Safety

⚠️ *Soaring Circuits and their resellers are not responsible for the use of this product or any damage or injury which may result from its use.*

⚠️ *This device is for use by adults only.*

⚠️ *An electric motor system which is connected to a battery may start unexpectedly at any time. Always assume that the motor may start and stay clear of the propeller and properly restrain the model at all times when not being flown.*

⚠️ *When working on the model with the battery connected it is suggested that you remove the propeller.*

⚠️ *Always observe all local laws regarding the operation of radio controlled aircraft.*

Introduction

The CAMf5j is a simple to operate device that fully complies with the FAI's specification of an F5J Altimeter/Motor Run Timer (AMRT). The definition of an F5J AMRT is provided in the Electronic Devices in Competition volume of the Aeromodeling section of the FAI Sporting Code. The CAMf5j is fully approved for international F5J competition under the references AMRT016 and AMRT017. The CAMf5j functions solely as a F5J AMRT meaning that no computer or programming of any kind is required to use it. You simply install the CAMf5j and fly.

Installing your CAMf5j

To install the CAMf5j, simply insert it between your receiver and ESC. If you have your receiver running from a separate battery, the CAM should be powered from the receiver. In other words, the power line should be broken between the CAM and ESC, *not* between the receiver and the CAM. If you have a different power configuration or you have any questions about your installation, please contact us for assistance.

Do *not* install the CAMf5j in an airtight portion of the airframe. Do *not* try to seal the CAMf5j in any type of waterproof bag or bladder. The CAMf5j needs to be able to sense atmospheric pressure in order to function properly.

Using your CAMf5j

The CAMf5j is very straightforward to operate. With your model sitting on the ground, turn on your transmitter and then power up your model. The CAMf5j will display the current firmware version for approximately 5 seconds and then the display will change to the last recorded start height (or dashes - see below). Once the display changes from the firmware version to start height, the CAMf5j is ready to fly. Note that you must leave the model on the ground while the firmware version is being displayed since the zero height reference is being determined during this time.

Once the CAMf5j is ready to fly, you may launch whenever you're ready. Once you launch, you can manually turn the motor off when you reach your desired launch height, or let the CAMf5j's 30 second timer turn the motor off automatically. After your flight is complete, the CAMf5j will display your start height until it is powered down. If you ever forget what your start height was, you can always power up your model again and the CAMf5j will display your previous start height. In fact, the CAMf5j will continue to save your last start height until another motor run is initiated.

It's important to note that as specified by the FAI rules, the CAMf5j will only allow for one motor run. Once your motor shuts down, either manually by you or via the 30 second timer, It will *not* let you restart your motor. So, if you want to test run your motor, afterwards you must power the model down, place it on the ground, and power it up again to reset the CAMf5j.

What do the dashes (---.-) mean?

FAI rules state that a valid F5J flight consists of a motor on command, a motor off command and then further sampling of start height for a 10 second period after motor off. If the CAMf5j is powered down any time before this process is complete, the next time it is powered up it will display a series of dashes indicating that the a valid start height was not recorded for the previous flight. This can happen if you test run your motor on the ground, for example, but it is very unlikely to occur during an actual flight.

Radio compatibility

As specified by the FAI rules, the CAMf5j is designed to work with receiver pulses that range from 1.00ms wide for the lowest throttle setting to 2.00ms wide for the highest throttle setting. Slight deviations from these pulse widths are acceptable but you should try to get close to these values with your radio system. Since different radio manufacturers use different standards for pulse widths, the following table shows the recommended throttle channel limits for various popular radio brands.

Radio Brand	Minimum Throttle	Maximum Throttle
Airtronics	-125%	+125%
FrSky	-98%	+98%
Futaba	-121%	+112%
Hitec	-130%	+120%
Jeti	-100%	+100%
JR/Spektrum	-125%	+125%

Questions about your CAMf5j?

If you have any questions about the installation or use of your CAMf5j altimeter, please contact us at soaringcircuits@gmail.com and we will be happy to assist you.

Soaring Circuits

CAM F5J

Competition Altimeter for Models
for FAI F5J class competition

User's Manual
for firmware v1.3

Soaring Circuits

Electronics for the R/C Soaring Enthusiast

Specs

Size: 1-1/8" long x 3/4" wide x 1/4" thick (29mm x 21mm x 6.5mm)

Weight: 0.35 ounce (9.5 grams)

Leads: 11 inches total length (280mm), 22AWG

Power Supply: 3.2 to 8 volts

Current Draw: approximately 25mA

Operating Temperature: 32F to 140F (0C to 60C)

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