

Additional installation guidelines for UniLog 2 with firmware version 1.16 as Energy Limiter for FAI- category F1Q

To ensure the properly function the UniLog 2 must have a common ground connection with Timer and ESC.

For utilisation as F1Q EL the connectors must be used as follow:

- | | |
|----------------------|--|
| RX: | linked to the motor controller output of the timer |
| ESC: | linked to the ESC |
| 5-pin connector: | linked to the current / voltage sensor; only the 40 A type specified for UniLog must be used
It is preferred to solder the current / voltage sensor in the wire between battery positive connector and the positive power solder pad of ESC |
| A2 (signal pin only) | linked to the positive contact of timer's start button connector (or the associated contact of the start button)
These connection controls begin of energy counting as follow:
By pressing the start button the level on this pin moves to "low"(ground), by releasing the start button to "high"; the energy counter starts |
| A3 (signal pin only) | linked to the timer input used to receive the "end of energy" signal (not mandatory, only to inform the timer about the point the F1Q_EL set the motor PWM signal comes from timer goes to ESC to "stop") |



A micro SD card will used for logging functions not related to F1Q_EL operation, but is possible to log the data of energy and altitude for supervisory purposes.

This also serves as the method by which firmware versions can loaded.

The UniDisplay connects to the F1Q_EL via a 4-way ribbon cable. The UniDisplay is acting as a passive device only and all content shown will controlled by Unilog2 firmware with help of four buttons.

At first, you have to ensure that the approved firmware (V1.16f) is loaded; see chapter 12 of manual.

Then connect the UniDisplay to the UniLog2; and connect the UniLog 2 to a power source; e.g. with the battery via the current / voltage sensor.

	<p>for a few seconds you will see the screen with the data of the UniDisplay, not these of the UniLog</p>
	<p>then you will get the start screen for F1Q with UniLog data and the data of last run:</p> <ul style="list-style-type: none"> <-serial number of UniLog, <-firmware version, <-consumed energy amount of the last run <-motor run time <-altitude by motor stop <-the adjusted amount of energy limit
	<p>this screen and data will be available each time you connect the UniLog to a power source until a new run started, this is to provide the data for check the correct values by officials in the competition.</p>



press "esc" to go to the menu screen
the menu options can be selected with the "plus +" and "minus -" buttons, and the appropriate item selected with "ent"

press the "+" button two times to go to "setup screen",
then press "ent"



now it's to view the Setup screen with

<-Firmware version (FW) and unique serial number (SN) of <-<- UniLog2 device

move with the "+" button to "Einstellungen"
then press "ent"



here the settings of the UniLog 2 summarized. move through the menu options with "plus +" and "minus-", and select the appropriate point with "ent". the arrow then becomes a dot and the selected value can be changed with "plus+" and "minus-". a press on "esc" or "ent" stores the change.



set all parameters as shown;



navigate to the next parameter use the "+" button;(back with "-");
set parameters as shown



navigate to the next parameter use the "+" button;
set parameters as shown

 <p>UniDisplay+ sm-modellbau.de</p> <pre>* UniLog 2 * 1) Einstellungen +A3 Anschluss Modus: mU Propeller/Pole: 7 / 14 Getriebefaktor: 1 : 5.00</pre> <p>esc - + ent</p>	<p>navigate to the next parameter use the “+” button</p> <p><-“A3 Anschluss”: set “mV” (this is the output pin for energy stop signal to timer) only when rpm sensor installed: <-“Propeller”: specifies the number of prop blades with optical and/or the number of fixed magnets with magnetic rpm measurement of the motor Pole”: specifies the number of motor poles for Brushless rpm measurement <-“Getriebefaktor”: is the gear ratio for rpm measurement</p>
 <p>UniDisplay+ sm-modellbau.de</p> <pre>* UniLog 2 * 1) Einstellungen Limiter-Modus: F1Q •Limit Wert: 1500 Wsec Varioton: Steisen/Sinken</pre> <p>esc - + ent</p>	<p>navigate to the next parameter use the “+” button this is the most important screen for F1Q:</p> <p><-“Limiter Modus”: here <u>must</u> be set “F1Q”</p> <p><-“Limit Wert”: here must be set the model’s specific value for the Energy limit in Joule; Wsec corresponds Joule;</p> <p><i>the 1500 Wsec value as shown corresponds to a model weight of 500 gram using 3 J / gram</i></p>

For more detailed information about the UniLog2 use the main manual; an English version is available for download here: https://www.f5b.co.uk/uploads/2/5/8/0/25805878/unilog_2_v1_15_in_english.pdf

Appendix 1

Schematic of UniLog2 to Timer connections

