

FEATURES

MMS3 with Variable Frequency System (PAT.)

The MMS3 has an improved Variable Frequency System installed. It is now possible to change from 900Hz to 12Khz, greatly expanding the frequency setting width to 32x64 steps. The high accuracy of a setting that is demanded in an 8 minute race is now achievable. The MMS3 comes with a special 12T modified setting installed as used by the Ahoniemi brothers. So the unit is ready to use.

* The hand setting adaptor or PC software VFS-1 Manager (Option) is necessary for the frequency change and the setting.

Various parameters can be set by ICS (Interactive Communication System) besides the drive frequency.

- 1 Neutral Brake:** The amount of brake at a neutral position can be set. The 100 setting stages as the maximum value and is 50% of the amount of a full brake.
- 2 Frequency of Brake:** Initialization is about 3.5KHz. This setting is the simultaneous changeability of the brake in all areas, with 64 steps of frequencies ranging 0.9-12KHz.
- 3 The Power Save Voltage:** The BEC output is set and the voltage in which the BEC keeps is set to four stages. A steady voltage to the last minute running is maintained. This is significantly effective to the category that uses four cells with low voltage.
- 4 Throttle Response:** The throttle operation in the beginning of a grasp is mild. Combined with the punch function of the transmitter. This can have the car start like a rocket. This can also be used to limit the amount of power due to track conditions (i.e. slippery track)
- 5 Current Limiter:** A large current overload can be suppressed. Setting this value to OFF is also possible.

Micro size and weight 18.8g (*Excluding wires and connectors.)

The demand of making a low center of gravity and space-saving ESC clears up room in the car.

* The setting adaptor for the Ko Propo VFS-2000 cannot be used.

* Please use a personal computer (Windows) to operate the optional ICS PC interface along with the PC software.

* Please use the ICS-PC interface software to change settings.

The small switch is adopted in the power on/off switch.

Operation, durability, and reliability are achieved.

FOR THE SAFE USAGE OF THIS UNIT

Please use caution when handling this equipment for your personal safety.

Explanation of display and signs. Please pay close attention to the displayed instructions.

Warning!

Warning displays. These displays and their content show the possibility of bodily injury and death that may occur due to disadvantageous accidents with high frequency are shown.

This product is manufactured and sold for the RC model ground use only. - Please do not use it for anything else. - Make sure the connector of the servo, speed controller, etc. is properly inserted into the receiver. - There is a possibility of driving recklessly when the connector(s) become disconnected due to the vibration during operation. - Always turn on your transmitter first before turning on the speed controller to make sure the band (frequency) is not being used. - Operating on a "in use" band (frequency) is dangerous and reckless. Do not operate during thunder or electrical storms. - Lightning may strike the antenna of the transmitter. - Do not operate when it's raining or there is standing water. - If the water enters the equipment, you will lose control and drive recklessly. - If you are tired, drinking alcohol, or are under medication, do not operate this equipment. An unexpected accident is maybe caused by the lack of judgement. - After run, disconnect and remove the battery. - When the switch is turned on by mistake, the model can drive recklessly and can catch on fire. - The transmitter, the battery, and the model, etc. should be kept in the place where children cannot reach. - The danger of poisoning, burn, and injury may occur by accidental ingestion.

Caution!

Please pay attention to the following content. The following are things that are possible or may cause a disadvantage accident that can result in injury.

- Do not make mistake in polarity connection of the battery. - The equipment will be damaged. - Option parts used should only be genuine CORALLY/KO PROPO products. - Our company cannot assume the responsibility of damage etc. that occur because of the combination of non-genuine CORALLY/KO PROPO products. - When turning on the power supply do it in this order (transmitter > speed controller). Turning off power in this order (speed controller > transmitter). - When the order is reversed, the receiver will pick up noise and may go out of control. - For low turn modified motors (15 or lower) we recommend using the included Single Super Shotki. - After operation, do not touch hot surfaces such as motor and the speed controller. - Caution combustible. - Please do not short-circuit the leads like the battery wire and the motor wire etc. of this product. - The equipment will be damaged. - Please remove or disconnect the motor when you set up this product. - Please do not operate this on the street or where people are present. - Please send this to our service department when there is damage or when this product gets wet. - It may cause corrosion and breakdown of the product. - Please avoid high impacts to this product. - It may cause damage. - Please read the manual thoroughly before using this product and keep it handy for the future references. Please inquire of our service depart when you cannot understand the manual.

We cannot assume the responsibility of the results that the customer has with RC models in this product. Please acknowledge this beforehand.

TECHNICAL SPECS.

- Control method: Changeable control
- The maximum peak current: 3120A (FET specs.)
- Continuous, maximum current: 780A (FET specs.)
- Accessory: Single Super Shotki Diode, Power-Up Condenser (#50030)
- Size: 28.0x25.0x14.4mm (size of case)
- 18.8g in weight (excluding wires)
- Proper power-supply voltage: 4.8-8.4V (4-7 cells)
- Suitable motor: All commercial available electric motors for R/C Cars. (No Limit)
- Output voltage for receiver: 6V (input 7.2v)
- Output current for receiver: 2A (maximum peak)
- Drive frequency: 0.9-12kHz (64 steps) initialization 4.0kHz

INSTALLING METHOD

Arrange the placement of the receiver and the antenna so that it will not attract noise that can cause a malfunction.

The area where large current flows generates lots of noises.

- Speed controller
- Motor and motor wire
- Battery and battery wire while running
- Switch and switch wire, etc.

Moreover, a carbon chassis and metallic chassis also pick up and transmit these noises.

Please think about the placement of wire for the battery for the speed controller, motor, the motor wire, the battery wire switch, and the switch. These large currents flow generates noises. This type of noise is an electric wave and it will radiate. (Moves in all directions.) Therefore, if you bring the antenna close to it source, it is likely to pick up the noise. The position of the high frequency speed controller top where the receiver is installed is very important. If the antenna is intersected with silicon wire or the speed controller, the receiver will pick up noise easily. This will cause a malfunction, etc. Also the noise can be transmitted to a carbon and a metallic chassis.

Please install the receiver and antenna wire (especially the crystal area) to be isolated from noise sources.

MMS3 is fixed to the chassis plate with double-sided tape. Install the switch in a position where it can be easily operated.

*Please mount with double-sided tape in a location that will be free from dust, moisture, oil, etc.

PARTS NAMES AND WIRING

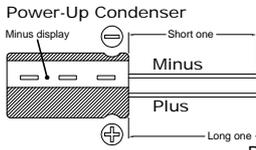
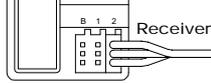
* Please use the bundled Single Super Shotki Diode (or optional Double Super Shotki Diode) and Power-Up Condenser. Damage may occur if they are not used.

Warning!

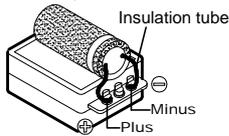
Connector should be properly installed.

* Vibrations while using this product may cause the connector to come loose and you will lose control of the vehicle.

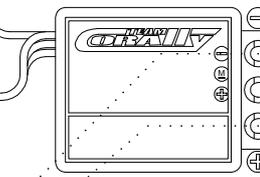
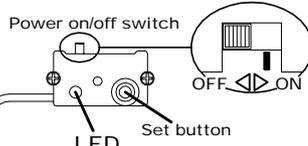
Connect it to channel 2 of the receiver slot.



Insulation Tube
Cut the tube in half.
Use it for insulation.



The Power-Up Condenser (#50030) is polarity sensitive. Please use the insulation tube noting the polarity and install it.

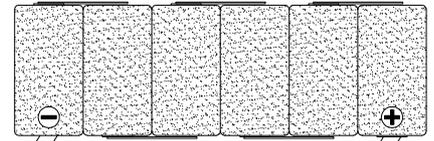


Connect the negative (-) wire to the negative side of the battery

Connect it to the negative (-) side of the motor.

Connect the positive (+) wire to the positive (+) side of the battery and the positive (+) side of the motor.

Battery connection



Please connect the wires noting the polarity.

Please do not connect the wire for the motor until the setup is completed.

Motor

Warning!

Always turn on the transmitter first, then turn on the speed controller's power.

* After speed controller's power supply is turned off, then the power supply of the transmitter should be turned off.
* The receiver will pick up noise when the order is reversed. This may cause the car to go out of control and cause an unexpected accident.

Noise killer capacitor (Corally #30555)

Please install it to the motor that uses the noise killer capacitor(s) to suppress the noise of high frequencies.

Warning!

Please note the polarity when you are installing this product.

ABOUT THE SHOTKI DIODE

Please install the Single Super Shotki Diode that is included.

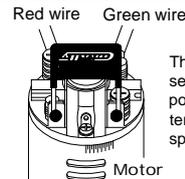
The Single Super Shotki Diode that is included must be installed. Generation of heat increases if this is excluded when in use. Without the use of this, excess heat will be produced and may cause damage to this product. For lower turn modified motors (15 or lower), we recommend using the included Single Super Shotki Diode for the MMS3. For very low turn modified motors use the Double Super Shotki Diode (#50021).

Warning!

If the polarity of the shotki diode is connected incorrectly, repairing it might become impossible.

The Shotki Diode should be installed on the motor side in theory. Even though it will work when installed on the MMS3 terminals, the best effect of protection for the MMS3 will not be demonstrated.

*A crack or damage to the Single Super Shotki's package may occur due to an impact. However, this does not damper the performance because it is not an internal part of the MMS3.



The Single Super Shotki Diode is polarity sensitive. Please install the sign on the positive (+) side. The positive (+) side terminal is a terminal that connects speed controller's red wire.

+ Side mark

Connect to the + side terminal.

Connect to the - side terminal.

SETUP

Caution!

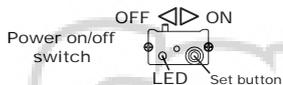
- Please set-up the standard (Factory Default Setting) for the transmitter in the beginning. This will not operate properly if the standard is not set.
- Please do not connect the motor when you set the standard. (Please connect it after all settings are done.)

The standard is set. *Before the setting

- The battery for the transmitter and the battery in the car should be charged before use.
- The speed controller should be connected referring to the preceding instructions.
- The switch of the transmitter should be turned on first.
- Factory setting of throttle trigger on the transmitter should be assigned. (Original setting when it was shipped)
- When most transmitters are shipped, the setting is 100% for the brake and throttle trim is neutral. But please check the instruction manual of your transmitter.
- Please make it turn off ABS an acceleration functions that are provided in the transmitter.

The standard and its setting are memorized by the signal from the transmitter in the MMS3. The settings are memorized and do not disappear even if the power is turned off.

	1	2	3	4	5
Transmitter throttle	Hold down the set button while switching the power to the on position. Hold the button down until the LED light comes and release.	The LED light will repeat a pattern of flashing once. Leave the throttle trigger in the neutral position and press the set button once.	The LED light will repeat a pattern of flashing two times. The throttle trigger should be pulled to the full forward position and held while the set button should be pushed once.	The LED light repeats a pattern of blinking three times. The throttle trigger is pushed to the full brake position and held while pushing the set button once.	When the standard setting is completed LED will remain on and the full operation of the throttle/brake is possible. Turn the power off and connect the motor. 1 flash: neutral 2 flashes: forward high point (full throttle) 3 flashes: the maximum brake (full brake) Definitions of the LED flashes mentioned above.
Set button	Hold down the button down until the LED light comes on.				A standard setting to the speed controller will end with the above steps. When the power on/off switch is turned of the MMS3 is turned off, the unit will not work. When the power on/off switch is cut before a standard setting is completed, setting is not memorized. You will need to perform the setting of the speed controller again.
Power on/off switch					
LED (light)					



To enter the communication mode. First, hold the set button down and then turn the power switch to the on position. While holding the set button down, the LED light will come on. Keep holding the button down until the LED light goes off and then release the set button. You are now in the communication mode. This is the mode used for the Handheld Setting Adapter (Corally #50040) and the PC Interface (Corally #50045) by KO Propo.

WHEN THE MMS3 DOESN'T OPERATE NORMALLY.

*In this case...

- Internal parts may be damaged by some heat. Also the signs of transformation of the case by excessive generation of heat displays possible damage. We would recommend sending it for repairs and checking.
- Please do not use this product if the MMS3 gets wet. Remove excess water at once and let it dry. After it dries, do not use this product. We recommend sending it to our repair department for inspection for possible water damage.
- The heat protection in the MMS3 is activated by overload and protection will stop. Please perform your car's maintenance like motor (cutting the com and changing brushes) and drive train system, etc. and making sure that gearing is correct.
- When there is an abnormal generation of heat and there is a nasty smell coming from MMS3, we would recommend discontinuing usage and send it in to your local authorized service department.

*When you think that something is damaged...

- Please inspect it and reread this manual again. If you still do not understand what has happened, please consult your local authorized service department. Please inform them of the situation with as much detail as possible.
- What is being used. (battery and car for the transmitter, receiver, servo, and the number of turns of the motor.)
- You should also have ready the symptom of usage conditions and the problems associated with it.
- Customer's address, name, and contact phone number
- Please send the information mentioned above in detail as possible when a repair is requested.
- Please pre-pay the postage when the repair goods are forwarded to the service department.
- Returned repairs will include repair fees, postal fees and a total.