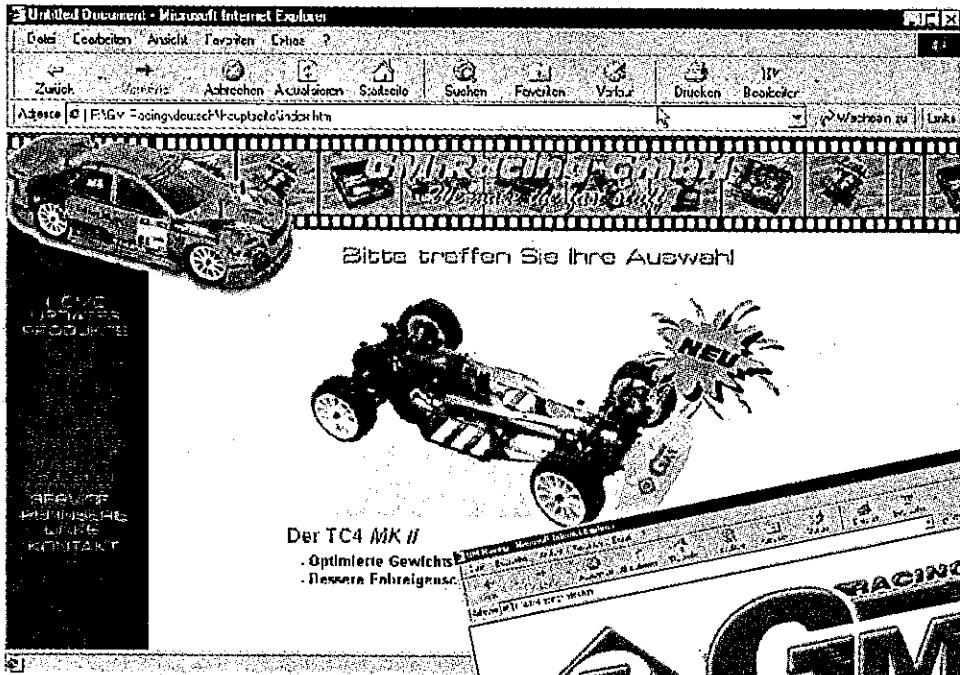


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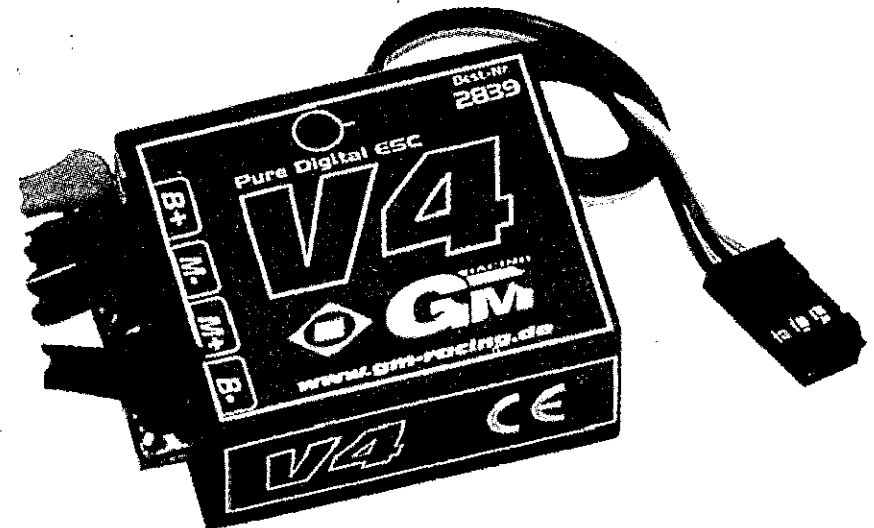


Bedienungsanleitung Instruction Manual Notice d instructions

VORWÄRTS UND BREMSE: 

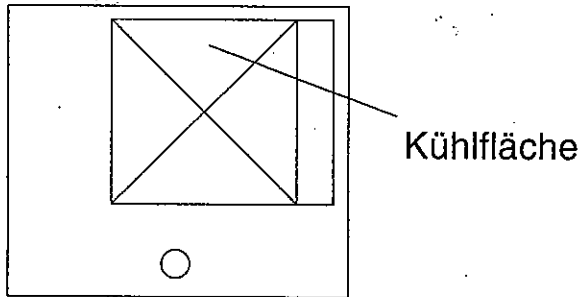
V4

VORWÄRTS, BREMSE UND RÜCKWÄRTS:
V3R, V4R, V6R

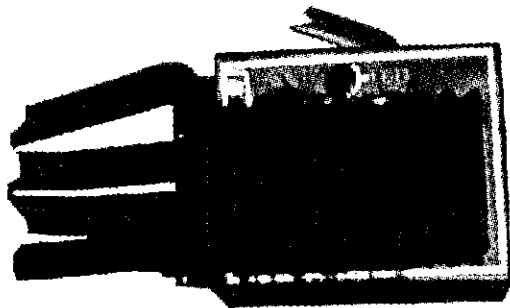


Montage des Zusatzkühlkörpers 2844.1:

Entfernen Sie den Regleraufkleber mit einem Bastelmesser in der Größe 17mm x 17mm (siehe Zeichnung!)



Verteilen Sie das beiliegende Silikon gleichmäßig auf der Kühlfläche. Drücken Sie nun den Kühlkörper gut auf die Kühlfläche (siehe Bild!). Dabei ist es wichtig, daß das Silikon möglichst dünn und gleichmäßig (ohne Lufteinschlüsse) aufgetragen wird. Überflüssiges Silikon können Sie jetzt vorsichtig abwischen. Warten Sie bis das Silikon ausgehärtet ist. (ca. 24h).



Abdichten vor Feuchtigkeit:

Mit dem restlichen Silikon können Sie nun den Regler vor Feuchtigkeitseinwirkung schützen (Für Boots- oder Regeneinsatz), indem Sie alle Öffnungen mit dem Silikon sorgfältig abdichten. Gehen Sie wirklich sicher, daß alle Öffnungen gut abgedichtet sind. Entfernen Sie lieber überflüssiges Silikon, als daß Sie zu sehr an Silikon sparen und

Operating instructions

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Gebrauchsanleitung 2

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☞ ***Congratulations on your choice of a GM-Racing digital speed controller. It is designed by our head of development, Ralf Helbing, and continues his series of highly successful speed controllers, which have already been used to win World and European championships, and many national and international titles.***

Important:

Please read through these instructions carefully before you use your new speed controller. Only in this way can you exploit its full potential, and avoid errors in operating it.

Description:

☞ GM-Racing speed controllers are built using only the latest components, with particular emphasis on functionality, durability, and state-of-the-art technology and circuit design. The GMVx controllers are equipped with the latest V-FETS of extremely high quality. These FETs are exceptionally compact and internal losses are ultra-low.

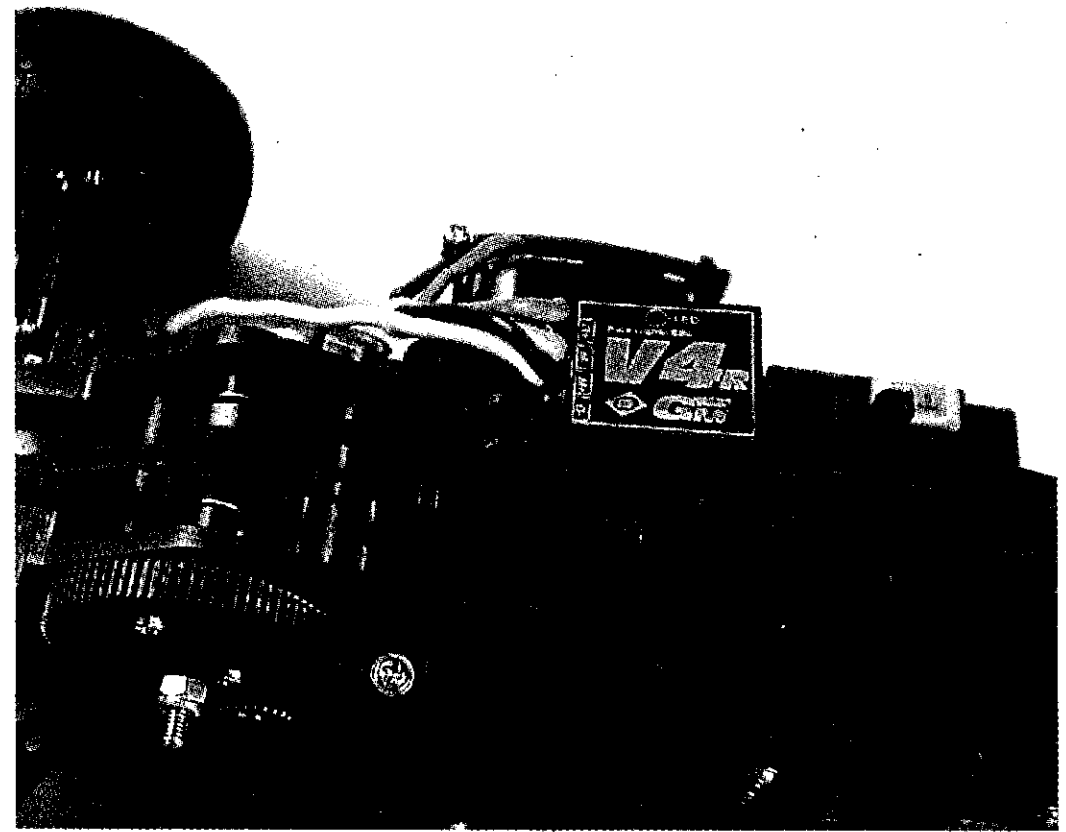
The controller software is subject to constant development by our team, and provides supreme accuracy, especially concerning zero point settings: there can be no mechanical variations of any kind, since everything is stored and controlled digitally. The 'Automatic System' allows you to set up the controller in seconds, with no need for superfluous items such as chips, programmers or similar.

We at Team GM-Racing are confident that you will have hours of pleasure and success with your new controller.

Installing the speed controller in the vehicle

Once you have unpacked the controller, please consider the optimum location for it in the model. We recommend that you install it as low in the chassis as possible. Please note that the receiver and receiver aerial should be at least 3 cm from the speed controller, the heavy high-current cables and the battery, and preferably even further away than that. If possible, position the controller in such a way that some air can flow over the FETs, as this increases its general performance potential.

When you have decided on a suitable position, fix the controller in place using double-sided foam tape.



Connecting the speed controller

Connecting the battery and motor

- Connect the blue wire to the negative (-) motor terminal
- Connect the yellow wire to the positive (+) motor terminal
- Connect the red wire to the positive (+) battery terminal
- Connect the black wire to the negative (-) battery terminal

Matching the controller to the transmitter (Automatic system)

As soon as the system components are connected correctly, the controller determines the zero point, and the red LED glows.

If the LED does not glow, move the throttle stick first to the "full throttle" position, then the "full brake" position. If you like, you can drive away immediately when the LED goes out, but if you do this, be sure to move the stick to full throttle during the initial phase of acceleration, so that the controller correctly detects the full-throttle point. Go to full brake, if you brake the first time.

That's all there is to it!

Your controller is now fully set up. If the process has been completed correctly, the LED will now glow at full throttle, zero and full brake / full reverse.

Switching on:

1. Switch on the RC system
2. Connect the speed controller

Switching off:

1. Disconnect the speed controller
2. Switch off the RC system

Reverse function (V3R, V4R, V6R only)

These speed controllers feature a fully proportional brake and a fully proportional reverse "gear". To select reverse your car must stop and you move the stick to "neutral", now you can run in reverse with proportional speed control.

To stop the car move the stick to "full brake", if necessary.

Important:

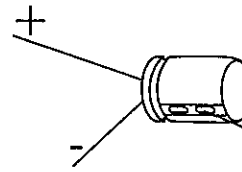
Please note that you must not connect a Schottky diode to the motor if you are using a reversing controller. If you do, the speed controller will be wrecked the moment you switch to reverse.

Connecting a power capacitor

This capacitor is only necessary in very rare cases. However, the GM-Racing development department has ascertained that a power capacitor can solve an interference problem under certain conditions. The GM-Racing power capacitor is exactly tailored to the electro-technical specification of our controllers, and this is the only type you should use! You could ruin your controller by using a different type. Order No.: GM 91539

Positive

Connect the long pin to the battery + wire



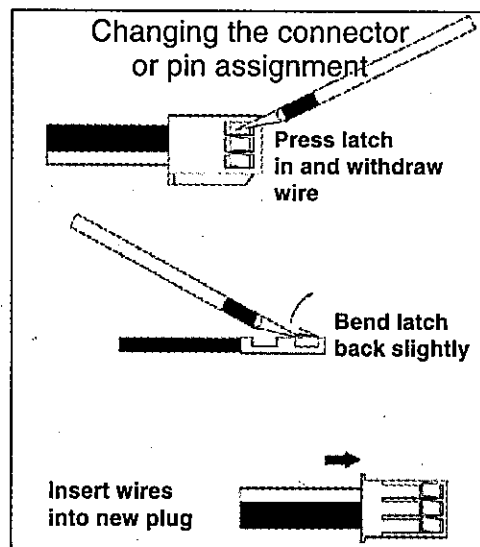
Negative

Connect the short pin to the battery - wire

Negative terminal identification mark

Connecting the controller to the receiver

As supplied, your GM speed controller is fitted with a Futaba connector. Please ask your model shop or GM-Racing whether your receiver is compatible with this connector system, as the receiver and the speed controller's BEC circuit can be ruined if this is not the case. In some cases you will need to cut off the lug on the side of the Futaba plug. Naturally, the latest KO PROPO receivers are now available with Futaba connectors, so the plug will fit these receivers without modification. If you are using a Graupner receiver you just have to cut off the side lug on the Futaba plug, using a modelling knife, and file the edges slightly to an angle; alternatively you can fit a JR plastic connector sleeve.



red = receiver positive
black or brown = receiver negative
white or orange = signal

Locate the receiver lead and connect it to channel 2 on your receiver.

Using FET servos:

Connecting an FET servo:

If you are using an FET servo with a separate power supply, connect the blue FET servo wire to battery positive. In many cases you will also need to use a coil (Order No.: GM 91538). Please read the notes supplied by the servo manufacturer.

Notes:

- ☞ If the flow of cooling air over the speed controller is insufficient, the integral temperature sensor may switch the unit off; however, you retain full steering control of the vehicle at all times. You can continue running the car as soon as the controller has cooled down again.
- ☞ Ensure that your motor is correctly suppressed using two 100 nF capacitors.
- ☞ Caution: never connect the speed controller with reversed polarity, and never connect a drive battery directly to the motor when the speed controller is also connected to it. Committing either of these errors invalidates the guarantee, so please fit the plugs in such a way that it is impossible to

Specification:

	V3R	V4R	V4	V6R
Operating voltage:	4,8-12V	4,8-12V	4,8-12V	4,8-12V
R(DSon) in Ohm at 25°C	2x0,003	2x0,002	0,002	2x0,001
Peak current at 25°C	150A	200A	200A	240A
Current max. 10s	39A	52A	52A	76A
Continuous current at 7,2V*	24A	32A	32A	40A
Min. Turns with GM-motors	>=18T	>=14T	>=14T	>=12T
BEC	5V/1A	5V/1A	5V/1A	5V/1A

*Every 1V higher operating voltage the continuous current will be 5-10% lower. The continuous current is valid for batteries with max. 3000mAh.

Warnings:

☞ Never leave your RC model unsupervised with the battery connected. If a fault should occur, this could cause a fire in the model and threaten anything in the vicinity.

☞ Like all electronic components, the speed controller must not be allowed to contact water. Avoid using the unit in rain.

☞ When a motor is connected to the controller, you must not connect a separate battery and run the motor. This will wreck the controller and invalidate the guarantee.

☞ Do not reverse the polarity of the controller connections. Use only polarised connectors.

☞ All cables and connectors must be effectively insulated. Short circuits can ruin your controller.

☞ Not suitable for persons under 14 years. This unit is not a toy!

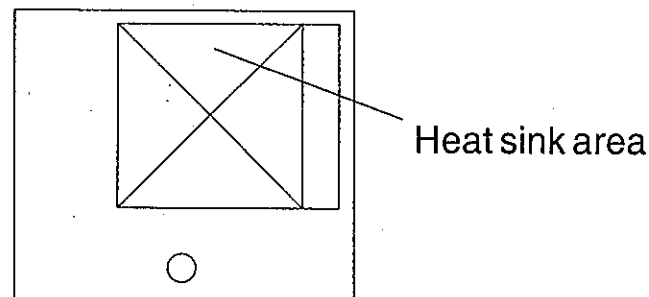
☞ The speed controller is designed exclusively for use in battery-operated radio-controlled models. No other usage is permissible.

☞ Motors, gears, propellers, RC-models are dangerous objects which require careful handling. For this reason you should avoid standing in the immediate vicinity of the propeller when you connect the battery. Technical faults of mechanical or electrical nature may cause the motor to burst into life unexpectedly and cause other object fly around, which can cause serious injury.*

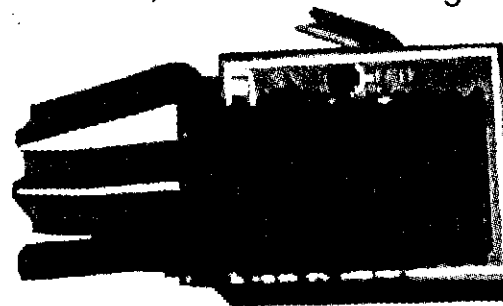
☞ *Limited liability: we at Graupner cannot possibly ensure that you observe our instructions for installing and operating your speed controller; neither can we supervise the conditions and methods of installation, operation, application and maintenance of the unit. For this reason we cannot accept any liability for loss, damage or costs which result from the improper use and operation of these products, or which are

Mounting an additional heatsink 2844.1:

Cut the sticker of the speed controller with a knife in the size of 17mm x 17mm (see drawing!)




Use enough silicon glue on the heat sink area to prevent air between the heat sink and the heat sink area. Push the heatsink to the heatsink area for thinn silicon glue. If the glue is thinner, the heat can move better between the heat sink area and the heat sink. (See picture!). Remove the Silicon you, used to much, carefully. Wait for 24h, until the silicon is getting hard.



Protecting the speed controller from water:

With the rest of the silicon you can protect your speedo from water. Use silicon for all holes in the speed controller case especially the wire holes and the hole of the copper plate with the power wires, the heat sink hole and for the LED hole. Also use silicon for the gap between the two case parts. Don't try to save

 **Nous vous félicitons de l'achat du variateur de vitesse digital GM-Racing. Avec ce variateur de vitesse, Ralf Helbing étend sa gamme réussie de variateurs de vitesse, avec lesquels les Champions du Monde et les Champions d'Europe ont gagné des titres nationaux et internationaux.**

Indication importante :

Veillez lire cette notice d'instructions attentivement avant d'utiliser votre variateur de vitesse. Vous utiliserez ainsi les pleines capacités de votre variateur et vous éviterez des erreurs dans son utilisation.

Description :

Les variateurs de vitesse sont équipés uniquement de pièces neuves. Le fonctionnement, la durée de vie, la meilleure technique et le design ont surtout été pris en compte. Le variateur GMVx est déjà équipé du précieux V-FETs. Ces FETs sont extraordinairement petits et sans perte.

Le logiciel développé en permanence par notre équipe garantit dans un premier temps des réglages précis, et ici un parfait ajustement au point zéro. Il n'existe en aucun cas de déviations mécaniques, puisque tout est mémorisé et dirigé numériquement. Le "système d'automatisme" vous permet de procéder au réglage du variateur en quelques secondes sans moyens complémentaires comme les Chips, les programmeurs ou semblables.

L'équipe GM-Racing vous souhaite beaucoup de chance et de succès avec votre nouveau variateur de vitesse.



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