



# HOBBYWING

## SETTING EXPLANATION AND RECOMMENDATION

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LOWER VALUE

HIGHER VALUE

### GENERAL SETTING

<p>Effect: Leave the BEC setting at 6.0V for all normal type servos for a normal servo functions. Setting: 6.0V</p>	<p><b>BEC Voltage</b></p>	<p>Effect: For the new generation of HV (High Voltage) servos that are on the market, you may use 7.4V BEC setting for a bigger power output to your servo, to maximise its performance. The risk is the BEC output will be not consistant after the battery voltage lower than 7.4V Setting: 7.4V</p>
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### THROTTLE CONTROL

<p>Effect: This setting determines the throttle response. The lower value, the smoother the throttle will feel. Recommendation: 20</p>	<p><b>Throttle Rate Control</b></p>	<p>Effect: For increased punch, for instance, for stock racing and for bigger tracks, try a higher value. Recommendation: 30</p>
<p>Effect: Sometimes referred to as „dead band“, this setting refers to the percentage of throttle input you need to use to actually make the car move forward. The bigger the range, the less reactive the throttle will feel. Recommendation: 6%</p>	<p><b>Neutral Range</b></p>	<p>Effect: To have a smoother throttle feel, at least in the first part of the throttle range, try increasing this value. Recommendation: 8%</p>
<p>Effect: Coast is a setting which can be helpful when a very long gear ratio is used, to stop the stronger drag brake effect of using such a ratio. Adding some % of coast will make the car have a more natural slow down as throttle is released. This is a special setting for some kinds of power configuration. Recommendation: 0%</p>	<p><b>Coast</b></p>	<p>Effect: Try adding 5-10% of coast when running with motor which has a stronge drag feeling or with a very long gear ratio, this will help the car slow down more naturally when you release the throttle,for instance after a long straight. Keep in mind that the coast will only be activated if the drag brake setting is set to 0%. Recommendation: 5-10%</p>
<p>Effect: A lower drive frequency will make the throttle feel more punchy, but at the expense of higher temp. Recommendation: 8K for modified 2K or 4K for blinky indoor</p>	<p><b>Drive Frequency</b></p>	<p>Effect: For a smoother feel, especially in modified classes, try increasing this value. Keep in mind that a higher value of this setting will develop more heat in the ESC. Recommendation: 12-16K</p>
<p>Effect: As grip is increasing, or you need a bit more bottom end power, try to reduce this value. Recommendation: 20% for modified 0% for stock</p>	<p><b>Softening value</b></p>	<p>Effect: This function makes the bottom end of the throttle milder. It's a useful tuning aid, particularly in low grip conditions, to minimize wheel spin. Start with a high value. Recommendation: 25%</p>
<p>Effect: As grip is increasing, or if you need a bit more bottom end to mid range power, try to reduce this value. Recommendation: 30%</p>	<p><b>Softening range</b></p>	<p>Effect: This value determines where softening starts and ends. Higher number makes the softening effect last longer. For instance, a good basic setting is to have it set to up to 50% of throttle input. Recommendation: 50%</p>

\*These are the most frequently changed settings in the Hobbywing XeRun XR10 Pro 160A ESC in TC Modified class by our Top Team Driver Alexander Hagberg in order to find the best setting for the track and race. The other settings not listed are left in the basic setting.

## BRAKE CONTROL

Effect: It's the braking power applied when the throttle is released and moved to the neutral position. Apply it cautiously, as a higher value will develop more heat in the ESC. A good starting point for modified TC is 15% for most tracks. Recommendation: 15%	<b>Drag Brake</b>	Effect: For higher grip tracks, especially indoor asphalt tracks, or outdoor asphalt tracks that has been sprayed with sugar water, you may try a higher value, to make the car feel more aggressive once you release the throttle. Recommendation: 18%
Effect: To make the brake less aggressive, try reducing this value. It will also minimize the risk of damaging your spur/pinion. Recommendation: 75%	<b>Max Brake Force</b>	Effect: It's the brake set in proportion of the position of the trigger position. A higher value means stronger brake. Recommendation: 100%
Effect: To have a smoother brake response, try to go down with this value a little. Recommendation: 15%	<b>Brake Rate Control</b>	Effect: The lower the value, the smoother the brake will feel. However, we rarely change this setting. It all comes down to the driver's personal preference. Recommendation: 20%
Effect: A lower value will make the brake feel more aggressive. When using a linear control, start with a low value. Recommendation: 1K	<b>Brake Frequency</b>	Effect: For a smoother brake feel, try to go up with this value. It comes down to driver preference, and also depends on the motor and rotor used. Higher value makes the ESC hotter. Recommendation: 2K
Effect: Of the three different modes offered, the linear one is definitely the one most frequently used. It gives the best feel and precision for most tracks. Setting: Linear	<b>Brake Control</b>	Effect: Some drivers may prefer a stronger brake, but with a lower brake EPA setting on the radio, in that case try the traditional brake mode. Hybrid setting is between Linear and Traditional Setting: Traditional

## TIMING

Effect: The dynamic timing is effective over the whole throttle range. It can be set to be activated from RPM, or throttle amount (Auto). A higher value will give you more bottom and mid range power. Start with none, or a low value for modified racing. Recommendation: 3	<b>Boost Timing</b>	Effect: For bigger tracks, where some mid-straight need non-full throttle but fast speed, go up the value to have improved bottom to mid power. Recommendation: 10
Effect: The boost can be set to be activated either by RPM or throttle input. The most frequently used setting is definitely RPM. In boosted stock class AUTO will help on motor temp, less heat. Setting: RPM	<b>Timing Activation</b>	
Effect: It determines the RPM where the boost will be activated. For modified, start with the value below. For stock racing, this value should be lower. Recommendation: 7500	<b>Boost Start RPM</b>	Effect: We rarely change this setting even when going from a small to a big track. Recommendation: 7500
Effect: It determines the RPM, where the boost will be fully applied. Recommendation: 22500	<b>Boost End RPM</b>	Effect: We tend to keep this value fixed, and play with the boost value itself instead. Recommendation: 22500
Effect: The degrees of timing which will be applied only at full throttle, to increase the top speed on straight. This is very much dependent on the track size, motor and gear ratio used. For modified, and 4.5T, a medium sized track, start with the value below. Recommendation: 25	<b>Turbo Timing</b>	Effect: For tracks with really long straights, you may increase this value a lot. Keep in mind that in stock classes, a higher value will be necessary. Recommendation: 38
Effect: Instead of the turbo being activated instantly on full throttle position by the trigger, you may set this to have a small delay - a higher value will help the car has reasonable speed before the turbo kicks in. That will also avoid extra high current drawn from the ESC. Recommendation: 0.05	<b>Turbo Delay</b>	Effect: For bigger tracks, particularly outdoor tracks, try a bit longer turbo delay, which is also important to prevent the turbo from being activated in the infield sections. Recommendation: 0.15
Effect: This defines the speed of how the turbo is applied. A higher value means that the turbo will initiate with more force, quicker. Keep in mind that this also increases the ESC temperature. A good starting point for modified is shown below. Recommendation: 18 deg/0.1s	<b>Turbo Increase Rate (deg/0.1sec)</b>	Effect: If you need the car to reach its top speed faster, try a higher value. Recommendation: 24 deg/0.1s
Effect: When the throttle position is moved from full throttle to partial throttle, the turbo being deactivated rapidly may make the car harder to control. For instance, in a corner following a straightaway. However, for the most aggressive handling feel, keep this setting at instant. Setting: Instant	<b>Turbo Decrease Rate (deg/0.1sec)</b>	Effect: To have a smoother transition from top speed to medium speed, try a low value of decrease rate. Recommendation: 12 deg/0.1s