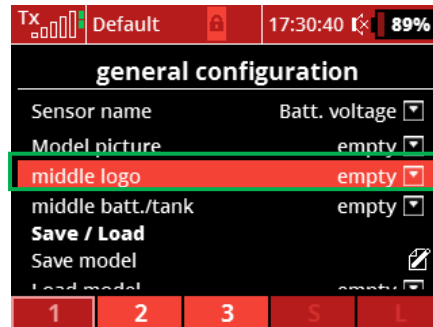


**Figure 47: Model image. Supported format png or jpg in 128x60px.**

The image must be saved on the transmitter under *... \Apps\Display*. A resolution of 128x60px as png or jpg is required. If two images with the same name are available as . png and . jpg, the . png image is always displayed.

#### 5.4.1.1.17 Middle logo

A logo / image can be displayed in the middle column of a display page. A special display tile is provided for this purpose (see [Facilitating the setup of tiles](#)). If such a tile is to be used, the desired image is referenced in the *middle logo* line.



**Figure 48: Middle logo. Supported format png or jpg in 52x153px**

The image must be saved on the transmitter under `...\Apps\Display`. A resolution of 52x153px as png or jpg is required.

#### 5.4.1.1.18 Medium battery/tank

The remaining charge of a battery can be displayed graphically in the middle column of a display page. A special display tile is provided for this purpose (see [Facilitating the setup of tiles](#)). The display consists of a drawn battery and visualizes the charge level via a colored bar. Instead of the drawn battery, the appearance can be brightened up by using a battery symbol as an image file. If such a tile is to be used, reference is made to the desired image in the *middle logo* line.

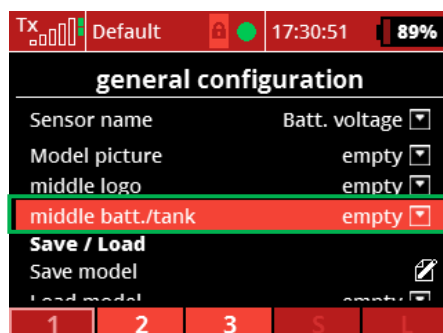


Figure 49: Middle battery/tank

The image must be saved on the transmitter under `...\\Apps\\Display`. A resolution of 52x153px as png is required. In addition, a [battery capacity](#) must have been [defined](#). A selection of suitable battery images is provided at <https://www.thorn-klaus-jeti.de/de/display-app.html>.

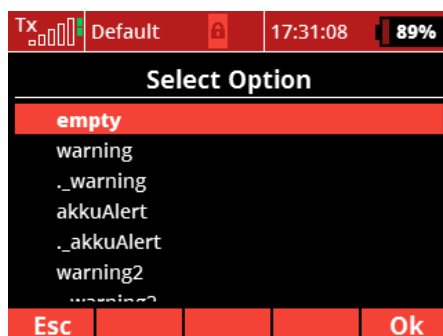


Figure 50: Examples of battery symbols

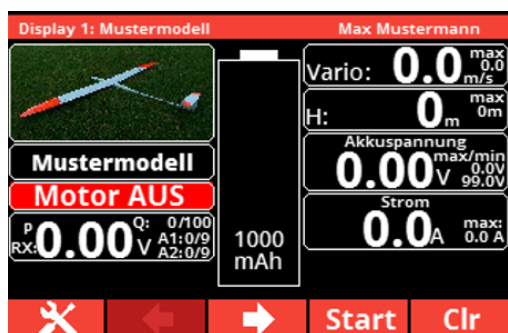


Figure 51: Display page without selected symbol

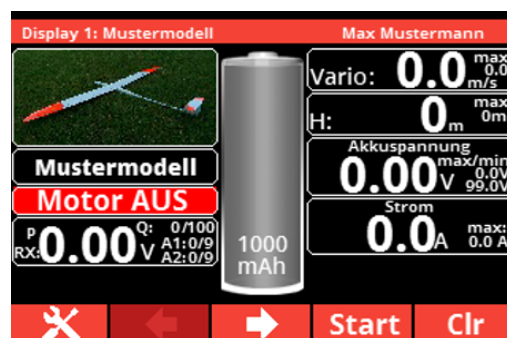


Figure 52: Display page with selected symbol



#### 5.4.1.1.19 Save / Load

The settings of a model (except for the *General configuration* page), i.e. the design of the display pages and the assignment of telemetry addresses can be exported to a txt file. This can then be saved for backup purposes, for example on a computer.

To do this, first enter the desired name of the txt file in the *Save model* line. If you then click on the *S* key, the correspondingly named txt file is saved in the ...\\Apps\\Display folder.



Figure 53: Saving a configuration

Analogous to saving a configuration as described above, such a configuration can also be loaded back into the app (provided that the txt file is located in the ...\\Apps\\Display location): To do this, the desired configuration file is first selected via the *Load model* line. A subsequent click on the *L* key finally loads the configuration from the txt file into the app.

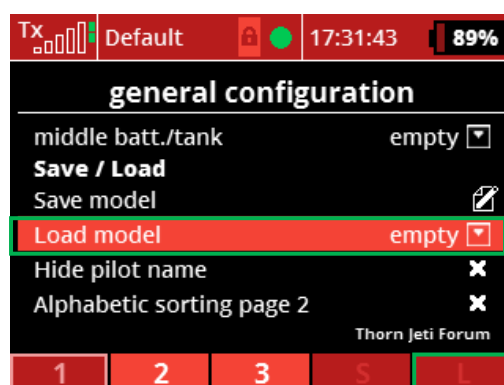


Figure 54: Loading a configuration

#### 5.4.1.1.20 Hide pilot name

By default, the pilot name stored in the transmitter configuration is displayed in the header of the display pages on the right. If this is not desired, the name display can be suppressed by activating the *Hide pilot name* function. The change only becomes active after the transmitter has been restarted!

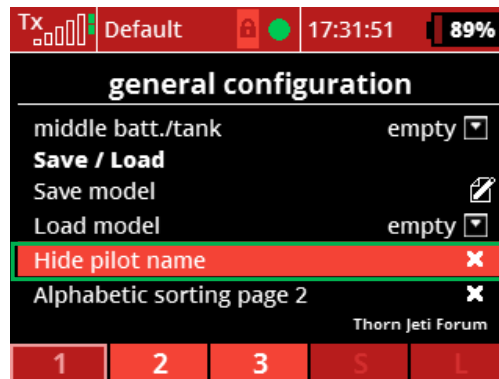


Figure 55: Hide pilot name

#### 5.4.1.1.21 Sort page 2 alphabetically

On page 2, the display pages of the **Display App / Display Colour App** are populated with display tiles (see [Facilitating the setup of tiles](#)). Over time, the amount of available tiles has increased significantly, so the user has to scroll through a long tile list to find the desired tile. This takes time. Alternatively, the tile list can be sorted alphabetically. For this, the function *Sort page 2 alphabetically* must be activated. Please note the safety instructions in chapter [Installation](#)!

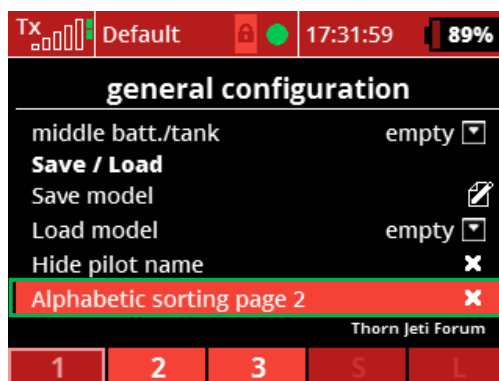


Figure 56: Sort page 2 alphabetically

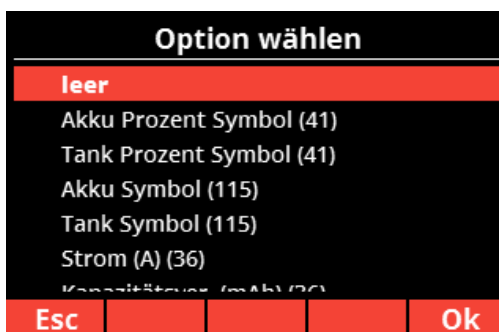


Figure 57: Tile list unsorted

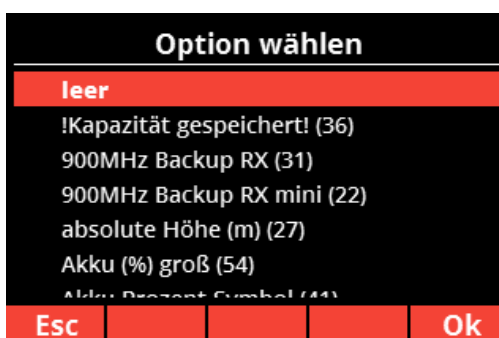


Figure 58: Tile list sorted

### 5.4.2 Option *electric*

Within this group, data on the drive battery/drive batteries is stored and associated functions are configured.

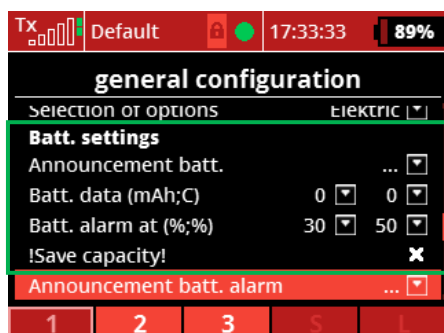


Figure 59: Function block *electrical* part 1

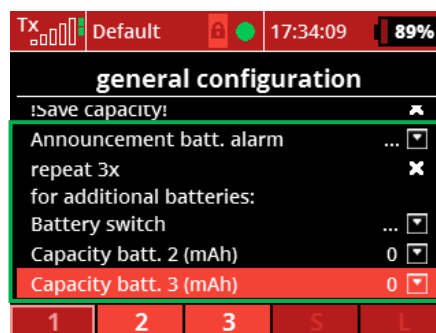


Figure 60: Function block *electrical* part 2

The capacity of the drive battery in mAh (here: 2200) and its load capacity in C (here: 40) are stored in the *Battery data* line (mAh;C). These serve as the basis for calculating the available battery charge in %, as well as the battery load in % of the permissible C rate.

Within the line *Battery alarm at (%;%)* two alarm announcements can be defined. The respective remaining charge in % at which the announcement is to be made is entered in the right window (1st announcement: 50) and/or the left window (2nd announcement: 30). With the first announcement, the remaining battery charge in % is output as a voice announcement. For the 2nd announcement, this announcement is additionally accompanied by a warning announcement. Consequently, it is particularly useful to use the 1st announcement for a prewarning, while the 2nd announcement is used as a signal for an exhausted battery.

Most data sources reset themselves after loss of supply voltage. After re-initialization, 0 mAh is output again for the used battery capacity (an exception is, for example, the UniSens-E from SM Modellbau, which can detect whether the battery has been charged or not based on its voltage when it is reconnected). Under these conditions, if a battery is flown only partially empty and disconnected, but reconnected at a later time without recharging, the sensor transmits 0 mAh as described, so that the available battery capacity is erroneously calculated to 100% and output by the **Display App / Display Colour App**. This poses a high risk of deep discharge and associated damage to the battery or even a crash due to loss of on-board voltage. If a battery is to be used several times without recharging, it is recommended to use the *!Save capacity!* function. If this is active, the current capacity consumption is stored internally when the transmitter is switched off or the model memory is changed (not when the model is switched off!). When the transmitter is switched on again, a query is now made as to whether the capacity value should be reset or counted on from the stored value.

As described above, the 2nd announcement of the remaining capacity is accompanied by a warning in addition to the actual value in %. Within the line *Announcement battery alarm it* can be defined which voice file stored on the transmitter should be played as a warning in this case.

Furthermore, by selecting the *Repeat 3x* function, the 1st announcement can be output three times instead of once.

If batteries of different capacities are to be used alternately in a model, an encoder for switching between different battery data sets can be defined in the *Battery switch* line. Two- or three-stage switches are supported in the *proportional* setting. In total, up to 3 different accumulators are supported. While the capacity of the first battery has already been configured above, the lines *Capacity battery 2 (mAh)* and *Capacity battery 3 (mAh) are used* to store the respective capacity of a possible second and third battery type.



Storage of permissible C rates is not supported for accumulators 2 and 3. All outputs with reference to the C-rate/accumulator load are always based on the C-rate stored for accumulator 1.

### 5.4.3 *Internal combustion engine* options

Within this group, fuel tank data is stored and related functions are configured.

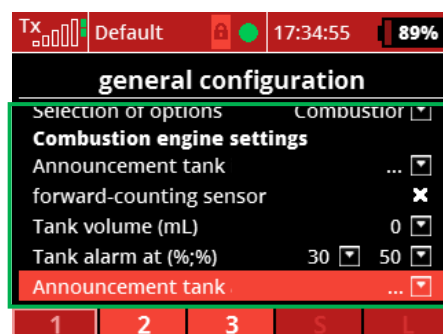


Figure 61: *Combustion* function group

Typically, the fuel consumed is measured by means of a flow sensor in the fuel line. Sensors on the market differ based on their counting method. While sensors counting down from the full tank can be used directly, if sensors counting up from 0 are used, the corresponding function counting *up sensor* must be activated in the **Display App / Display Colour App**.

The volume of the fuel tank in mL is stored in the *Tank volume (mL)* line. This serves as the basis for calculating the available residual volume in %.

Within the line *Tank alarm at (%;%)* two alarm announcements can be defined. The respective fill levels in % at which the announcement is to be made are entered in the right window (1st announcement: 50) and/or the left window (2nd announcement: 30). With the 1st announcement, the remaining fill level in % is output as a voice announcement. With the 2nd announcement, this announcement is additionally accompanied by a warning announcement. Consequently, it is particularly useful to use the 1st announcement for an advance warning, while the 2nd announcement is used as a signal for an empty fuel tank.

#### 5.4.4 Option **Central Box**

In the **Central Box** function block, settings can be made for monitoring the connected power suppliers when using this.

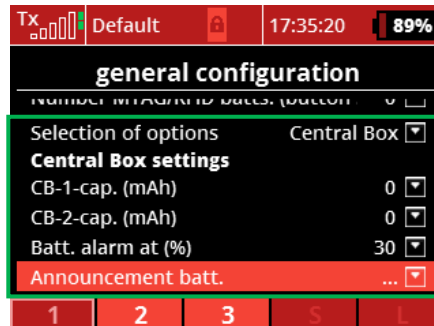


Figure 62: **Central Box** function block

Within the line **CB-1-Cap. (mAh)**, the available capacity of the energy source of the primary input is stored. This is done analogously for the secondary input in the line **CB-2-Cap (mAh)**. These values are used for capacity monitoring and are thus primarily intended for rechargeable batteries. Of course, BEC inputs can also be monitored. In this case, a sensible capacity must be selected accordingly.

A warning threshold can be stored in the line e **Battery alarm at (%)**. If the available residual charge in % at one of the two inputs falls below this value, an alarm is triggered. sound file to be played in case of an alarm is selected in the line **Announcement battery alarm**.

### 5.4.5 *Expert menu* option

Pre-flight alarm for the flight battery in use (This function is intended for experienced users only )

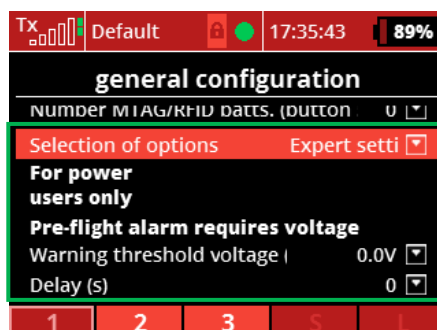


Figure 63: *Expert menu* function block

To prevent starting with a half-full or empty battery, you must enter a voltage against which the test is to be performed under *Warning voltage(V)*. The *delay time(s)* is the time that should elapse between the insertion of the flight battery and the start of the measurement. The maximum value is 10 sec.

Example (The voltages used here are for demonstration purposes only):

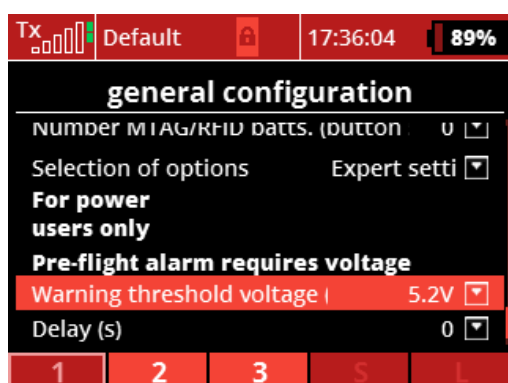


Figure 64: Warning voltage defined



Figure 65: Warning notice

**Abbildung 65:** Warnhinweis remains visible for 20 seconds. One sees the current voltage number and the defined *warning voltage(V)*. In addition, an acoustic alarm is triggered.



## 6. Design of the display pages

The **Display App / Display Colour App** allows up to 3 pages to be switched, which can then be shown in the transmitter display.

### 6.1 Display page registration

Display pages that have already been created (see Facilitating [the setup of tiles](#)) are not automatically shown in the transmitter display.

In the example shown, two display pages have been added to **Stoppuhren/Sensoren** **Telemetrieanzeige** the model memory **sample model** under. Both were created with the **Display App / Display Colour App**. Further information on the menu **Telemetrieanzeige** and switching pages can be found in the operating instructions for the transmitter.

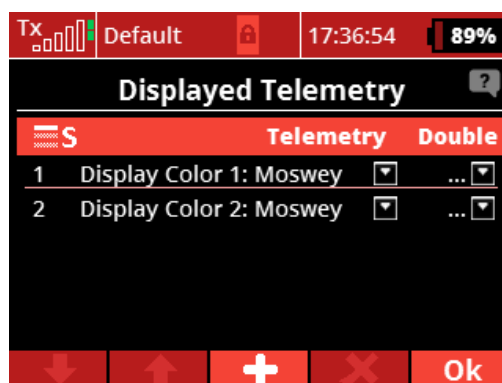


Figure 66: Adding pages

## 6.2 Facilitated tile setup

Display pages are designed within the **Display App / Display Colour App** on page 2. The following is an example of a display page showing various information. It can be seen that a display page usually consists of three columns: a narrow middle column, flanked on the left and right by a wide column. This scheme is only deviated from in rare cases, but more about that later.

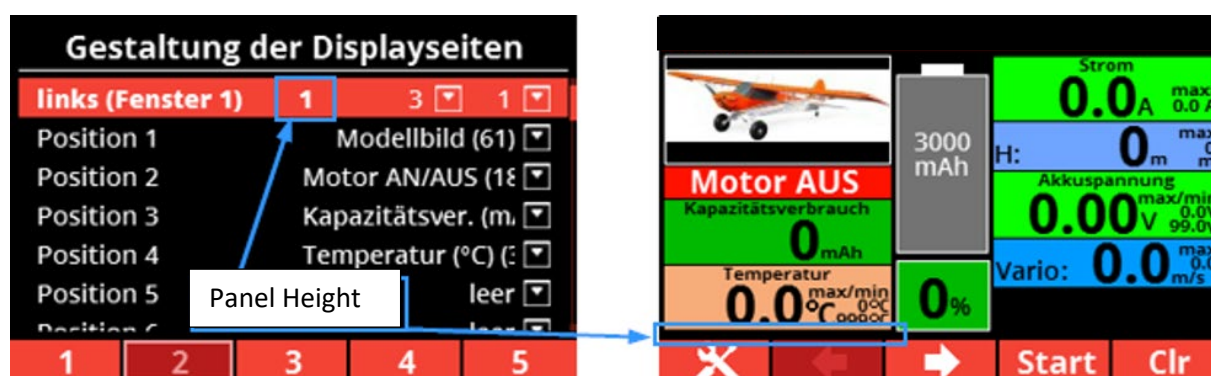


Figure 67: Example display page with default values of border and tile spacing.

On page 2, these columns can be found again with the designations *Left*, *Right* and *Center*. Separate entries are provided for each of the two possible display pages, so that two completely different pages can be designed if required.

Within a column up to 6 display tiles of different values can be stored. These are selected in each case over the options *position 1* to *position 6*. Depending on the size of the display tiles fit, if necessary, but also less than 6 pieces in a column. Behind each value or image that can be added, there is a number in brackets that represents the tile height of the selected option.

The *model image (61)* from Figure 67 left image:

Gestaltung der Displayseiten				
Links (Fenster 1)	94	3	1	
Position 1	Modellbild (61)			
Position 2	leer			
Position 3	leer			
Position 4	leer			
Position 5	leer			
Position 6	leer			
1	2	3	4	5

Figure 68: Model image in position 1

requires exactly 61 pixels of 156 pixels (total height). Depending on which value is behind the display tile, the number of total remaining pixels is then automatically reduced. So you can see right away how many pixels you still have available for the next tiles or if it can still be displayed cleanly without being cut off.

Furthermore, 2 additional variables are defined for each column. By default, these are set to the values **3** and **1**. The first value defines the distance of the top tile of a column from the top edge of the display. The second value, on the other hand, corresponds to the distance between individual display tiles within a column. Shown below is the configuration of the left column of the exemplary display page discussed above.

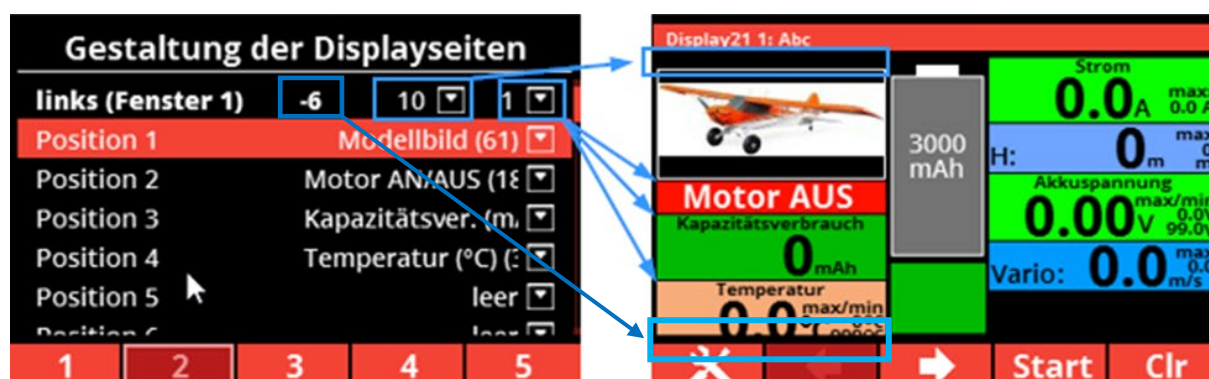


Figure 69 Left the definition of the tiles, right the result

In the picture above, the left display column of page 1 has been equipped with the displays of *model image*, *motor ON/OFF*, *capacity consumption* and *temperature*. You can see that now not all tiles can be displayed completely (-6). Furthermore, the values 10 and 1 were set for illustration, or in the following picture to 0 and 0. Here you can also see nicely that one would still have 10 pixels available downwards.

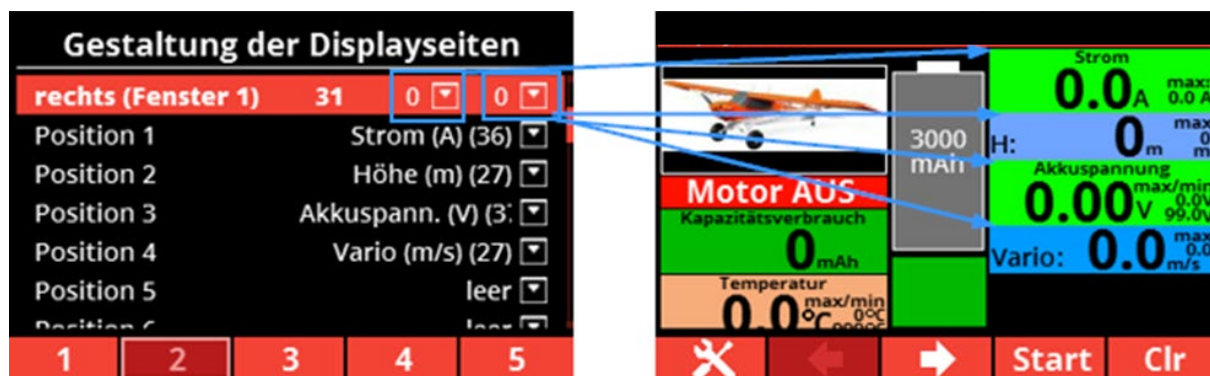


Figure 70: Display page design.

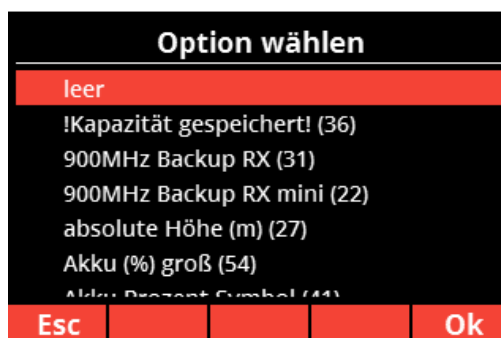


Figure 71: Beginning of the tile list. In brackets the respective height in pixels.

### 6.3 Capacity and tank are displayed in colour

The capacity and the tank filling are colored differently depending on the load / fill level or the set threshold value.

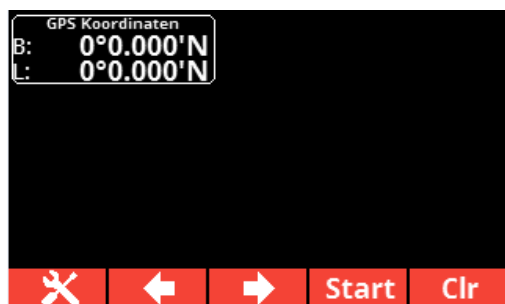


## 6.4 GPS coordinates

The GPS coordinates are used to find a model faster.

However, it is not absolutely necessary to select the GPS coordinates tile for this, since it also serves its purpose in the background and can also be placed on a display page afterwards if necessary (crash, outlanding, etc.).

Another advantage is that even if the transmitter is switched off in the meantime, the last coordinates remain. They are only reset when the sensor is active again. Of course, the sensor as a data source and the telemetry addresses for GPS latitude, GPS longitude must be entered correctly.



Before starting, check whether GPS data is displayed.

## 7. Available display tiles

Name	Description
<i>Telemetry value required</i>	
blank <i>none</i>	No display
Battery Percent Icon <i>Capacity consumption</i> <i>or CalCa App</i> <sup>4</sup>	Current remaining charge of the drive battery in % based on stored capacity and capacity consumption via telemetry <sup>3</sup>
Tank percent icon <i>Fuel gauge</i> <i>or CalCa App</i> <sup>4</sup>	Current tank capacity in % based on stored tank volume and fuel consumption reported via telemetry <sup>3</sup>
Battery icon <i>Capacity consumption</i> <i>or CalCa App</i> <sup>4</sup>	Current remaining charge of the drive battery in % based on stored capacity and capacity consumption reported via telemetry. Graphical display in the form of a battery symbol. Residual charge is displayed via fill level (green above any programmed warning threshold, red below). Stored capacity in mAh and remaining charge in % are displayed as numerical values within the symbol. <sup>3</sup>
Tank icon <i>Fuel gauge</i> <i>or CalCa App</i> <sup>4</sup>	Current tank content in % based on stored tank volume and fuel consumption reported via telemetry. Graphical display in the form of a fill level indicator. Residual content is displayed above the fill level (green above any programmed warning threshold, red below). The stored tank volume in mL and residual content in % are displayed as numerical values within the symbol. <sup>3</sup>
Current (A) <i>Power</i>	Current motor current in A, including maximum value
Capacity ver. (mAh) <i>Capacity consumption</i>	Battery capacity consumed so far in mAh
Model image <i>none</i>	Display of a deposited photo (128x60px png or jpg) <sup>1</sup>
prim. RX <i>none</i>	Receiver voltage in V, including reception quality as Q-value (left: actual value, right: minimum) and A-value of both antennas (left: actual value, right: minimum) of the primary receiver. In contrast to the Q-value, the A-value is calculated internally on a scale from 0 (minimum) to 9 (maximum)
prim. RX mini <i>none</i>	Receiver voltage in V, including reception quality as Q-value (left: actual value, right: minimum) and A-value of both antennas (left: actual value, right: minimum) of the primary receiver in small display tile. In contrast to the Q-value, the A-value is calculated internally on a scale from 0 (minimum) to 9 (maximum)
Height (m) <i>Height</i>	Relative altitude in m including maximum value, related to starting point
Temperature (°C) <i>Temperature</i>	A temperature in °C including minimum and maximum value
Vario (m/s)	Climb/sink rate in m/s including maximum value

<i>Vario</i>	
Speed (rpm) <i>Speed</i>	Speed in rpm including maximum value
Power (W) <i>Power (W)</i>	Motor power in W including maximum value (electric). Sensor value, is supplied e.g. by SM-Modellbau Sensors.
Motor time (min:s) <i>none</i>	Previous motor runtime in min:s
Battery voltage. (V) <i>Battery voltage</i>	Battery voltage in V including minimum and maximum value
Muli6s (V) <i>Mule voltage cell 1-6 weakest cell</i>	6 single cell voltages in V from Muli6s including minimum value over all cells
GPS (km/h) <i>Speed Satellites</i>	GPS speed in km/h including maximum value and the number of currently available GPS satellites.
Temperature 2 (°C) <i>Temperature 2</i>	Temperature 2 in °C and minimum/maximum value
Tank gauge (mL) <i>Fuel gauge</i>	Tank residual capacity in mL <sup>2,3</sup>
Turbine Pu. (V) <i>Turbine pump</i>	Turbine pump voltage in V
Turbine ECU (V) <i>Turbine ECU</i>	Voltage of the turbine ECU in V
G-force <i>G-force</i>	G-force including maximum value
Motor ON/OFF <i>none</i>	Visualization of motor monitoring via colour change <b>green/red</b>
Vibration <i>Vibration</i>	Vibration from acceleration sensor including maximum value, e.g. for selected flybarless systems
Flight time (h:min:s) <i>none</i>	Flight time in h:min:s, hours are displayed as soon as flight time exceeds one hour
PWM (%) <i>PWM</i>	PWM signal in % including maximum value
Model name <i>none</i>	Display of the deposited model name
CB-1 span(V) <i>CB input 1 Voltage</i>	Voltage at input 1 of a Central Box in V including minimum/maximum value
CB-2 span (V) <i>CB input 2 Voltage</i>	Voltage at input 2 of a Central Box in V including minimum/maximum value
CB-1 cap. (mAh) <i>CB input 1 chap.</i>	Capacity consumption at input 1 of a Central Box in mAh
CB-2 Cap. (mAh) <i>CB input 2 chap.</i>	Capacity consumption at input 2 of a Central Box in mAh
CB-1 current (A)	Current at input 1 of a central box in A including maximum value



<i>CB input 1 Current</i>	
CB-2 current (A) <i>CB input 2 Current</i>	Current at input 2 of a central box in A including maximum value
GPS coordinates <i>GPS Latitude</i> <i>GPS Longitude</i>	Current GPS coordinates Latitude and Longitude. Important: the last values remain in the display until valid new values are received. Even if the transmitter has been switched off and on in the meantime.
Mot. ON/OFF small <i>none</i>	Visualization of motor monitoring via colour change green/red as small tile
total road (km) <i>Entire route</i>	Distance traveled in km via GPS. For distances over 100 km, the number of decimal places is reduced by 1 so that the complete display still fits in the display tile.
Speed 2 (rpm) <i>Speed 2 (rpm)</i>	Speed of a second speed source (rpm) including maximum value
Countdown (min:s) <i>none</i>	Remaining time of a stored countdown in min:s
Middle logo <i>none</i>	Display of a stored image logo (ideal for the middle column of a display page)
Min weakest cell (V) <i>weakest cell</i>	Previous minimum value of the weakest battery cell in V from Muli6s
SensorTriggers <i>depending on configuration</i>	Display per encoder (switch, logical switch, etc.) triggered maximum values of a predefined sensor within a predefined time window
Number of flights <i>none</i>	Status of the flight counter, left: Daily counter (reset at 0:00 each time), right: total counter
absolute height (m) <i>Absolute height</i>	Absolute height above sea level in m including maximum value
Flight phase switch <i>none</i>	Display of the current flight phase. Text to be displayed must be stored in the jsn file at the variables "a", "b", "c". The formatting is based on the following example: "a": "1", "a": "2", "a": "3", Instead of sample flight phase 1, 2, 3, the desired display text is entered. It must be ensured that the formatting/layout of the jsn file is not changed under any circumstances, as otherwise malfunctions of the app will occur. Thus, no variable names, indentations, quotation marks, commas, etc. may be changed.
Battery (%) large <i>Capacity consumption</i> <i>or CalCa App</i> <sup>4</sup>	Current remaining charge of the drive battery in % based on stored capacity and capacity consumption reported via telemetry, extra large display tile <sup>3</sup>

Tank (%) large <i>Fuel gauge</i> <i>or CalCa App</i> <sup>4</sup>	Current tank content in % based on stored tank volume and fuel consumption reported via telemetry, extra large display tile <sup>3</sup>
Capacity ver. (mAh) large <i>Capacity consumption</i>	Battery capacity consumed so far in mAh, extra large display tile
Tank quantity (mL) large <i>Fuel gauge</i>	Tank residual content in mL, extra-large display tile
MTAG battery data <i>none</i>	Battery ID, C-rate, number of cycles and number of cells of the battery currently detected at the MTAG sensor.
sec. RX <i>none</i>	Receiver voltage in V, including reception quality as Q-value (left: actual value, right: minimum) and A-value of both antennas (left: actual value, right: minimum) of the secondary receiver. In contrast to the Q-value, the A-value is calculated internally on a scale from 0 (minimum) to 9 (maximum)
sec. RX mini <i>none</i>	Receiver voltage in V, including reception quality as Q-value (left: actual value, right: minimum) and A-value of both antennas (left: actual value, right: minimum) of the secondary receiver in small display tile. In contrast to the Q-value, the A-value is calculated internally on a scale from 0 (minimum) to 9 (maximum)
900MHz Backup RX <i>none</i>	Receiver voltage in V, including reception quality as Q-value (left: actual value, right: minimum) and A-value of both antennas (left: actual value, right: minimum) of the 900MHz backup receiver. In contrast to the Q-value, the A-value is calculated internally on a scale from 0 (minimum) to 9 (maximum).
900MHz Backup RX mini <i>none</i>	Receiver voltage in V, including reception quality as Q-value (left: actual value, right: minimum) and A-value of both antennas (left: actual value, right: minimum) of the 900MHz backup receiver in small display tile. In contrast to the Q-value, the A-value is calculated internally on a scale from 0 (minimum) to 9 (maximum).
C-rate value/percent (MTAG) <i>none</i>	Load of the battery currently detected at the MTAG sensor as C-rate and in % related to the stored maximum C-rate.
Battery name <i>none</i>	Name of the battery currently detected at the MTAG sensor
Power (kW) <i>Battery voltage</i> <i>Power</i>	Motor power in kW including maximum value (electric). No direct sensor value, instead calculated internally from battery voltage and current by the app itself.
Controller opening <i>Controller opening</i>	Controller/gas channel opening in % including maximum value
Landing gear (glider) <i>Landing gear/flaps switch in</i> <i>General configuration</i>	Graphical representation of the landing gear in the retracted and extended state

Flaps (landing flaps) <i>Landing gear/flaps switch in</i> <i>General configuration</i>	Graphical display of flaps in retracted, half extended and extended state. Depending on the definition of the switch (e.g. proportional or on/off) 3 positions or 2 positions are displayed. CAUTION: Cannot be used in conjunction with flaps.
Assist status <i>Assist status</i>	Display of the current assist status. Text to be displayed must be stored in the jsn file at the variables "A0", "A1", "A2" and "A3". The formatting is analogous to the fluphase switch.
Temperatures 1-2 <i>Temperature 1</i> <i>Temperature 2</i>	The engine temperature of cylinders 1 and 2 are displayed in °C, incl. maximum values
Temperatures 1-3 <i>Temperature 1</i> <i>Temperature 2</i> <i>Temperature 3</i>	The engine temperature of cylinders 1, 2 and 3 are displayed in °C, incl. maximum values
Temperature 3 (°C) <i>Temperature 3</i>	Temperature 3 in °C and minimum/maximum value
Temperature 4 (°C) <i>Temperature 4</i>	Temperature 4 in °C and minimum/maximum value
TStatus App <i>none</i>	Status information from parallel TStatus app
Battery Icon Large*** <i>Capacity consumption</i> <i>or CalCa App <sup>4</sup></i>	Analogous to "Battery Icon", but stretched over the entire display height
Flaps (flaps) <i>Landing gear/flaps switch in</i> <i>General configuration</i>	Graphical display of flaps in retracted, half extended and extended state. Depending on the definition of the switch (e.g. proportional or on/off) 3 positions or 2 positions are displayed. CAUTION: Cannot be used in conjunction with landing flaps.
Assist 2 Status <i>Assist status</i>	Analogous to "Assist Status" for another assist receiver or alternative status designations. Variable names are "As0", "As1", "As2" and "As3".
Assist 3 Status <i>Assist status</i>	Analogous to "Assist Status" and "Assist 2 Status" for another Assist receiver or alternative status designations. Variable names are "Ass0", "Ass1", "Ass2" and "Ass3".
Battery utilization <i>Power</i>	Current load of the battery as C-rate and in % relative to the stored maximum C-rate.
Central Box <i>CB input 1 Voltage</i> <i>CB input 2 Voltage</i> <i>CB input 1 chap.</i> <i>CB input 2 chap.</i>	Capacity consumption, as well as actual values for voltage and current for both inputs of a central box

<i>CB input 1 Current</i> <i>CB input 2 Current</i>	
Central Box (%) <i>CB input 1 chap.</i> <i>CB input 2 chap.</i>	Residual capacity of inputs 1 and 2 as bar display <sup>3</sup>
Temperature 5 (°C) <i>Temperature 5</i>	Temperature 5 in °C and minimum/maximum value
Temperatures 1-5 (°C) <i>Temperature 1-5</i>	5 Temperatures in °C including respective maximum value for engines with 5 cylinders
Temperatures 1-4 (°C) <i>Temperature 1-4</i>	4 Temperatures in °C including respective maximum value for engines with 4 cylinders
Distance <i>Distance</i>	Distance from starting point in m including maximum value (GPS)
Height (m) large (full width) <i>Height</i>	Current altitude above start in m. Contrary to the usual layout, this display tile occupies the entire display width and half of the display height.
Capacity (mAh) large (full width) <i>Capacity consumption</i>	Consumed capacity in mAh. Contrary to the usual layout, this display tile occupies the entire display width and half of the display height. <sup>3</sup>
cbBattMon App <i>none</i>	Status information from parallel running CB battery monitor app
CbBattMon App as bar <i>none</i>	Status information from parallel running CB battery monitor app in bar graph display
Pressure sensor <i>Pressure sensor</i>	Pressure in bar
vspeak App Turbine 1 <i>none</i>	Status information from parallel VSPEAK STATUS turbine app
vspeak App Turbine 2 <i>none</i>	Status information from parallel VSPEAK STATUS turbine app for turbine 2
Capacity saved! <i>Capacity consumption</i>	Capacity consumption in mAh analog to capacity consumption. Can be temporarily stored in the general configuration by activating the function "!Save capacity!" and is thus retained even after a restart of the transmitter.
True Air Speed	Speed against air in km/h including maximum value.

<i>True Air Speed</i>	
Battery symbol for 2 motors <i>Capacity consumption</i> <i>Tank capacity</i>	Analogous to "Battery symbol large", but with two narrow displays next to each other. In this way, the respective state of charge can be displayed for twin-engine aircraft with separate batteries. For this purpose, the left battery is defined as usual via capacity information, while the right battery is defined via the tank volume (options Combustion, activate incrementing sensor). For better recognition, the area above the warning threshold is displayed in blue for the left battery and in green for the right battery. <sup>3</sup>
Chassis (engine) <i>Landing gear/flaps switch in General configuration</i>	Graphical representation of the undercarriage in the retracted and extended state
Tow release / <i>Ignition switch in General configuration</i>	Graphical representation of the tow release in locked and unlocked state
Ignition <i>Tow/ignition switch in general configuration</i>	Graphic display of ignition on / off
Show channel <i>Display channel in General Configuration</i>	Displays the position of the selected servo output from -150% to 150%.
Height large <i>Height</i>	Displays the current altitude in meters large, incl. maximum value
Current large <i>Power</i>	Displays the total power consumption in large, incl. maximum value
Voltage large <i>Battery voltage</i>	Displays the voltage of the drive battery in large, incl. maximum value and minimum value
Temperature 6 (°C) <i>Temperature 6</i>	Temperature 6 in °C and minimum/maximum value
Motor temperature (°C) <i>Motor temperature</i>	Temperature of the motor in °C and minimum/maximum value
Controller temperature (°C) <i>Controller temperature</i>	Temperature of the controller in °C and minimum/maximum value
Central Box Temperature (°C) <i>Central Box Temperature</i>	Temperature of the Central Box in °C and minimum/maximum value
BEC temperature (°C)	Temperature of the BEC in °C and minimum/maximum value

<i>BEC temperature</i>	
BEC current (A) <i>BEC current</i>	Current of the BEC incl. maximum value
BEC voltage (V) <i>BEC voltage</i>	Displays the voltage of the BEC in °C, incl. maximum/minimum value
Chassis (Jet) <i>Landing gear/flaps switch in General configuration</i>	Graphical representation of the landing gear for a jet in the retracted and extended state
Smoke <i>Tow/ignition switch in general configuration</i>	Graphical representation of smoke in on and off state
Impeller <i>Tow/ignition switch in general configuration</i>	Graphic representation of the impeller in the retracted and extended state

<sup>1</sup> If a file with the same name is available both as png and jpg, the png is always used.

<sup>2</sup> Some tank sensors output a fill level in % instead of volume direct. In such cases, the tank content (page 1) should then also be set to 100 instead of the actual volume. The displayed value then corresponds to the remaining fill level in %.

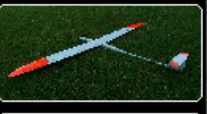



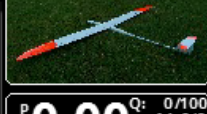


<sup>3</sup> The display is only shown if a battery capacity or tank volume has already been entered in the general configuration.

<sup>4</sup> The values in the CalCa App always have priority over the sensor in the **Display App / Display Colour App**.

## 7.1 Examples of display pages

The following is an exemplary collection of possible display page designs for the **Display App / Display Colour App**. These are intended to illustrate the possibilities offered and to provide inspiration for designing your own pages.

Display v5	Display Colour

<div> <div> Tx Standard 16:49:56 34% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> <div> Mustermodell </div> <div>  50% </div> <div> Kapazitätsver. (mAh) 3000 mAh </div> </div> <div> <div> P: 0.00 V Q: 0/100 RX: A1:0/9 A2:0/9 </div> <div> K: 0.00 W max: 0.00 </div> <div> Motorzeit (min:s) 00:00 </div> <div> Strom 0.0 A max: 0.0 A </div> </div> <div> Start Clr </div> </div>	<div> <div> Tx Standard 12:22:52 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> <div> Mustermodell </div> <div>  100% </div> <div> Kapazitätsverbrauch 3000 mAh </div> </div> <div> <div> P: 0.00 V Q: 0/100 RX: A1:0/9 A2:0/9 </div> <div> Klappen </div> <div> Schleppkupplung </div> <div> Motor AUS </div> </div> <div> <div> Vario: 0.0 m/s max: 0.0 m/s </div> <div> H: 0 m max: 0 m </div> <div> Fahrwerk </div> <div> G-Kraft: 0.00 G max: 0.00 G </div> </div> <div> Start Clr </div> </div>
<div> <div> Tx Standard 16:54:14 32% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> <div> Mustermodell </div> <div>  50% </div> <div> Kapazitätsver. (mAh) 3000 mAh </div> </div> <div> <div> P: 0.00 V Q: 0/100 RX: A1:0/9 A2:0/9 </div> <div> S: 0.00 V Q: 0/100 RX: A1:0/9 A2:0/9 </div> <div> Vario: 0.0 m/s max: 0.0 m/s </div> <div> Flüge 0 : 17 </div> <div> W: 0 max: 0 </div> <div> Motor AUS </div> </div> <div> Start Clr </div> </div>	<div> <div> Tx Standard 12:22:36 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> <div> Mustermodell </div> <div>  100% </div> <div> Akkuspannung 0.0 V max: 0.0 V min: 99.0 V </div> </div> <div> <div> Strom 0 A max: 0.0 A </div> <div> Kapazitätsver. (mAh) 3000 mAh </div> <div> Motor AUS </div> </div> <div> <div> Höhe 0 m max: 0 m </div> <div> BEC Temperatur 0.0 °C max: 99.0 °C min: 0.0 °C </div> </div> <div> Start Clr </div> </div>
<div> <div> Tx Standard 16:57:43 31% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> <div> Geschwindigkeit 0 km/h max: 0 </div> <div> Satelliten: 0 </div> <div> H: 0 m max: 0 m </div> <div> Temperatur 0.0 °C max: 99.0 °C min: 0.0 °C </div> <div> Strom 0.0 A max: 0.0 A </div> </div> <div> <div>  50% </div> <div> Vario: 0.0 m/s max: 0.0 m/s </div> <div> Flüge 0 : 17 </div> </div> <div> Start Clr </div> </div>	<div> <div> Tx Standard 12:22:37 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> <div> Klappen </div> <div> GPS Koordinaten B: 0°0.000'N L: 0°0.000'N </div> <div> Kapazitätsver. (mAh) 3000 mAh </div> </div> <div> <div> Akkuspannung 0.0 V max: 0.0 V min: 99.0 V </div> <div> Höhe 0 m max: 0 m </div> <div> BEC Spannung 0.00 V max: 0.00 V min: 99.00 V </div> </div> <div> Start Clr </div> </div>
<div> <div> Tx Standard 7:49:27 27% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> <div> Kapazitätsver. (mAh) 50% </div> <div> Mustermodell </div> <div>  3000 mAh </div> </div> <div> <div> Akkuspannung 0.00 V max: 0.00 V min: 99.00 V </div> <div> Auslastung des Akkus 0 °C 0% </div> <div> Flüge 0 : 17 </div> </div> <div> Start Clr </div> </div>	<div> <div> Tx Standard 12:22:27 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> <div>  50% </div> <div> Central Box 0 mAh 0.00 V 0.00 A </div> <div> 70% 60% </div> </div> <div> <div> K: 0.00 W max: 0.00 </div> <div> Smoke </div> <div> Motor AUS </div> </div> <div> <div> Fahrwerk </div> <div> Flüge 0 : 0 </div> </div> <div> Start Clr </div> </div>

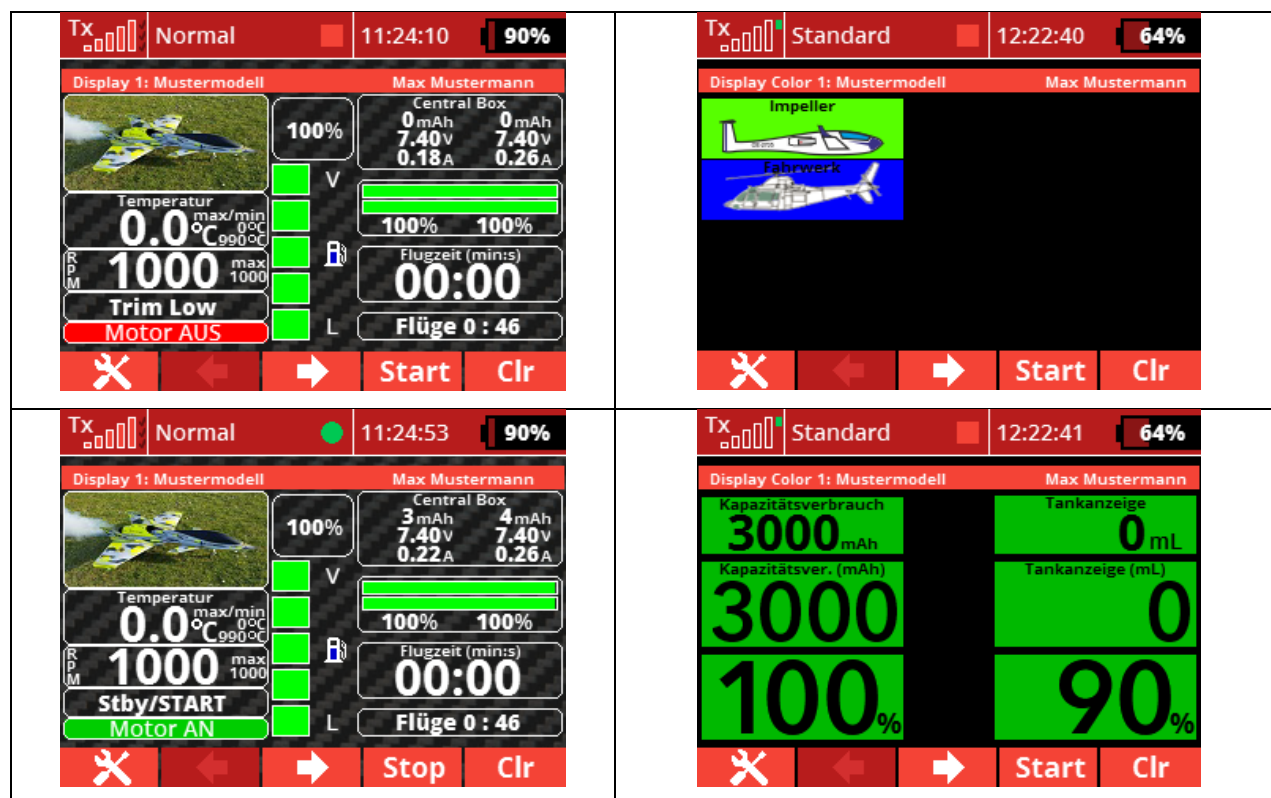


<div> Tx  Standard 8:11:21 27% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> </div> <div> Countdown (min:s) 10:00 </div> <div> Motorzeit (min:s) 00:00 </div> <div> Flugzeit (min:s) 00:00 </div> <div> Entfernung 0m </div> <div> P 0.00 Q: 0/100 RX: 0.00 V A1: 0/9 A2: 0/9 </div> <div> Motor AUS </div> <div> Kapazitätsverbrauch 1500mAh </div> <div> 50% Hacker 3S 3000mAh </div> <div> Start Clr </div>	<div> Tx  Standard 12:22:18 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> </div> <div> Geschwindigkeit 0 km/h max 0 </div> <div> Satelliten: 0 </div> <div> gesamte Strecke 0.000 km </div> <div> Fahrwerk </div> <div> Flüge 0 : 0 </div> <div> 90% </div> <div> 0.00 max 0.00 </div> <div> Smoke </div> <div> Motor AUS </div> <div> Start Clr </div>
<div> Tx  Höhe dazu 8:15:38 28% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> </div> <div> Countdown (min:s) 10:00 </div> <div> Motorzeit (min:s) 00:00 </div> <div> Flugzeit (min:s) 00:00 </div> <div> Entfernung 0m </div> <div> P 0.00 Q: 0/100 RX: 0.00 V A1: 0/9 A2: 0/9 </div> <div> Motor AN </div> <div> Kapazitätsverbrauch 1500mAh </div> <div> 50% Hacker 3S 3000mAh </div> <div> Stop Clr </div>	<div> Tx  Standard 12:22:56 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> </div> <div> 90% </div> <div> 0.00 max 0.00 </div> <div> Smoke </div> <div> Motor AUS </div> <div> Start Clr </div> <div> Tankanzeige 0mL </div> <div> Zylinder 1 0°C 0c </div> <div> Zylinder 2 0°C 0c </div> <div> Zylinder 3 0°C 0c </div> <div> Fahrwerk </div> <div> Flüge 0 : 0 </div>
<div> Tx  Höhe dazu 8:16:41 27% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> </div> <div> Countdown (min:s) 10:00 </div> <div> Motorzeit (min:s) 00:00 </div> <div> Flugzeit (min:s) 00:00 </div> <div> Entfernung 0m </div> <div> P 0.00 Q: 0/100 RX: 0.00 V A1: 0/9 A2: 0/9 </div> <div> Motor AN </div> <div> Kapazitätsverbrauch 1500mAh </div> <div> 50% Hacker 3S 3000mAh </div> <div> Stop Clr </div>	<div> Tx  Standard 12:22:00 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> </div> <div> 90% </div> <div> 0.00 max 0.00 </div> <div> Smoke </div> <div> Motor AUS </div> <div> Start Clr </div> <div> Zylinder 1 0°C 0c</div> <div> Zylinder 2 0°C 0c</div> <div> Zylinder 3 0°C 0c</div> <div> Zylinder 4 0°C 0c</div> <div> Flugzeit (min:s) 00:00</div> <div> Motorzeit (min:s) 00:00</div> <div> P 0.00 Q: 0/100 RX: 0.00 V A1: 0/9 A2: 0/9</div> <div> G-Kraft: 0.00G max: 0.00G</div> <div> Assist aus</div>
<div> Tx  Standard 16:30:06 41% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> </div> <div> Central Box 0mAh 0mAh 0.00V 0.00V 0.00A 0.00A </div> <div> 50% </div> <div> Zylinder 1 0°C 0c</div> <div> Zylinder 2 0°C 0c</div> <div> Zylinder 3 0°C 0c</div> <div> Zylinder 4 0°C 0c</div> <div> Zylinder 5 0°C 0c</div> <div> PWM 0% max: 0%</div> <div> Flugzeit (min:s) 00:00</div> <div> 0</div> <div> P 0.00 Q: 0/100 RX: 0.00 V A1: 0/9 A2: 0/9</div> <div> S 0.00 Q: 0/100 RX: 0.00 V A1: 0/9 A2: 0/9</div> <div> Start Clr </div>	<div> Tx  Standard 12:22:08 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> </div> <div> Impeller </div> <div> JMW model </div> <div> Start Clr </div>

<p>Tx  Standard 16:32:02 41%</p> <p>Display 1: Mustermodell Max Mustermann</p> <p>Central Box 0mAh 0mAh 0.00V 0.00V 0.00A 0.00A</p> <p>50%</p> <p>PWM 0% max: 0%</p> <p>Flugzeit (mins) 00:00</p> <p>Temperatur max/min 0.0°C 0.0°C</p> <p>Drucksensor 0.0 bar</p> <p>Start Clr</p>	<p>Tx  Standard 12:22:52 64%</p> <p>Display Color 1: Mustermodell Max Mustermann</p> <p>Temperatur max/min 0.0°C 0.0°C</p> <p>Temperatur 2 max/min 0.0°C 0.0°C</p> <p>Temperatur 3 max/min 0.0°C 0.0°C</p> <p>Temperatur 4 max/min 0.0°C 0.0°C</p> <p>Temperatur 5 max/min 0.0°C 0.0°C</p> <p>Temperatur 6 max/min 0.0°C 0.0°C</p> <p>BEC Temperatur max/min 0.0°C 0.0°C</p> <p>Motor Temperatur max/min 0.0°C 0.0°C</p> <p>Start Clr</p>
<p>Tx  Standard 16:33:47 38%</p> <p>Display 1: Mustermodell Max Mustermann</p> <p>Central Box 0mAh 0mAh 0.00V 0.00V 0.00A 0.00A</p> <p>50%</p> <p>PWM 0% max: 0%</p> <p>Flugzeit (mins) 00:00</p> <p>Temperatur max/min 0.0°C 0.0°C</p> <p>Drucksensor 0.0 bar</p> <p>Start Clr</p>	<p>Tx  Standard 12:22:15 64%</p> <p>Display Color 1: Mustermodell Max Mustermann</p> <p>Zylinder 1 0°C 0°C</p> <p>Zylinder 2 0°C 0°C</p> <p>Zylinder 3 0°C 0°C</p> <p>Zylinder 4 0°C 0°C</p> <p>Zylinder 5 0°C 0°C</p> <p>Central Box Temperatur max/min 0.0°C 0.0°C</p> <p>Regler Temperatur max/min 0.0°C 0.0°C</p> <p>Start Clr</p>
<p>Tx  Standard 16:45:12 35%</p> <p>Display 1: Mustermodell Max Mustermann</p> <p>Regleröffnung 0% max: 0%</p> <p>Multis (V) 1) 0.00 4) 0.00 2) 0.00 5) 0.00 3) 0.00 6) 0.00</p> <p>schwächste Zelle 0.00</p> <p>Temperatur max/min 0.0°C 0.0°C</p> <p>50%</p> <p>Auslastung des Akkus 0% 0°C</p> <p>schwächste Zelle min 4.20 V</p> <p>Countdown (mins) 10:00</p> <p>Start Clr</p>	<p>Tx  Standard 12:22:03 64%</p> <p>Display Color 1: Mustermodell Max Mustermann</p> <p>Mustermodell</p> <p>Zylinder 1 0°C 0°C</p> <p>Zylinder 2 0°C 0°C</p> <p>70% 60%</p> <p>Central Box 0mAh 0mAh 0.00V 0.00V 0.00A 0.00A</p> <p>Motor AUS</p> <p>2000mAh 2000mAh</p> <p>Entfernung max: 0m</p> <p>Drucksensor 0.0 bar</p> <p>Flüge 0 : 0</p> <p>Start Clr</p>
<p>Tx  Standard 16:42:23 36%</p> <p>Display 1: Mustermodell Max Mustermann</p> <p>Regleröffnung 0% max: 0%</p> <p>Multis (V) 1) 0.00 4) 0.00 2) 0.00 5) 0.00 3) 0.00 6) 0.00</p> <p>schwächste Zelle 0.00</p> <p>Temperatur max/min 0.0°C 0.0°C</p> <p>50%</p> <p>Sensor triggern</p> <p>schwächste Zelle min 4.20 V</p> <p>Start Clr</p>	<p>Tx  Standard 12:22:17 64%</p> <p>Display Color 1: Mustermodell Max Mustermann</p> <p>Klappen 100%</p> <p>Höhe 0m max: 0m</p> <p>Flüge 0 : 0</p> <p>Servo Kanal (max/min) 82% 100% -84%</p> <p>Schleppkupplung</p> <p>Akkuspannung max/min 0.00V 0.00V</p> <p>W: 0 max: 0</p> <p>Motor AUS</p> <p>Start Clr</p>

<div> <div> Tx Standard 16:44:45 35% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> <div> Regleröffnung 0% max: 0% </div> <div> Multi (V) 1) 0.00 4) 0.00 2) 0.00 5) 0.00 3) 0.00 6) 0.00 schwächste Zelle 0.00 </div> <div> Temperatur 0.0°C max/min 0°C 99.0°C </div> </div> <div> <div> 50% </div> <div> Auslastung des Akkus 0°C 0% </div> <div> schwächste Zelle min 4.20 V </div> <div> Countdown (min:s) 10:00 </div> </div> <div> <div> 3000 mAh </div> <div> Start Clr </div> </div> </div>	<div> <div> Tx Standard 12:22:30 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> <div> Klappen Klappen Schleppkupplung Zündung </div> <div> JMTI model </div> <div> Smoke Fahrwerk Fahrwerk Fahrwerk </div> </div> <div> <div> Start Clr </div> </div> </div>
<div> <div> Tx Standard 16:58:34 30% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> <div> Geschwindigkeit 0 km/h max 0 </div> <div> H: 0 m max 0m </div> <div> Temperatur 0.0°C max/min 0°C 99.0°C </div> <div> Strom 0.0 A max: 0.0 A </div> </div> <div> <div> 50% </div> <div> G-Kraft: 0.00 G max: 0.00 G </div> <div> Vario: 0.0 m/s max: 0.0 m/s </div> <div> Flüge 0 : 17 </div> <div> Kapazitätsverbrauch 0 mAh </div> </div> <div> <div> 3000 mAh </div> <div> Start Clr </div> </div> </div>	<div> <div> Tx Standard 12:22:47 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> <div> Countdown (min:s) 10:00 </div> <div> Flugzeit (min:s) 00:00 </div> <div> Flüge 0 : 0 </div> <div> JMTI model </div> <div> H: 0 m max 0 m </div> <div> Vario: 0.0 m/s max: 0.0 m/s </div> <div> BEC Spannung 0.00 V max/min 0.0V 99.0V </div> <div> BEC Temperatur 0.0°C max/min 0°C 99.0°C </div> <div> RX: 0.00 V Q: 0/100 A1: 0/9 A2: 0/9 </div> </div> <div> <div> Start Clr </div> </div> </div>
<div> <div> Tx Standard 17:01:17 30% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> <div> True Air Speed 0 km/h max 0 </div> <div> H: 0 m max 0m </div> <div> Temperatur 0.0°C max/min 0°C 99.0°C </div> <div> Strom 0.0 A max: 0.0 A </div> </div> <div> <div> 50% </div> <div> G-Kraft: 0.00 G max: 0.00 G </div> <div> Vario: 0.0 m/s max: 0.0 m/s </div> <div> Flüge 0 : 17 </div> <div> Kapazitätsverbrauch 0 mAh </div> </div> <div> <div> 3000 mAh </div> <div> Start Clr </div> </div> </div>	<div> <div> Tx Standard 12:22:59 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> <div> BEC Temperatur 0.0°C max/min 0°C 99.0°C </div> <div> BEC Strom 0.0 A max: 0.0 A </div> <div> BEC Spannung 0.00 V max/min 0.0V 99.0V </div> <div> Servo Kanal (max/min) 0% 0% </div> <div> Akkuspannung 0.00 V max/min 0.0V 99.0V </div> <div> Turbine Pumpe 0.00 V </div> <div> Turbine ECU 0.00 V </div> <div> CB-Eingang 1 Spannung 0.00 V max/min 0.0V 99.0V </div> </div> <div> <div> Start Clr </div> </div> </div>
<div> <div> Tx Standard 12:22:00 64% </div> <div> Display 1: Mustermodell Max Mustermann </div> <div> <div> 0 m </div> <div> Vario: 0.0 m/s max: 0.0 m/s </div> <div> Motor AUS </div> <div> 0 mAh </div> </div> <div> <div> Start Clr </div> </div> </div>	<div> <div> Tx Standard 12:22:00 64% </div> <div> Display Color 1: Mustermodell Max Mustermann </div> <div> <div> 0 m </div> <div> Vario: 0.0 m/s max: 0.0 m/s </div> <div> Motor AUS </div> <div> 3000 mAh </div> </div> <div> <div> Start Clr </div> </div> </div>

<p>Tx  Standard 8:05:41 28%</p> <p>Display 1: Mustermodell Max Mustermann</p> <p>CB-Eingang 1 Strom 0.0 A max: 0.0 A</p> <p>CB-Eingang 2 Strom 0.0 A max: 0.0 A</p> <p>70% 50%</p> <p>Flüge 0 : 17</p> <p>Motor AUS</p> <p>3000 mAh</p> <p>3000 mAh</p> <p>0.00 V max/min 0.0V 99.0V</p> <p>0.00 V max/min 0.0V 99.0V</p> <p>Start Clr</p>	<p>Tx  Standard 12:22:46 64%</p> <p>Display Color 1: Mustermodell Max Mustermann</p> <p>Entfernung 0 m max: 0m</p> <p>gesamte Strecke 0.000 km</p> <p>BEC Spannung 0.00 V max/min 0.0V 99.0V</p> <p>Servo Kanal (max/min) 0% 0%</p> <p>2000 mAh</p> <p>Akkuspannung max/min 0.00 V max/min 0.0V 99.0V</p> <p>Vibration 0 max: 0</p> <p>Zündung</p> <p>CB-Eingang 1 Spannung 0.00 V max/min 0.0V 99.0V</p> <p>Start Clr</p>
<p>Tx  Standard 12:22:07 64%</p> <p>Display 1: Mustermodell Max Mustermann</p> <p>Impeller</p> <p>Start Clr</p>	<p>Tx  Standard 12:22:59 64%</p> <p>Display Color 1: Mustermodell Max Mustermann</p> <p>Klappen</p> <p>Klappen</p> <p>Schleppkupplung</p> <p>Zündung</p> <p>Smoke</p> <p>Fahrwerk</p> <p>Fahrwerk</p> <p>Fahrwerk</p> <p>Start Clr</p>
<p>Tx  Standard 12:22:50 64%</p> <p>Display 1: Mustermodell Max Mustermann</p> <p>Klappen</p> <p>Klappen</p> <p>Schleppkupplung</p> <p>Zündung</p> <p>Smoke</p> <p>Fahrwerk</p> <p>Fahrwerk</p> <p>Fahrwerk</p> <p>Start Clr</p>	<p>Tx  Standard 12:22:35 64%</p> <p>Display Color 1: Mustermodell Max Mustermann</p> <p>Klappen</p> <p>Klappen</p> <p>Schleppkupplung</p> <p>Zündung</p> <p>Smoke</p> <p>Fahrwerk</p> <p>Fahrwerk</p> <p>Fahrwerk</p> <p>Start Clr</p>
<p>Tx  Normal 11:24:02 90%</p> <p>Display 1: Mustermodell Max Mustermann</p> <p>Central Box</p> <p>407 mAh 820 mAh</p> <p>7.40 V 7.40 V</p> <p>0.18 A 0.28 A</p> <p>Temperatur 0.0 °C max/min 0.0C 99.0C</p> <p>1000 max 1000</p> <p>Trim Low</p> <p>Motor AUS</p> <p>84% 68%</p> <p>Flugzeit (min:s) 00:00</p> <p>Flüge 0 : 46</p> <p>Start Clr</p>	<p>Tx  Standard 12:22:13 64%</p> <p>Display Color 1: Mustermodell Max Mustermann</p> <p>Impeller</p> <p>Fahrwerk</p> <p>Start Clr</p>



## 8. Help & Feedback

You don't get on despite these instructions, have a problem or would simply like to give feedback? There is a lively community around the app in the German Jetiforum. [Here](#) you will get help!

## 9. Disclaimer

Despite careful and conscientious checking, errors can unfortunately never be ruled out with 100% certainty. Therefore, no liability can be assumed for damages resulting from the use of the app and any consequential damages.

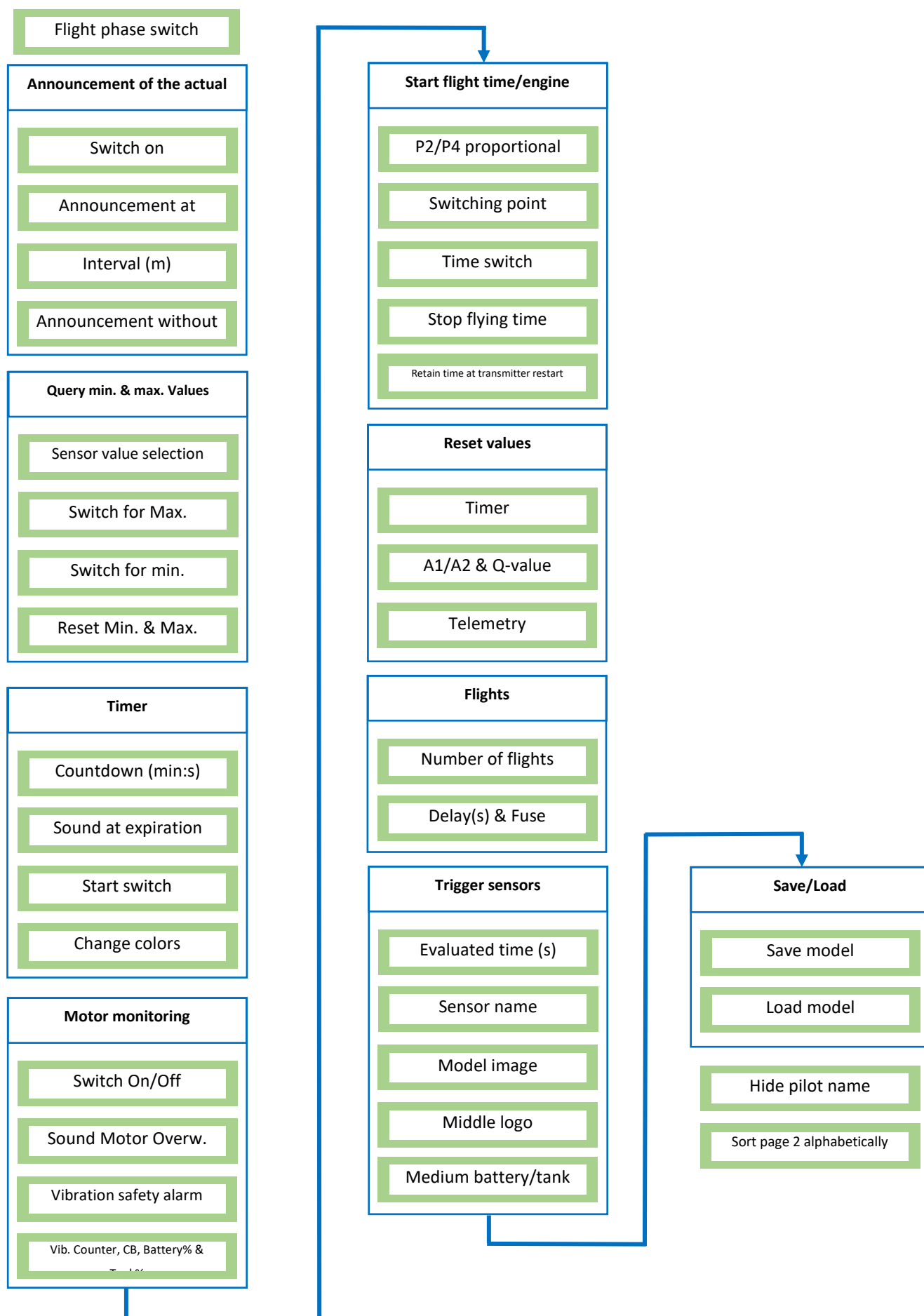
## 10. Menu tree

If you click with the mouse on one of the menu boxes on the following page, you will be directed to the appropriate section in the manual.



## 10.1 General configuration





## 11. Overview of selected sensors

Pos.	Sensor	As-sist	CB200	MGPS	MUI	Mule	SM GPS Logger	UniSens- E	VSECU	YGE
01	Battery voltage				1	9		1		2
02	Power				2			2		6
03	Capacity consumption				3			3		9
04	Entire route			13			13			
05	Height	12		9			6	5		
06	Vario	10					8	6		
07	Temperature	14					19	12	1	10
08	Speed							7	2	1
09	Power (W)							9		
10	Voltage cell 1					1				
11	Voltage cell 2					2				
12	Voltage cell 3					3				
13	Multi voltage cell 4					4				
14	Multi voltage cell 5					5				
15	Multi voltage cell 6					6				
16	Weakest cell			8		7				
17	Speed			5			5			
18	Satellites						14			
19	Temperature 2									
20	Fuel gauge								6	
21	Turbine pump								4	
22	Turbine ECU								5	
23	G-force	18								
24	Vibration									
25	PWM									
26	CB input 1 Voltage		1							5
27	CB input 2 Voltage		2							7
28	CB input 1 chap.		5							
29	CB input 2 chap.		6							
30	CB input 1 Current		3							
31	CB input 2 Current		4							
32	Absolute height	11					7	6		
33	Control opening									
34	Assist status	19								3
35	Temperature 3									
36	Temperature 4									
37	Temperature 5									
38	Distance						12			
39	Pressure sensor									



Pos.	Sensor	As-sist	CB200	MGPS	MUI	Mule	SM GPS Logger	UniSens-E	VSECU	YGE
40	True Air Speed									
41	Speed 2									
42	GPS Latitude						3			
43	GPS Longitude						4			
44	Temperature 6									
45	Motor temperature									
46	Controller temperature									
47	Central Box Temp.									
48	BEC temperature									
49	BEC current									
50	BEC voltage									