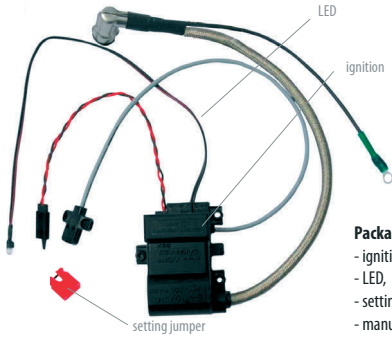
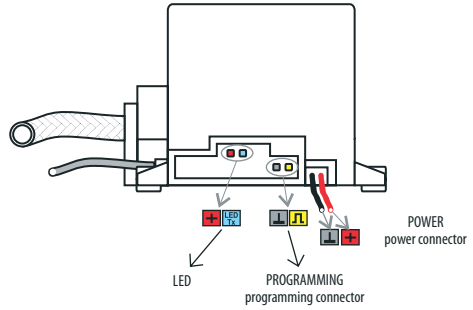


# THE IGNITION ICU-L verze 2.0



**Package content:**  
 - ignition,  
 - LED,  
 - setting jumper,  
 - manual.



## DESCRIPTION:

Ignition ICU-L makes possible the selection of preignition curve („short“ or „long“ exhaust stroke). The Setting you can do by supplied shorting jumper. The setting is permanent stored in memory of ignition even if supply voltage is off after that. You needn't to do the setting once more after next switch-on. The next property is light switch-on or switch-off the battery test. That one namely is suitable for Lilon and LiPol battery.

## BASIC FEATURES:

- two preprogrammed preignition curves for (“short” default setting and “long” silencer),
- sleep mode after 90 sec of engine inactivity,
- with or without battery test (for Li-Ion or Li-Pol battery),
- battery level signalization (it will not work if battery voltage is lower than 6,5 V and battery test feature is enabled),
- ignition goes off if engine runs counter clockwise.

## TECHNICAL DATA:

| Version  | Lite  |
|--|---|
| Weight   | 155 g   |
| Power supply                                       | 2x Lilon / LiPol *<br>6x NiCd / NiMh*<br>5x NiCd / NiMh |
| <b>Minimal battery voltage *</b>                   | <b>6,5 V *</b>  |
| Sleep mode after 90 sec of engine inactivity       |   |
| Battery level signalization *                      |   |
| Ignition goes off if engine runs counter clockwise |   |
| Choose of preignition curve                        | Ano   |
| Enabling / disabling battery test                  | Ano   |
| Preignition point                                  | 5 °   |
| Location of the magnet                             | 240° / 120°   |
| Min. accumulator capacity                          | 600 mAh   |

\* if battery test is enabled

**Never use ignition with unplugged boot from plug! Before first flight check range of controlling equipment with running engine as well do the interference check!**

## ENABLING OR DISABLING BATTERY TEST

Ignition makes enable or disable battery test possible. **Battery test is very useful when Li-Pol or Li-Ion battery are used.** During the test a series of flashes are generated and voltage is measured. When test passed correctly, battery has energy for minimal 10 minutes of flight.

- battery test is enabled (default settings – programming pins are closed by enclosed jumper),
- battery test is disabled when jumper is removed and programming pins are open,
- battery test is enabled when jumper is plugged and programming pins are closed.

**Enable or disable battery test when the ignition is off.**



### BATTERY TEST ENABLED:

- close programming pins with enclosed jumper.



### BATTERY TEST DISABLED:

- open programming pins (remove jumper).

## ➔ INSTRUCTION – INSTALLATION AND POWER UP

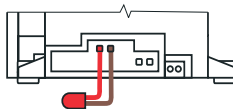
**If you want to change the type of silencer, do first all of two steps and then continue to the next page with title PROGRAMMING SEQUENCE. In the other case follow the next sequence.**

### FIRST STEP:

- screw on pickup on engine,
- attach the plastic protection to the high voltage cable,
- connect boot to plug,
- mount ring tongue terminal on the cable from boot (ring faston) under a nut holding the engine to the motor mount,
- fasten ignition to airplane.

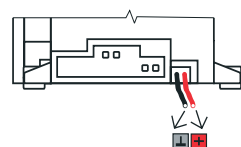
### SECOND STEP:

- connect enclosed LED to the ignition (red or red/black wire to left).



### START:

- keep clear of the propeller,
- connect battery with the ignition box.



## STARTING SEQUENCE:

- move propeller to open exhaust channel on engine (bottom center),
- **put your hands outside propeller radius, otherwise you risk serious injury,**
- hold on your airplane, switch on ignition,
- if battery test is enabled then ignition starts battery test. During this test the series of sparks are generated for cca 2 sec and LED is blinking,
- if battery test is disabled then LED blinks for cca 2 sec,
- if LED turns off, you can fly, otherwise battery is low.

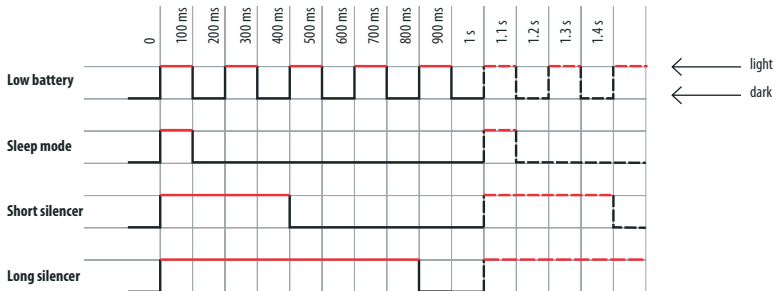
## PROGRAMMING SEQUENCE – CHANGING A SILENCER

- plug boot to plug,
- plug a battery to the ignition and power it up,
- wait cca 90 sec until sleep mode is active. Led will start flashing shortly once per second,
- if battery test is enabled (jumper is plugged) remove the jumper from programming pins,
- wait cca 3 sec, a flashing sequence changes itself,
- unplug battery,

- plug jumper back (to enable battery test),
- if battery test is disabled (jumper is removed) plug the jumper to programming pins,
- wait cca 3 sec, a flashing sequence changes itself,
- unplug battery,
- unplug jumper back (to disable battery test).

To change silencer type to the opposite, repeat whole procedure again (short -> long -> short).

### LED BLINKING TYPES



### LED BLINKING INDICATION

| Type                                   | Problem                     | Solution                                    |
|--|-----------------------------|---|
| - fast blinking (after power up)       | battery test is running     | Wait a while.                               |
| - fast blinking (5 sec after power up) | battery voltage is low      | Charge battery. Voltage is lower than 6,5V. |
| - one short flash per second           | sleep mode spark is blocked | Unplug battery and reconnect it again.      |

### PRODUCER:



MSR Engines s.r.o.  
Nálepková 97  
637 00 Brno / Czech  
fax.: +420 545 210 903  
e-mail: msrcz@tiscali.cz  
[www.msrenjines.eu](http://www.msrenjines.eu)

### WARNING!

- Use the ignition only in dry conditions,
- use recommended number and type of cells for every ignition type,
- the product is specified for RC engines only (other use must be approved by the manufacturer),
- do not take off the resistor cover if the ignition is on,

- danger of electric injury (voltage over 20 000 V),
- recharge ignition battery only outside the model,
- because of possible interferences, ignition and accumulators should be placed at least 25 cm from the receiver!

**The manufacturer is not responsible for damages caused by not following the manual and misuse the ignition other than in RC engines!  
You will lost your guarantee if you damage the high voltage (HV) cable or HV isolation, pickup, reverse the batteries or open ignition box!**