1M23N08204

MC330CR

Futaba

FET Speed Controller

Neutral/High/Brake

INSTRUCTION MANUAL

Before using your MC330CR, please read this manual thoroughly and use the MC330CR properly and safely. After reading this manual, store it in a safe place.

- No part of this manual may be reproduced in any form without prior permission.
- The contents of this manual are subject to change without prior notice.
- This manual has been carefully written. Please write to Futaba if you feel that any corrections or clarifications should be made.

Thank you for buying an MC330CR. The MC330CR is a high-frequency drive FET amp with reverse function developed for model electric cars. It is compact and light weight, and uses a simple digital setting system.

FEATURES

- High-frequency drive system
- Forward, reverse, and brake operations are all linear
- Reverse operation cancellation function
- One-touch input of neutral, high, and brake MAX points by pushbutton switch
- Overcurrent protection function
- Heat protector
- Low-voltage protection function
- Power left on alarm function
- Abnormal input signal cancellation function
- Checker function (LED display, audible beep)

Applicable motors (Number of turns is criteria.)

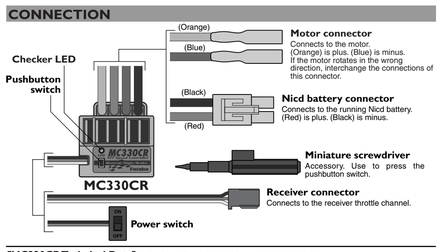
Use the MC330CR with a motor with 13T or more turns.

*If a motor with a number of turns smaller than the above is used, the heat protector and overcurrent protection circuit may operate. The number of turns of the motor is a criteria only. Depending on the running conditions, the protection circuit may operate even if the condition above is satisfied.

Power supply

Nicd battery 6~7 cells (7.2~8.4V)

CONNECTION



[MC330CR Technical Data] (Specifications are subject to change without prior notice.)

- Operating system: Forward, reverse, and brake operations are all linear.
- Power requirement: Nicd battery 6~7 cells (7.2~8.4V)
- PWM frequency: 1.5kHz (fixed)
- Setting: One-touch input by pushbutton switch. Set data is saved to built-in EEPROM.
- Current capacity (FET rating): Forward=200A, reverse=100A
- Case size: 27.1x333x12.8mm (excluding protruding parts)
- Silicon cord gauge size: AWG14 equivalent
- Weight: 45g (including connectors and switches)
- BEC voltage: 6.0V

MOUNTING PRECAUTIONS

⚠WARNING

- Install the receiver and receiver antenna at least 1cm away from the amp, motor cord, power cord, Nicd battery, and other parts that carry a high current.
- Metal and carbon chassis and other conductive parts transfer switching noise. When mounting the receiver to such a chassis, use thick double-sided tape to mount the receiver as far away from the chassis as possible.
- Always install a motor noise killer capacitor. Also, do not forget to service the brushes, and other parts.

  If noise causes the receiver to operate erroneously, control may be lost and an extremely dangerous situation may occur.
- Insert the connectors firmly.

  If vibrations while running cause the connectors to work loose, control may be lost and an extremely dangerous situation may occur.

⚠CAUTION

- Never reverse the Nicd battery polarity.

  Reverse connection will immediately destroy the amp.
- Mount the MC330CR so that conductive parts do not directly touch the metal fins of the FET.

  A short circuit may occur.

OPERATING PRECAUTIONS

⚠WARNING

- Do not run the vehicle in the rain or through puddles or on muddy or snowy roads.

  If moisture enters the amp, erroneous operation may cause loss of control and an extremely dangerous situation may occur. It may also cause amp trouble. Should moisture enter and cause erroneous operation, send the MC330CR out for repair and inspection.
- Always turn the power switches on and off in the following order:
  ON: Transmitter -> receiver (amp switch)
  OFF: Receiver (amp switch) -> transmitter

  If the power switches are operated in the opposite order, the vehicle may run unexpectedly and an extremely dangerous situation may occur.
- When going to and returning from the circuit, and when storing the model, always remove the Nicd battery.

  If the switch is turned on erroneously, control may be lost or a fire may start.

⚠CAUTION

- If a peddle or other foreign object gets caught in the gears or the vehicle hits an obstruction, do not try to forcefully run vehicle.

  Forcefully running the vehicle will cause trouble.
- Do not touch the motor or amp immediately after running.

  Touching the motor or amp immediately after running may result in serious burns.
- When making adjustments, remove the motor, or place the model on a stand, so that it cannot run.

Special Markings

Pay special attention to the safety at the parts of this manual that are indicated by the following marks.

Symbol: ⃠ : Prohibited
❗ : Mandatory

Mark	Meaning
⚠DANGER	Procedures which may lead to a dangerous condition and cause death or serious injury to the user if not carried out properly.
⚠WARNING	Procedures which may lead to a dangerous condition or cause death or serious injury to the user if not carried out properly, or procedures where the probability of superficial injury or physical damage is high.
⚠CAUTION	Procedures where the possibility of serious injury to the user is small, but there is a danger of injury, or physical damage, if not carried out properly.

SET UP

Neutral, high, and brake MAX points setting

⚠CAUTION

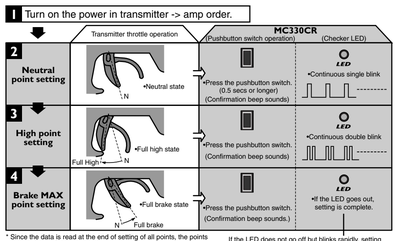
- Set the steering angle adjustment function (ATV) to 100% and the ABS function and acceleration function to OFF using the transmitter throttle channel function.

  If the steering angle is too large or the ABS and acceleration functions are on, erroneous operation may occur.

*When using the ABS function, after setting up the MC330CR, stop the reverse function, then turn on the ABS function. If the ABS function is on, the MC330CR cannot be set up correctly.

Before setting each point, set the transmitter throttle channel trim to neutral.

1 Turn on the power in transmitter -> amp order.



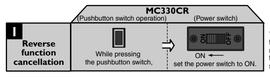
* Since the data is read at the end of setting of all points, the points cannot be set independently.
* If the amp power was turned off during setting, the setting points cannot be memorized. (The previous settings are retained.)
* The confirmation beep sounds only when the motor was connected.

If the LED does not go off but blinks rapidly, setting was not performed normally. Repeat setting from "Neutral point setting".

•Continuous rapid blink

Cancelling the reverse function

The amp reverse function can be cancelled by the following method so that the model can be used even in races that prohibit reverse running. (Brake operation only)



* When desired, you can enable the cancelled reverse function by repeating the operation shown at the left. (The reverse function is switched alternately.)

BRAKE/REVERSE OPERATING INSTRUCTIONS

Operation can be switched to reverse operation by returning the throttle trigger (or throttle stick) from the brake position to the neutral position.

PROTECTION CIRCUIT OPERATION

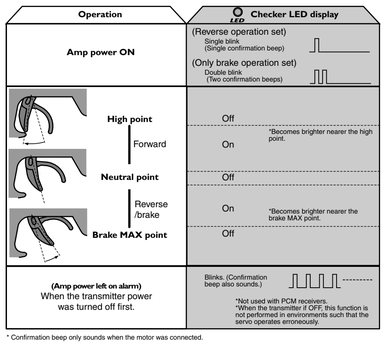
The following protection circuits are built into the MC330CR. When a protection circuit operates, remove the cause before operating the model again.

Overcurrent protection	When an overcurrent flows due to an output short circuit, etc., the overcurrent protection circuit automatically limits the current to protects the FET. ⇒ Remove the cause of the short circuit, etc. before operating the model again.
Heat protector	When abnormal heating of the FET due to an overload, etc. is detected, the heat protector operates so that the speed is gradually reduced. ⇒ When the FET temperature drops, the heat protector automatically resets. However, remove the cause of the overheating before operating the model again.
Low voltage operation	When the Nicd battery voltage drops, this function limits the motor output current and ensures steering operation. ⇒ After the speed drops, immediately recover the vehicle.

CHECKER LED DISPLAY

Relationship between amp operation and checker LED display

The amp operates linearly in proportion to the amount of forward, reverse, and brake operation. The amp operating state can be checked with the checker LED as shown below.



* Confirmation beep only sounds when the motor was connected.

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