



# MILITKY CUP

**38. Internationales Elektroflug Meeting**

**30. Mai bis 1. Juni 2014**

**FAI Open International**

**F5B RC ELECTRIC MOTOR GLIDER**

**F5F ELECTRIC 4 CELL MMOTOR GLIDER**

**Freitag und Samstag Wettkämpfe**

**Sonntag Gross-Segler und Flugshow**



**in memoriam Fred Militky**

Er war ein grosser Pionier und  
Förderer des Elektroflugs

## Einladung – Invitation

### MILITKY CUP 2014

Das internationale Elektroflug Meeting wurde 1973 gegründet und gehört somit zu den ersten Elektroflug Wettbewerben der Welt.

#### Organisator

Fédération Aéronautique Internationale FAI  
Aero Club der Schweiz  
Modellflugverein Pfäffikon

#### Wettbewerbs-Klassen

F5B Elektro-Segelmodelle Limiter  
**F5B Elektro-Segelsmodelle Telemetrie**  
F5F Elektro-Segelmodelle (4 Zellen)

#### Reglemente

Dieser Wettbewerb wird nach folgenden Regeln durchgeführt: FAI SPORTING CODE  
Section 4 – Aeromodelling, Volume F5  
Radio Control Electric Powered Model Aircraft,  
Ausgabe 14 <http://www.fai.org/ciam-documents>

#### Regeln des Veranstalters

Die Konkurrenten der Segelflugkategorien F5B und F5F müssen einen zusätzlichen Empfänger mitbringen.

#### Spezialpreis für Telemetrie-Benutzer

Der Veranstalter stellt F5B Telemetrie Systeme zur Verfügung. Bei einem Minimum von 6 Piloten wird ein Testwettbewerb durchgeführt. Die Gewinner erhalten Spezialpreise. Im Anhang sind die wichtigsten Infos zum Telemetrie System von Steve Neu zu finden.

#### Mitglieder FAI Jury

Manfred Lex       AUT   Präsident  
Herbert Locklair   GER  
Adrian Puica       ROU

#### Wettbewerbsleiter

Emil Giezendanner  
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#### Klassierung

Nach Möglichkeit 4 Flüge. Wenn mehr als drei Durchgänge geflogen werden, wird das schlechteste Resultat gestrichen. Bei Punktegleichheit entscheidet das bessere Streichresultat

#### Startgeld

EUR 30.00 (Junioren die Hälfte). Bezahlbar beim Einschreiben vor Wettbewerbsbeginn.

### MILITKY CUP 2014

The international Electric Flight Meeting was founded 1973 and is one of the first electric flight contest of the world.

#### Organizer

Fédération Aéronautique Internationale FAI  
Aero Club of Switzerland  
Aeromodelling Club of Pfäffikon

#### Contest categories

F5B Electric motor glider limiter  
**F5B Electric motor glider telemetry**  
F5F Electric 4 cell motor glider

#### Rules

This contest will run according to the FAI FAI SPORTING CODE  
Section 4 – Aeromodelling, Volume F5  
Radio Control Electric Powered Model Aircraft  
2014 Edition <http://www.fai.org/ciam-documents>

#### Local Rules

Competitors of the glider categories F5B and F5F must bring an additional receiver to the competition.

#### Special prize for telemetry users

Telemetry systems will be available. With a minimum of 6 competitors we will have a test competition. The winners will be awarded with special prizes. See the description of the telemetry system of Steve Neu in the annex.

#### FAI Jury Members

Manfred Lex       AUT   President  
Herbert Locklair   GER  
Adrian Puica       ROU

#### Contest Director

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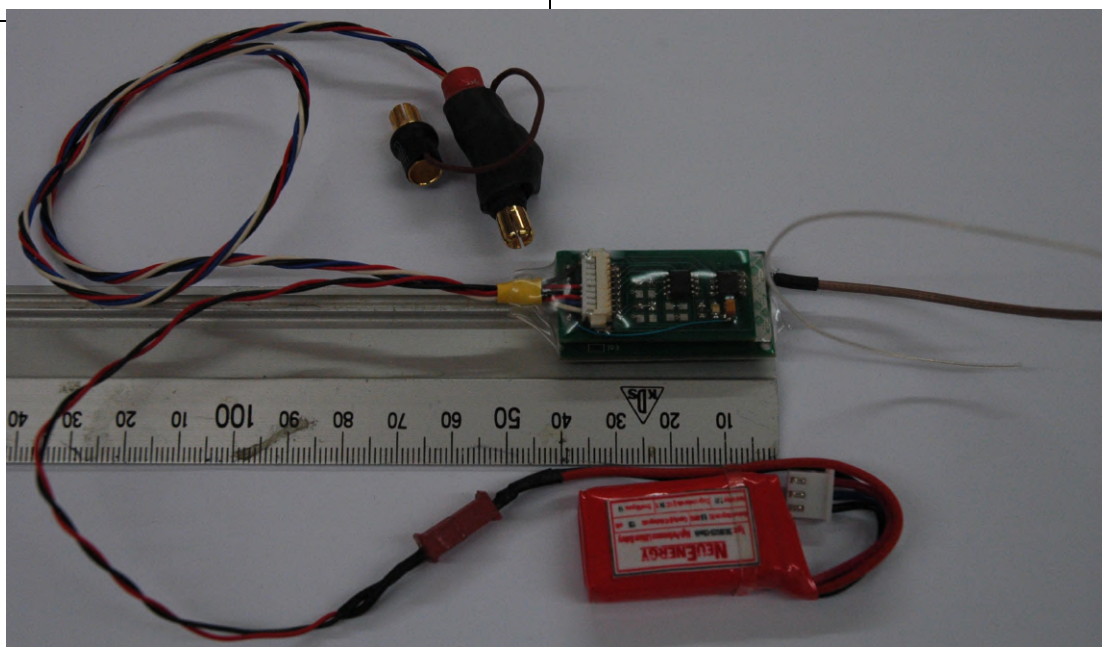
#### Classification

If possible 4 official rounds. If more than three flights are flown, the lowest score will be discarded. When there is a tie, the higher discarded score will determine.

#### Entry fee

EUR 30.00 (Juniors pay half of this fee). To be payed before the contest starts.

<p><b>Preise</b></p> <ul style="list-style-type: none"> <li>• Medaillen für die drei Erstklassierten</li> <li>• Diplome für alle Teilnehmer</li> <li>• Spezial Preise für des Telemetrie Test Wettbewerbes</li> </ul>	<p><b>Awards</b></p> <ul style="list-style-type: none"> <li>• Medals for the three first</li> <li>• diplomas for all competitors</li> <li>• Special prizes for telemetry test competition</li> </ul>
<p><b>Programm</b></p> <p><b>Freitag</b>                    <b>30. Mai</b>  09.00 Uhr                    Einschreiben F5B/F  10.30                            Briefing  11.00                            1. Flug F5F  12.00                            1. Flug F5B</p> <p><b>Samstag</b>                    <b>31. Mai</b>  09.00 Uhr                    Fortsetzung der Wettbewerbe  19.00                            Sportler-Ehrung alle Klassen</p> <p><b>Sonntag</b>                    <b>1. Juni</b>  10.00 Uhr                    Gross-Segler und E-Schlepp  12.00                            Einschreiben Experimental  13.30                            Experimental und Flugshow  17.00                            Verleihung Military Cup</p>	<p><b>Schedule</b></p> <p><b>Friday</b>                      <b>30<sup>th</sup> May</b>  09.00 h                        Registration F5B/F  10.30                            Briefing  11.00                            1<sup>st</sup> round F5F  12.00                            1<sup>st</sup> round F5B</p> <p><b>Saturday</b>                    <b>31<sup>st</sup> May</b>  09.00 h                        Continuation of competition  19.00                            Awarding - all classes</p> <p><b>Sunday</b>                      <b>1<sup>st</sup> June</b>  10.00 h                        Big Glider and Aero Towing  12.00                            Registration Experimental  13.30                            Experimental and Airshow  17.00                            Military Cup awarding</p>
<p><b>Unterkunft</b>  Die Teilnehmer reservieren sich Ihre Unterkunft selbst. Informationen unter <a href="#">Hotelliste</a></p> <p>Camping auf dem Platz ist möglich. Keine Wasser- oder Elektro-Anschlüsse.</p> <p><b>Verpflegung</b>  Auf dem Platz erhältlich</p> <p><b>Austragungsort</b>  Modellflugplatz Pfäffikon ZH  47.3662,8.8072  <a href="http://www.modellflug-pfaeffikon.ch">www.modellflug-pfaeffikon.ch</a></p> <p><b>Online-Anmeldung</b>  Bis am 25. Mai auf <a href="http://www.silentwings.ch">www.silentwings.ch</a></p>	<p><b>Accommodation</b>  Please make your reservation. You will find the relevant Hotels on <a href="#">Hotel list</a></p> <p>Camping possibilities at contest site. But no water and electric power.</p> <p><b>Meals</b>  Available at contest site</p> <p><b>Location</b>  Model aircraft flying site Pfaeffikon ZH  47.3662,8.8072  <a href="http://www.modellflug-pfaeffikon.ch">www.modellflug-pfaeffikon.ch</a></p> <p><b>Online Entry</b>  Until May 25<sup>th</sup> on <a href="http://www.silentwings.ch">www.silentwings.ch</a></p>



# Anhang – Annex

2014 F5B Telemetry

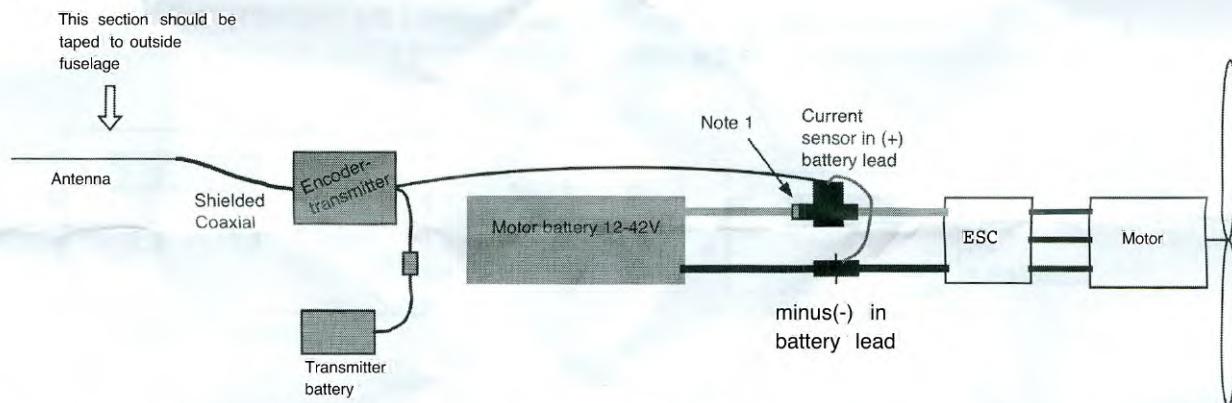
## Overview

The airborne telemetry unit is comprised of a voltage and current sensor, a processor board, a small battery, and a 433 MHz "ISM Band" legal bidirectional RF module on 1 of 8 available channels. The airborne unit sends down motor on/off status and cumulative watt-minutes in, as a practical matter, real time. The motor on/off status comes from a direct read of power consumption exceeding preset threshold. The Watt-minute accumulation comes from volts, amps and time, just like the limiters/loggers. The throttle channel signal is not monitored nor the motor disabled when the 1750 watt-minutes is reached.

The ground telemetry unit uses an RF module in the same frequency as the airborne unit. It plugs into the "GASSENSOR" in place of the spare receiver and uses the Gassensor's power supply. The LCD decodes and displays the accumulated Watt-Minutes and shows motor-on or motor-off. It also sends out a simulated servo pulse to the "GASSENSOR" representing motor-on or motor-off for the adjudication of course motoring.

## Installing the components:

The telemetry unit needs to be installed according to the following instructions to ensure proper operation under all conditions!



The Encoder/Transmitter along with the antenna need to be located behind the main motor battery. The transmitter operates on 433MHz ISM band which does not cause any interference when used with 2.4 GHz RC systems during extensive testing. The Encoder/Transmitter module can be placed next to the airborne receiver and the antenna routed close to the receiver antennas without concern. The telemetry unit was tested with the airborne antenna both inside and outside carbon fuselages. The best results were had with the exposed 180mm of antenna routed outside the fuselage in the top side and taped to the surface.

Try to locate the Encoder/Transmitter so the module will be protected from being crushed by the motor battery. Usually the same general location as the airborne controller receiver is a safe spot for the telemetry unit.

The telemetry unit is supplied with a current sensor that has 6mm connectors as well as a ground tap connection that has 6mm as well. The current sensor MUST be installed in the positive side between the battery and the ESC and the ground connection MUST be attached between the battery minus and the ESC minus connection( see diagram). The current sensor has a small red or yellow section of shrink tubing that must be on the side that connects to the battery positive lead.(see note 1) The leads are of sufficient length so the sensor can be located near the ESC

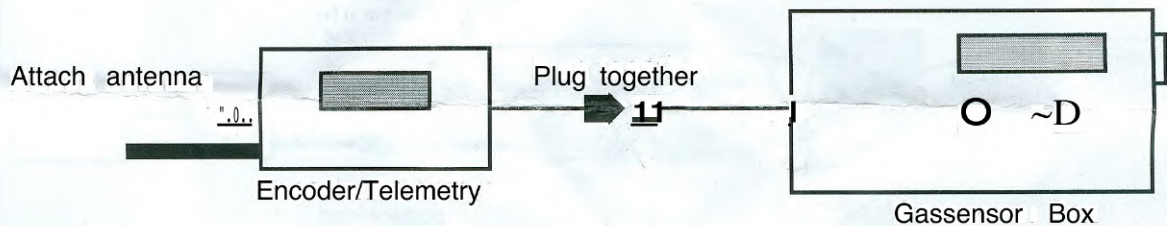
and the transmitter module can be placed behind the wing with the airborne radio receiver. Secure the wires so they are not subject to damage when the battery is installed or removed.

The Encoder/Telemetry unit operates off of a supplied 2S 7.4 volt 130 mah LiPo battery pack. The battery will provide operation for over 30 minutes of flight time--however we suggest that it be charged up after each flight. DO not try to operate on more than a 2S LiPo battery! The system does not have ANY connections to the airborne radio.

After initial powering up, the unit will hibernate unless the motor is running. If the motor is started up then shut down with less than 50 watt-minutes, the watt-minutes will be reset to 0 so that motor testing on the ground does not count toward the 1750 watt-minute total. Running the motor or exceeding 50 watt-minutes the telemetry will transmit continuously and accumulate watt-minutes. The hibernation period allows the contestants primary and secondary airplane to use telemetry that is on the same channel.

**The ground station unit usage:**

1. Turn off the power to the "GASSENSOR" and connect the telemetry unit in place of the receiver and make sure the antenna is connected to the telemetry unit.



2. Turn on the power to the "GASSENSOR" and watch the LCO on the telemetry unit. It will cycle thru sending motor on and motor off RC pulses, allowing you to "teach" and verify the gassensor throttle low and throttle high.

3. After the pilot tests his motor the watt-minutes should display 0, ensuring a valid RF link.

