Thank you for purchasing this product. Please read this manual to make the best use of the performance of the VFS-FR and enjoy RC. Also, please use this product with proper care in consideration of maintenance, warning, and etc. for your safety. Please keep in mind the information below and read these instructions. When you cannot understand the manual enough, please contact our service department and do not use the product.

**Variable Frequency System (VFS-FR)**

The further evolution of the VFS-1 has accomplished the changeable frequency systems. This is a high performance model with a backdrop of the successful functions of the VFS Series. The frequency setting with the initialization can be changed in 32 steps. The brake and the reverse function can be changed in 64 steps. A setting with high accuracy that is demanded from a race car for eight minutes is achieved. The setting adapter or PC software VFS-FR Manager is necessary for the frequency change and the setting change (sold separately).

Various parameters can be set by IS (Interactive Communication System) besides the drive frequency. The maximum peak current: 960A (FET specs.)

- **The power save voltage:** The power save output supplied to the receiver can be set while maintaining a constant voltage. This allows for a steady to the last minute.
- **Throttle response:** The throttle operation of the beginning screen can be changed to be mild. Combined with the punch function of the transmitter can be set to reduce the flutter of the car when the car is stopped.
- **Current limit:** Allows current to the motor to be suppressed. A set OFF voltage is also possible. This setting is used to extend the battery life by not overusing the power of the battery.

**Features**

- **Micro and light 25.3g**: (Excluding wires and connections)
- **Drive frequency:** 0.56-5.3KHz(64steps) initialization 2.0kHz

**Micro and light 25.3g**: (Excluding wires and connections)

- **The small slides switch is adopted in the power on/off switch.**
- **A consistent operation, durability, and reliability are achieved.**

**Use caution when handling, especially when it is noted to use safe attention.**

When mishandling a RC model it is very dangerous. This type of matter should be especially noted to avoid and should be used safely as much as possible. The place in which **Warning** and **Attention** are displayed in this book, the explanation of the display and the sign should be especially paid attention to.

**Technical spec**

- **Continuous output power:** 450Watt (47.1A)
- **Output voltage for receiver:** 6V (10.7A)
- **Drive frequency:** 2.45-6.3kHz(64steps) initialization 2.0kHz
- **Output current for receiver:** 24(maximum) (peak maximum: 30A)
- **The number of turns of a motor and the load to the motor are not necessarily indicated.**

**Installation note**

- **Arrange the placement of the receiver and wiring so that there will not be any external noise that can cause a malfunction.**

Please think about the placement of wire for the battery for the speed controller, motor, the wire to the battery, wire switch, and the switch. These large current systems generate noises. This type of noise is an electrical wave and will radiate. (Moves in all directions.) Therefore, if you bring the antenna closer to this source, it is likely to pick up this noise. It is possible to use a motor as long as it is shielded by electric cables. According to the usage condition, the detection zone of motors varies according to the number of turns. Please reduce the load by changing the charging voltage, timing, motor etc. shield the receiver against electric waves.

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

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

**Power on/off switch**

* LED will remain on and throttle will operate.
* OFF: Standard setting. Reverse will be engaged by returning to the neutral position and pressing the set button once.
* ON: Standard setting. Reverse will only be engaged by returning to the neutral position after braking, then moving the controller again.

**Operation of throttle mode and reverse**

The braking feature will operate on the VFS-FR when moving the throttle trigger from the forward position to the braking position. The braking is performed in the standard position. Reverse will be engaged automatically after moving the controller to the reverse position. This operation is designed to prevent the reversal of the motor in case the motor might not start well when a neutral position is adjusted by the trim of the transmitter after it has been set. Please bring the controller in the forward position and move the switch to the brake and the reverse to engage the braking using the above sequence reverse.

**Communication mode**

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 hand setting adapter and the VFS-FR setting adapter for personal computers.

When the VFS-FR doesn’t operate normally...

When you think that something is damaged...

- Please inspect it and replace the original again. If you still do not understand what has happened, please consult your authorized service department. Please return the item to the situation with the same model as possible.

- What is being used battery and part of the transmitter, receiver, sensors, and the number of turns of the motor of the product.

- You should also have easy the symptom of usage conditions and the problems associated with this.

- Customer’s address, name, and contact phone number

- Please consult the manual before using the product.

- If the switch motor is not working, please consult the manual before using the product. The updated switch motor is the most expensive原因之一.

- When there is an abnormal generation of heat and there is a nasty smell coming from VFS-FR, always cut off the power and use it in your local authorized service department.

**Set button**

- LED (light) will remain on and throttle will operate.
- OFF: Standard setting. Reverse will be engaged by returning to the neutral position and pressing the set button once.
- ON: Standard setting. Reverse will only be engaged by returning to the neutral position after braking, then moving the controller again.

**Warning**

- **Always** verify the items in the description and do not use anything else. Make sure the connector of the sensor, speed controller, etc. properly inserted into the receiver. - There is possibility of becoming disconnected due to the vibration when using. Please install the set button before turning on the speed controller to make sure the俊美 is set. (Frequency is temperature.) - Do not perform any work on the battery or battery pack, etc. - If you are plugging in a new battery, you will lose control and can cause an accident. - If you are the wrong procedure, alcohol, or are under medication, do not operate this equipment. - Unforeseen accident is maybe caused by the lack of judgment. - After a sun, disturbances and personnel will be engaged. When the switch is turned on, the brake, lighting, the battery, and the etc. should be kept in the place where children cannot reach. - The danger of poisoning, burn, and injury may occur by accidental ingestion.

**Attention**

- This display shows the content to which a possibility and/or a disadvantageous accident may occur causing injury.
- Do not make a mistake in the polarity connection of the battery. - The equipment will be damaged. - The transmitter, receiver, servos, and other option parts should be used properly. Please be responsible for the remote control products. Our company cannot be responsible for the damage etc. that occur because of the combination of non-proprietary KO PROP. products. - When turning the power supply on in this order (transmitter → speed controller → transmitter). - When you turn the power supply on, you will lose control and can cause an accident. - Do not use the receiver battery when you set the standard. Please do not use this on the switch or where people are present. - Please send this to our service department when there is damage or when the product gets wet. - It may cause corrosion and the breakdown of the product. - Please avoid high impacts to this product. - Please consult the manual before using this product.

We are not able to assume the responsibility in the result that the customer and/or how the RC model is used. Please acknowledge it beforehand.

**Part names and wiring**

- Connect it to channel 2 of the receiver switch.
- Connect it to the negative side of the battery.
- Connect it to the positive side of the battery.

**Power on/off switch**

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

**Standard Setup**

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

- Please set the standard (Factory Default Setting) for the transmitter in the beginning. The displays will operate properly if the standard is not set.
- Please turn the switch and change the setting for the transmitter before using. - Before the setting:

  - The battery for the transmitter and the battery in the car is switched before use.
  - The speed controller should be connected referring to the following instructions.
  - The switch of the transmitter should be set to "on".

- Please make to turn off and on the switch to initialize the transmitter.

- The switch of the transmitter should be set to "on". The setting adaptor for VFS-2000 cannot be used. The setting card and the multi setting adaptor for the VFS-FR can only be used.

- The ICS (Interactive Communication System) besides the drive frequency.

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- **Attention**

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**Note**

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