

# Electronic Speed Controller

## Programming Card

*PULSO<sup>TM</sup> Advance plus*

- Prog-Card was developed for you to make *Advance plus* ESC setting easier and to extend the possibilities of ESC settings.
- Prog-Card is possible to use ONLY with *Advance plus* ESC.

## I. Operation—For ESC with Advance plus Prog-Card

### 1. Connection (Connect the motor & ESC / Connect the receiver & ESC)

### 2. Using of Advance plus Prog-Card and Start-Up

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| <ol style="list-style-type: none"> <li>1) Put the six black jumper connector to the required positions.</li> <li>2) Plug JR connector (part of ESC) to the position “controller” on Prog-Card.</li> <li>3) Connect the motor to the ESC.</li> <li>4) Connect the power pack to the ESC. <ul style="list-style-type: none"> <li>● For ESC with BEC (DL10A-DL33A), 1 “beep” will be heard, which means your setting has been saved.</li> <li>● For ESC without BEC (DLU33A ESC), 1 “beep” will be heard after connecting the 4.8V (receiver pack) to the position “external power for OPTO”.</li> </ul> </li> <li>5) Disconnect the power pack.</li> <li>6) Disconnect the Advance plus Prog-Card.</li> <li>7) Plug JR connector (part of ESC) to the receiver-motor control channel.</li> </ol> | <ol style="list-style-type: none"> <li>8) Switch on the transmitter.</li> <li>9) Put the throttle stick at the lowest position.</li> <li>10) Connect the power pack to the ESC. (For ESC without BEC, switch on the power to the receiver.)</li> <li>11) 1 “single beep” (Brake is on) or 2 “single beeps” (Brake is off) will be heard.<br/>(Note: If you do not hear “beeps”, please disconnect the battery &amp; ESC. Wait for 5 seconds and repeat the connection.)</li> <li>12) 5 seconds later, 5 “single beeps” (Timing low mode) or 5 “double beeps” (Timing high mode) will be heard.</li> <li>13) Now you can move the throttle stick to begin the flight.</li> </ol> |
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## II. Option parameters Of the Programming Card:

### 1. Battery Type:

- ACCU Ni-XX (NICD or NIMH)
- ACCU Li-XX (Li-Pol or Li-Ion.)

### 2. Brake Mode: On / Off

### 3. Cut-Off voltage: High / Low

- High—0.9V for Ni-CD & Ni-MH; 3.0V for Li-ion/Li-polymer.
- Low—0.7V for Ni-CD & Ni-MH; 2.7V for Li-ion/Li-polymer.

### 4. Timing Mode: High / Low

- High (hard timing)—recommended for outrunner motors.
- Low (soft timing)—maximum efficiency for normal motors (2, 4, 6 pole motors).

### 5. Cut-Off Mode: Hard / Slow down

- Hard—the motor is fully off immediately as the voltage drops to the cut-off voltage.
- Slow down—the motor turns off slowly by power reduction (when the voltage drops)

### 6. Throttle Curve: Linear / Logarithm

- Linear—soft throttle curve. When the throttle at the mid-position, RPM=60% of Max RPM.  
(Be suitable for F3A, 3D models, etc.)
- Logarithm—sensible throttle curve. When the throttle at the mid-position, RPM=80% of Max RPM.  
(Be suitable for Glider models, etc.)