

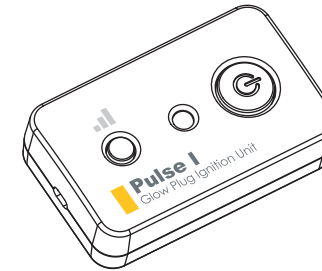
(Notice : the ignition keeps for 20 seconds and automatically stopped for saving electricity. Resume ignition is available by pressing start button again.)



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## **Pulse I** Glow plug Ignition Unit

### **INSTRUCTION MANUAL**



Thank you for purchasing Proton Control System's product. The Pulse ignition of Pulse 1 provides good performance with high efficiency. Also for easy engine starting regardless weather condition and kinds of plugs, 3 steps of ignition levels are selectable and the plug in type power supplying makes easily applying for engines in large cowl likes scale model, helicopter and it installed up side down.

### **Features**

#### - Large capacity

Sometimes not enough capacity of one-cell (1.2 V) starter causes engine-starting failure at the flying field. Pulse 1 can be the solution because power source of Pulse 1 is 7.2 ~ 12 V and these batteries are general in RC as battery pack for electric car (6 cells 7.2V) and starter battery (12V). Their high voltage and large capacity provide long ignition time.

#### - Pulse Ignition

Pulse 1 takes pulse ignition. The efficiency is 50 % better than general glow starters. Also it prolongs total ignition time.

#### - Receptacle for easy apply

It is hard to plug in glow starters to the engines for scale air plane (they have large cowls), helicopter and the engines installed upside down. Because Pulse 1 is connected by receptacle installed on fuselage, there is no difficult to start engines in any type of models.

- 3 Step igniting levels (Hot, Medium, Cold)  
 Strong ignition is required starting engine at cold weather and some type of plugs. Pulse 1 is selectable ignition level and it makes sure starting engine at any condition.

### Specification

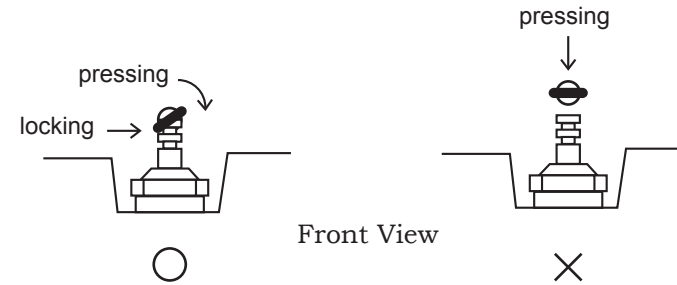
Input voltage : 7.2 V (6 cells battery pack), 12 V battery  
 Current drain : 4 mA (Standby), 1.3 ~ 1.5 A (Ignition)  
 Size : 65 X 40 X 18 mm (2.56" X 1.57" X 0.71")  
 Weight : Pulse 1 : 40.5 g (1.43 oz),  
 receptacle : 12.7 g (0.45oz)  
 Contents : Pulse 1 X 1, receptacle X 1, 12V terminals X 2

### Installation

- Pulse 1
  - a. Connect Pulse 1 with 7.2 V battery pack.  
 (Notice : For 12V battery, terminals are included in the package.)
- Receptacle Assembly
  - a. Make 13 mm (0.51") hole in fuselage.
  - b. Placed the DC jack on the hole and fixed with nut.  
 (Notice : applying Loctite™ on bolt and nut helps preventing loosening by engine vibration)
  - c. Grounding black wire on the engine flange by fastening mounting bolt.
  - d. Placed U spring of anode red wire on the top of glow plug and press till placed it on the groove and sliding silicon tube till fixed it.

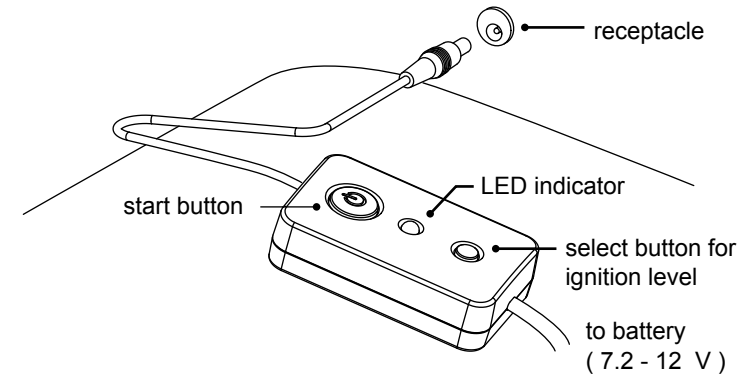


Tip! : U spring can be easily placed on the groove by locking one side of U spring then pressing another side as below.



### Operation

- a. Plug in Pulse 1 to receptacle on fuselage.  
 (Warning : keep away pulse1 from the propeller for preventing tangled with plug wire)



- b. Pressing small button for selecting ignition level according to temperature and kinds of plugs. (blue : cold, green : medium, red : hot)  
 (Notice : hot ignition level is useful at cold weather and cold type plug but this hot ignition can reduce lifespan of plug. Is it possible, starting engine at cold or medium level.)
- c. Ignition by pressing start button (blinking LED) and starting engine.