This ULU

The *ULU.36 Launch enable* is meant to be used, in combination with the *ULU.35 Ignition box* to launch a model rocket. It has a safe/arm system to make the ULU safe to use. This ULU is the simplest of all ULUs!

Used parts

Only standard parts are used:
1x casing 50 x 25 x 25mm;
2x 2mm signal connector.

The following extra part are used:
1x (preferable red) RCA socket
1x RCA plug
1x *Remove before flight* label

Construction

The standard ULU specifications are applicable as specified in the datasheet *ULU.00 – Common specifications*.

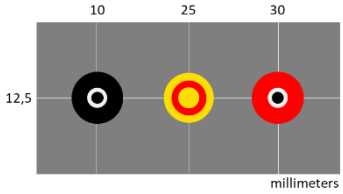

Figure 1 – Drill guide

Be aware that the input socket must be soldered to the ground connector of the RCA socket. The output connector to the other connector. Both pins of the RCA plug need to be soldered together.

Figure 2 – ULU inside

Figure 3 – Finished ULU

Usage

Model rockets use electric matches to ignite the rocket motor, they are also called e-matches. The ignition of a model rocket motor is inherently dangerous, since the motor contains a burning propellant that can cause severe burns. The best way to protect against an unwanted start of the rocket motor is the use of a safe/arm system to short-circuit the e-match. An RCA-socket and RCA safe/arm plug are used to do so. Both ULUs (35 and 36) work together to realize a simple but effective safe/arm system:

1. This ULU is placed between the *ULU.34 Launch control* and the cable to the *ULU.35 Ignition box*.
2. The safe/arm plug is disconnected from this ULU, therewith disabling the launch pulse be send to the *ULU.35 Ignition box*. Very important: there must be only one safe/arm plug in use!
3. The safe/arm plug is put into the *ULU.35 Ignition box*, therewith shortcutting the E-match. Even when 5V is put on the ignition lines, it will not ignite.

4. After the ignition lines are connected to the igniter and the red LED is not burning (!), the rocket ignition is armed by removing the safe/arm plug.
5. Finally, the launch control is armed by placing the safe/arm plug back in this ULU.

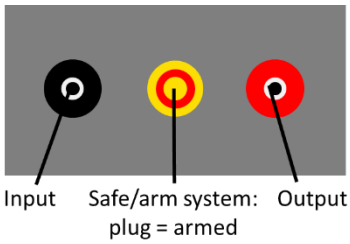

Figure 4 – Controls and connectors