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The GM V12 Electronic Speed controller

Benchmark

German technology in the box

Once again 'Vorsprung durch Technik' comes to mind with this little box called the GM V12. The pursuit of 'wow' rather than technology springs to mind when you see the appearance. The shades of purple look very good, but boy oh boy, what's inside is even better. The technology in the box is the most efficient V Fet surface mounted electronic speed controller available on the market. If you were to open this little 'baby' you would probably be surprised, believe me the technology is second to none.

This little beauty gives you unbelievable control, and facilities such as one touch set up, a separate lead for a Fet servo, external connections for wiring, and a fully adjustable torque limit. Not even mentioning the other additional programming functions that allow you to make changes to the standard settings. There is also a 'Quick Start' function, which makes it possible to bypass the torque limit. There are adjustments for minimum and maximum brake and dead stick braking if required. A reverse module is also available, with 12 V Fet, giving you the GM V12 R with an internal resistance like most other forward only speedos.

First Impressions

The V12 is so compact it will fit into anything. Second bonus is that you solder your wires onto the boards, and therefore can change them as and when required.

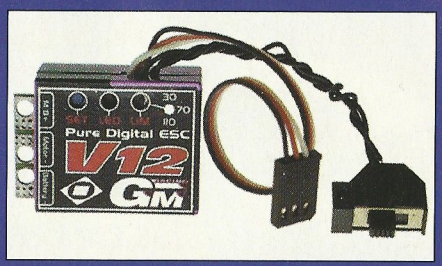
Negative point - the little 'black barrel' which sits on top needs to be soldered back on every time you change your wires.

Installation

Installation is made very easy by just soldering the wires to the speed controller and attaching the controller to the chassis with servo tape. Cut main power wires to the length required to suit your cells and motor, making sure that they are kept need and tidy. It is always important not to crimp or catch wires when installing speedos to ensure their reliability. Follow the simple set-up instructions and don't rush this operation.

Performance

I decided to test the GM V12 in my 1/12th



car. In the first run the setting of the brakes was too high. My torque was set at about 50 amps, and after a few laps I began to get the feel for corner speed. For the second run I turned the brakes down by half - to about 50% - and the torque to about 30 amps. Out on the track again, with more confidence, it proved to be a smoother power delivery with brakes set more to my liking.

Until you are totally familiar with your GM V12 speedo, make sure you have the instructions with you at all times. The one touch function is a very good feature but I suggest that you get to know your speedo first, before cutting corners. After a few laps I felt very comfortable with my speedo. Back at the pits I noticed that I had completed 2 more laps than in the first run and to my surprise, I had 25% more cell capacity left. Yes, the right setting for me. Write it down!

Rather than boring you with all the settings I have tried, the ones that failed and the ones that worked, I suggest take a little bit of time and find your own most suitable setting. Believe me, it's definitely worth it.

Conclusion

Having tried the GM V12 in three different types of cars, I have come to the conclusion that this little 'baby' is perfect for 1:12th, Touring car and Pro 10 and offers a lot for something so small. The power left in after each run spoke for itself. The handling and smoothness were an eye opener and once you get to know your GM V12, I am sure it will become one of your best buddies.

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Functions

Here is what the manual has to say about the various functions available.

Turbo

When Torque Control/Current Limiting Technology was first used in electronic speed controllers, drivers noticed that the top speed of their cars was also being limited. Ralf Helbing, GM-Racing's chief engineer, was the first to incorporate the new TURBO function to his range of speedos to return the lost speed drivers suffered from. The adjustable turbo function will override your initial Torque Control once you have used full throttle, and provides you with full power for the main straight on your track. As soon as you release full power, the speedo will return to your original Torque Control until you reach full speed again

BRKMIN

Short for Brake Minimum. This is the percentage of brake that you require for the first stage of brake travel on your transmitter. This is also the amount of brake the speedo automatically uses when using BRKAUTO. By setting this value at 20-40% you will immediately notice the braking effect for the smallest movement on your transmitter. (default 0%)

BRKMAX

Short for Brake Maximum. This is the percentage of brake that you require for maximum brake level on your transmitter. When racing on slippery surfaces or in wet conditions reduce this value to stop the wheels from blocking. (default 100%)

Quick Start

For use in finals. When enabled the speedo applies max. torque for the first time you give full throttle on your transmitter. The speedo then returns to normal torque control when you go to neutral the first time (usually the first comer). (default disabled)

BRKAUTO

Short for Automatic Brake. When enabled the speedo will apply BRKMIN to the car when you return to the throttle neutral point on your transmitter. This is useful on tight, twisty tracks, that require quick use of the brake and throttle to negotiate hairpin turns. (default disabled)

Frequency

This is the Operating Frequency of the speedo. Adjustable from 2 to 4kHz. (default 2kHz) RRCI