



10 setup points for the Zero Series

- Neutral width** • Sets the width of the neutral area during throttle operation. Sets the position at which the signal begins to be sent to the motor when the throttle starts to work in either the driving direction or braking direction from its stationary state.
- Minimum driving power** • Determines the initial rising power when the throttle is opened. (0 to 70%)
- Minimum braking power** • Determines the initial braking power when the brake is applied. (0 to 70%)
- Neutral brake** • Sets the amount of braking that is applied when in neutral. (0 to 70%)
- Compression retarder** • Determines whether the pseudo-compression retarder is applied or not, depending on the degree of throttle release.
- Driving frequency** • Controls frequency characteristics for driving. A lower frequency is for a torque type where a middle-or-low-speed run is emphasized, while a higher frequency is for an output-oriented type where high-speed performance is required.
- Braking frequency** • Controls the application of the brake. The lower the numerical value is, the more strongly the brakes take hold, while the higher the value is, the more moderately the brakes take hold.
- Neutral braking frequency** • Controls the application of the brake when in neutral. The lower the numerical value is, the more strongly the brakes take hold, while the higher the value is, the more moderately the brakes take hold.
- Power limit** * When the power limit function is selected, the initial torque is restrained and wheelspin is prevented. In dash mode, a sharp start can be achieved. However, during the L100 (100%), the dash mode does not work.
- Voltage of battery** • * for measuring time • Automatically measures the time that elapsed from the moment when the throttle was pulled to just before the battery voltage dropped to the specified value. This time can be a measure of battery performance and can be used to calculate fuel efficiency.

•The Zero series does not support this function. *The ZeroV series does not support this function.

TOURING CAR

Setting items	Kind of motor	540			9T	
		540	23T	9T Torque-oriented	9T Intermediate setting	9T High-speed-oriented
Neutral width (%)		7	7	10	10	12
Minimum driving power (%)		15	20	15	10	8
Minimum braking power (%) ^{*1}		50	15	15	15	15
Neutral brake (%) ^{*1}		0	0	0	0	0
Compression retarder (ON/OFF)		ON	OFF	OFF	OFF	OFF
Driving frequency (KHz) [*]		0.3	1.0	2.0	4.1	4.5
Braking frequency (KHz) ^{*2}		0.3	2.0	2.0	2.0	2.0
Neutral braking frequency (KHz) ^{*2}		2.0	4.0	4.0	4.0	4.0
Power limit (%) [*]		100	100	100	100	100
Voltage of battery for measuring time (V)		5.0	5.0	5.0	5.0	5.0
Comment	When the 540 motor with less power and weak cogging is used for a touring car, we recommend you adjust the settings to allow the touring car to have a hard-hitting run even in a high-gear setting. It may be advisable to set the minimum braking power to 70% because the brakes work softly.	Your preferred driving feel should be respected because the 23T motor could give a touring car boundless power. When this motor is used in a 5-minute race, an extreme setting to deliver maximum power run may cause a power down in the latter half of the race due to heat slack in the motor or other parts.	Generally, setting a touring car to run at maximum power may spoil the power growth at high engine speeds or make the car feel jerky at low engine speeds, resulting in difficult handling of the touring car. However, this setting achieves an overwhelmingly powerful torque feeling. This powerful feeling can be controlled by in-creasing/decreasing the minimum driving power.	This setting is generally linear and is an intermediate setting that is applied when a modified motor is used. When the modified motor is used, it is recommended that the control be started based on this setting. It is also important to increase/decrease the minimum driving power to balance with the frequency when it is controlled.	This setting, which emphasizes response in middle and high engine speed areas, is recommended as a setting for middle and high speed circuits. In addition, this setting is moderate for middle and low speed circuits so that even a comparatively rough throttle operation would not permit a touring car too much disorderly behavior.	

Setting items	Kind of motor	FORMULA	RALLY	2WD BUGGY	4WD BUGGY	MEMO		
		Sport Tune	23T	12T	12T			
Neutral width (%)		5	7	7	7			
Minimum driving power (%)		3	7	37	15			
Minimum braking power (%) ^{*1}		30	15	45	45			
Neutral brake (%) ^{*1}		20	0	0	0			
Compression retarder (ON/OFF)		ON	OFF	OFF	OFF			
Driving frequency (KHz) [*]		1.5	3.0	2.2	2.2			
Braking frequency (KHz) ^{*2}		2.0	5.0	0.3	1.0			
Neutral braking frequency (KHz) ^{*2}		2.0	2.0	2.0	2.0			
Power limit (%) [*]		100	80	100	100			
Voltage of battery for measuring time (V)		5.0	5.0	4.0	4.0			
Comment	The neutral brake is featured to control understeer specific to rubber tires. However, when a touring car is equipped with sponge tires or runs on an adhesive surface such as carpet, the brake setting is unnecessary.	In this setting, the output characteristic is set moderately and the power limit is applied on the assumption that a touring car runs on a weak-grip dirt course. However, when the road surface grip is strong, it is recommended that the power limit should not be applied. A well-controlled run using the brake is achieved.	The brake is set up so that even a slight operation applies the brakes strongly without locking in order to achieve a jump and sharp cornering at a turn. The neutral brake can be set up according to your preference. Set the frequency so that a linear feel on the throttle start can be obtained.	This setting emphasizes control stability at middle and low engine speeds. Control of both the driving and braking sides is set so that it works moderately at first. The brakes of a 4WD car are set up to work somewhat softly because a front one-way system is used in the 4WD car.				

* For the Zero series, these functions are controlled with a trimmer or switch. The functions marked *1 and *2 are controlled automatically with a trimmer and switch, respectively.

Function level list



MAIN
This display is shown after xELLO appears when the power supply is turned on. When the round LED lights, this means that the touring car can run. Pressing the C button switches from this screen to the initial setting screen.

FRQ
Each of the driving/braking frequencies can be displayed in KHz and a favorite frequency can be specified. The setting range for each frequency is between 0.1 and 20.0 KHz (100 and 20000 Hz). However, the frequency of the Zero series ranges between 1.0 and 15.0 KHz.

P.L.
With the power limit, which controls the torque and is effective on a slippery road surface, the maximum output value can be controlled. In addition, when dash power mode is specified, the power limit can be cut only on starting. (Only the Zero series and the Extreme series support this function.)

VOLT
The voltage level of the battery for measuring time can be specified.

TIME
This display is the measured time that has elapsed since the power supply was turned on or the time was reset, until the throttle was opened. Pressing the C button resets the time. (Only the Extreme series supports this function.)

TEMP
The current internal temperature is displayed to show the heat of the ESC. Press the C button to switch between the Centigrade display and the Fahrenheit display.

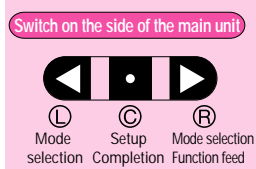
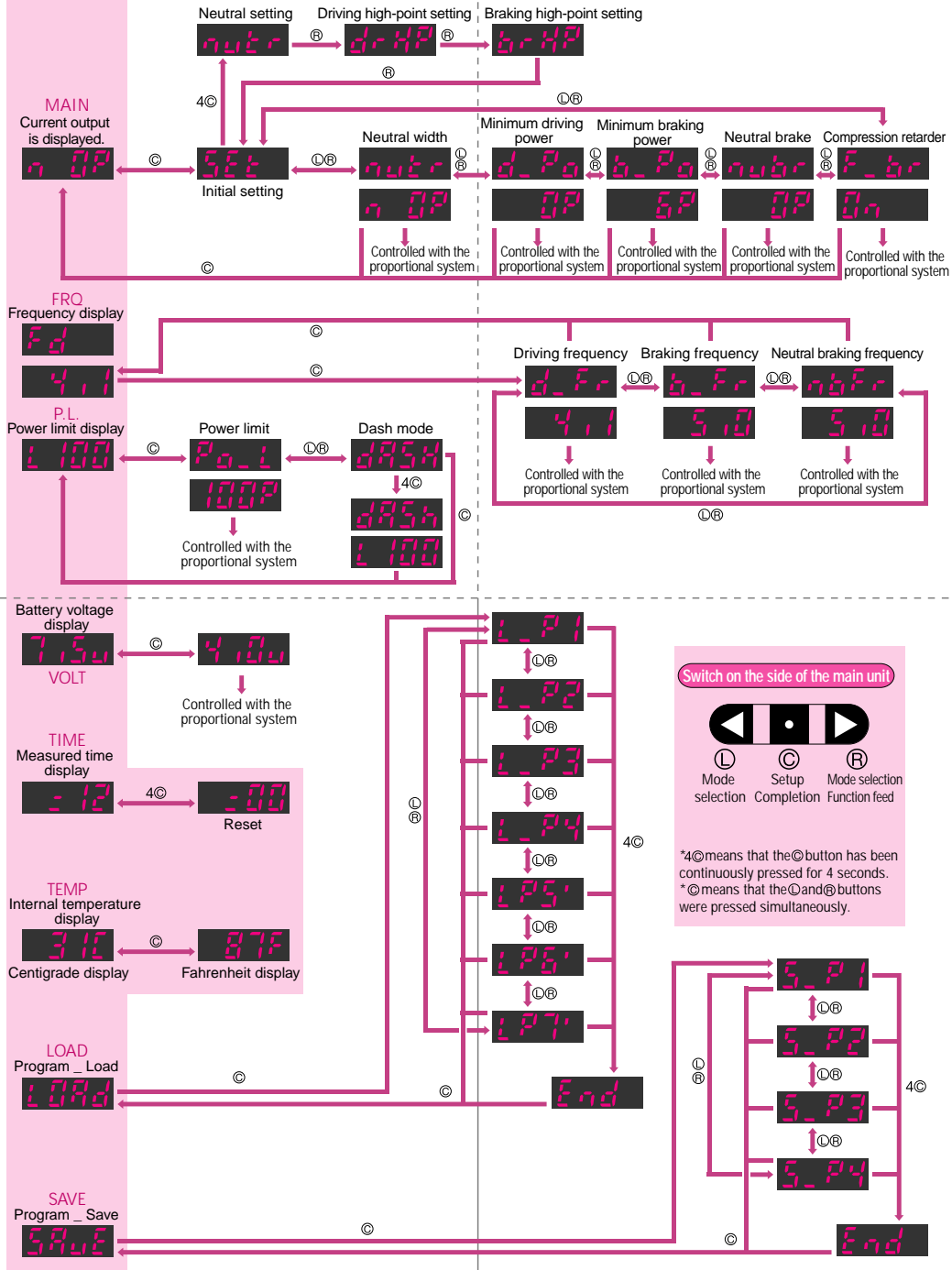
LOAD
Any program can be selected from among 3 factory-set programs and 4 programs saved by the user. (For the ZeroV series, only 3 factory-set programs can be called up.)

SAVE
Up to 4 patterns of newly set-up programs can be saved. Each original program is saved as 1 to 4. (Only the Extreme series supports this function.) * All of the three models support a basic function that stores one of the programs arbitrarily specified before power-off.

* For the Zero series, FRQ and P.L. are controlled with a trimmer.

Display Mode
(Motor is rotating.)

Setting Mode
(Motor is not rotating.)



*4C means that the C button has been continuously pressed for 4 seconds.
*C means that the C and R buttons were pressed simultaneously.

Quick Manual for ZERO V and V EXTREME

- Neutral width** C → R → Controlled with a throttle → C
- Minimum driving power** C → R → R → Controlled with a throttle → C
- Minimum braking power** C → R → R → R → Controlled with a throttle → C
- Neutral brake** C → R → R → R → R → Controlled with a throttle → C
- Compression retarder** C → R → R → R → R → R → Controlled with a throttle → C
- Driving frequency** R → C → Controlled with a throttle → C → L
- Braking frequency** R → C → R → Controlled with a throttle → C → L
- Neutral braking frequency** R → C → R → R → Controlled with a throttle → C → L
- Power limit *** R → R → C → Controlled with a throttle → C → L → L
- Voltage of battery for measuring time *** R → R → R → C → Controlled with a throttle → C → L → L → L

* The V series is not equipped with the power limit and the voltage of battery for measuring time capabilities.