FORCE
Ignition Cutoff

SAFETY

...

FIRST !

SETLO

Device features

FORCE ignition cutoff was designed specifically for large RC models powered by gasoline engines with electronic spark ignition. Its main task is to separate receiver circuits with RC accessories from the circuit powering the ignition unit, which may cause strong electromagnetic noise, and as a result loss of control.

FORCE ignition cutoff considerably reduces the possibility of RC range loss. Simultaneously, giving the possibility to emergency turn off the engine in a few ways.

- Fibre-optic transmission controlling ignition unit (ON-OFF)
> Total resistance to electromagnetic interference induced in the ignition by separating circuits for a distance at least 30 cm

- Function of switching ON and OFF the ignition directly from RC transmitter
> Applied to switch off the engine also in case of throttle servo failure.

- Switching sequence protection
> When the ignition cutoff switch at TX is in "ON" position during preparation and powering up the model, the ignition WON'T TURN ON! This prevents unexpected starting the engine. In order to turn on the ignition you must at first place TX cutoff switch into the OFF position and then "ON" (operating similar as in the electric motors controllers)

- Fail-Safe function
> Possible to setup a Fail-Safe function. In case of the communication lack with model for longer than 0.5 seconds the ignition will turn off the engine

- Wide range of power supply voltage
> The FORCE cutoff works correctly with 3.6 V on the RC receiver side, and 3.6 V on the ignition battery side. Maximum allowed supply voltage on both sides is 13.0 V. Maximum current consumption allowed is 5.0 A constant and 30.0 A temporarily.

Fail-Safe signalization
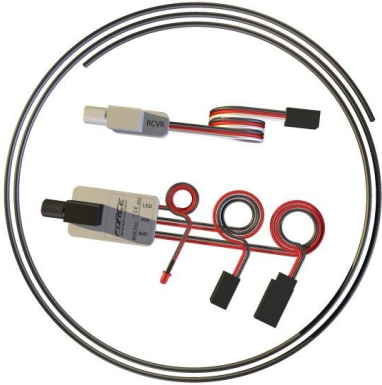
Clearly visible diode indicates whether the ignition unit is turned off or on. Additionally the LED performs an important signaling role in case of stopping the engine by interference and transition into the Fail-Safe mode, or problems with the electrical installation.
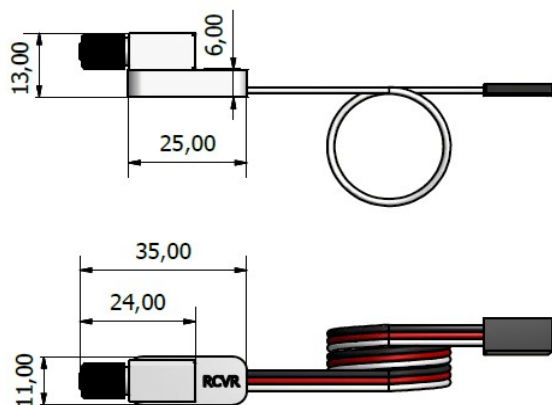
Blinking diode signal of the Fail-Safe can be used to maintain a range test before the flight. For that purpose must:

Turn on the RC TX, turn on the power of model (receiver and ignition circuits). At TX cutoff lever position in the position OFF must move away with TX to the appropriate distance.

After return to the model check the status of LED. If diode BLINKS it means that the receiver turned into the Fail-Safe mode during moving away with the transmitter.

If diode doesn't blink it means that there was no problem with the connection during the test.

During disruption for longer than 0.5 seconds, the device is switched into the third operating status (Fail-Safe) causing switching the engine off and start blinking of diode. Diode will still blink also after the end of disruption. That means also after landing. In this way LED informs from what reasons the engine stopped in the air. Change of TX cutoff switch position also doesn't erase the error of blinking diode. In order to reset Fail-Safe signaling (blinking) you must turn off and again turn on FORCE power with the main power switch.

The engine will be turned off and diode will start blinking in the case of:

- Range loss for longer than 0.5 seconds.

- Faulty power supply of the RC receiver (breaks with the power supply or its lack)

- Mechanical damage of the fibre-optic

- Faulty power supply of the ignition system (breaks with the power supply)

Technical data

Fiber Optic transmitter
- dimensions: 35mm x 11mm x 13mm
- RX plug: Futaba , 300mm
- power supply: 3,6V – 13,0V
        2 - 3 x (LiPo/Li-Ion/LiFe)
        4 - 9 x (NiMh/NiCd)
   - weight: ~ 10,0 gram
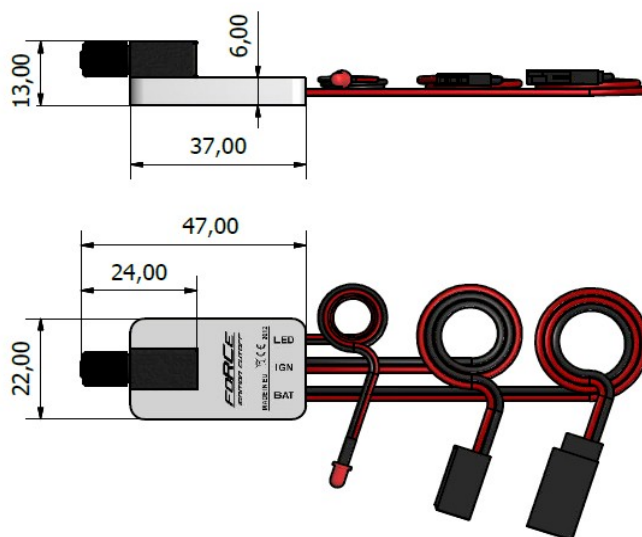
Fiber Optic receiver with ign. cutoff
- dimensions: 47mm x 22mm x 13 mm
- power supply plug: Futaba / JR male 150mm
- ignition lplug: Futaba / JR female 150mm
- LED wire: 300mm, diode (fi)3mm
- power supply: 3,6V – 13,0V
        2 - 3 x (LiPo/Li-Ion/LiFe)
        4 - 9 x (NiMh/NiCd)
- weight: ~ 15,0 gram
- load capacity: 5A continous, 30A temporarily