



- # C110201 CS-Magnetic BL 2.5T
- # C110202 CS-Magnetic BL 3.5T
- # C110203 CS-Magnetic BL 4.5T
- # C110204 CS-Magnetic BL 5.5T
- # C110205 CS-Magnetic BL 6.5T
- # C110205 CS-Magnetic BL 7.5T

1. Dear Customer:

Congratulations for your purchasing of our CS-Magnetic Brushless Motor. You have decided in favour of a high-quality product of one of the most traditional and most innovative modelling companies of Germany. Before employing the CS-Magnetic Brushless Motor please read the following instructions carefully to ensure that your motor works to your complete satisfaction. With starting the motor you accept our conditions of warranty.

2. Range of applications:

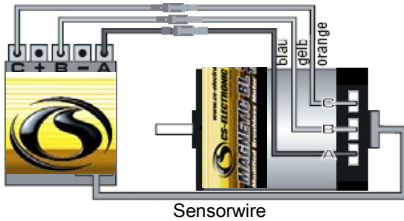
The CS-Magnetic Brushless Motor is designed for RC-Car models 1:12 and 1:10 with an operating voltage of 4.8 – 7,4V. This motor can be used with all current sensorless and sensed brushless electronic speed controls (ESC).

3. Installation:

Fix the motor in your car. **Attention:** the maximum length of the mounting screws must not be longer than 4 mm. Solder the three ESC wires to each of the solder taps on the motor like shown on the drawing.

When you use a sensor ESC plug the sensor wire into the connector located on the back plate of the motor.

Afterwards test all connections before you start the motor.

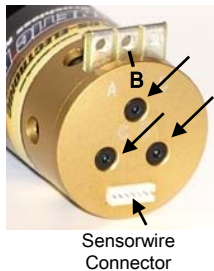


4. Timing

Your speed control (ESC) mostly has a preset timing in its software. Please check in the ESC manual if you can choose a relevant timing program for your motor type. The base timing of the CS-Magnetic Brushless Motor is pre-set to give the best possible power/efficiency ratio. But you can change the timing to accommodate the motor to different track measures. Then please use the following procedure:

1. Slightly loosen the three screws on the motor head.
2. **Note** the timing position of the original timing, "B" is middle of the middle solder tab.
3. For **more speed** level turn the back plate **counterclockwise**.
4. For **more efficiency** and less speed level turn the back plate **clockwise**.

Please note: if you increase the timing the wattage will rise and you have to take a shorter ratio.



5. Gear Ratio:

| Condition | 2,5T | 3,0T | 3,5T | 4,0T | 4,5T | 5,5T | 6,5T | 7,5T |
|---------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Touring Car 5 cells, small tracks | | | 8,9:1 | 8,4:1 | 8,0:1 | 7,3:1 | | |
| Touring Car 5 cells, large tracks | 9,0:1 | 8,4:1 | 7,8:1 | 7,4:1 | 7,0:1 | 6,4:1 | | |
| Touring Car 6 cells, small tracks | | | 10,3:1 | 9,7:1 | 9,2:1 | 8,4:1 | 7,5:1 | |
| Touring Car 6 cells, large tracks | | 10,5:1 | 9,2:1 | 8,0:1 | 7,8:1 | 7,1:1 | 6,8:1 | |
| 1/12 Scale 4 cells | | | 33,5m | 34mm | 35mm | 38mm | 42mm | 47mm |
| 2WD Off-Road 6 cells | | | | | 12,5:1 | 12,0:1 | 11,5:1 | 11,0:1 |
| 4WD Off-Road 6 cells | 15,5:1 | 15,0:1 | 14,5:1 | 14,0:1 | 13,5:1 | 12,5:1 | 12,0:1 | 11,5:1 |
| Monster Truck 6 cells | | | | 15,0:1 | 14,0:1 | 13,0:1 | 12,5:1 | 12,0:1 |

6. Maintenance

Casually it is necessary to test the ball bearings of the motor and to oil them, also to delete the dirt from inside the motor. To oil the ball bearings loosen and remove the three screws on the back plate (note the timing position for re-assembly). The rear ball bearing is located inside the rear bearing housing. Place one drop of bearing oil (we recommend JRP-OIL J21220) on the rear ball bearing. Then re-assemble the back plate and tight the back plate screws. Also the front ball bearing gets a drop of oil, for this you must not remove the motor.

For changing the ball bearings or the rotor of the motor disassemble the motor as follows:

1. loosen and remove the three screws on the front bearing housing **PIC 1** of the motor.

2. Then remove the front ball bearing. We advise to do this with a special removal tool.

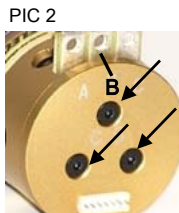
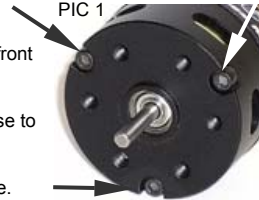
3. Exchange the old ball bearing with a new one.

4. Carefully remove the rotor from the motor. Because of its magnetic attraction keep away all magnetic objects and tools and place the rotor in a safe spot. Attend the position of all spacers to can re-assemble the motor correctly.

5. Loosen the three screws on the back plate **PIC 2** (note timing position) and remove the back plate.

6. Then slowly turn the rear bearing housing, with the plate, 30 degree to the left or right and remove it carefully. Delete the ball bearing and insert a new one.

Attention: The sensor plate is attached to the rear bearing housing and is very sensitive. When you again have assembled the motor accurately the rotor should have a very little or no side play. Place the spacers between the front ball bearing and the rotor to adjust the play correctly.



7. Warnings

Pay attention strictly all details otherwise your motor can be destroyed and the warranty is excluded.

Using a CS-Magnetic Brushless Modified Motor never sold a Shottky diode on the motor or ESC. When changing the power wire avoid to sold no longer than 5 sec. every sold position to except any damage of components. Also avoid too hard tightening of the motor screws. Overwinded screw threads are no case of warranty conditions.

8. Service

If you have problems with your motor in fact of appropriate handling and sufficient support or if your Motor has been damaged you can send them to CS-ELECTRONIC GmbH, Johann-Karg-Str. 30, DE-85540 Haar bei München. Please include the motor a specific description of the problem or the damage. With the send in of the product you place a repair order. If you wish we can give you a quotation about the repair costs. If then afterwards you do not let repair the motor the quotation will be with costs.

8. Warranty Conditions

CS-ELECTRONIC products are produced under strictly criterions of quality and CS-ELECTRONIC guarantees that the motors are supplied in correctly condition. CS-ELECTRONIC concede the legal warranty for faults of production and material which were existed at the time of supply. We are not liable for use typical signs of wear. The warranty do not apply for defects which a traced back to natural wastage, faulty use and failing maintenance. Every use of the product is at owner's risk. We only can accept a warranty claim if a copy of the sales slip is included when sending the product. The warranty in no case overrun the value of the product. When you start up with the product you accept the conditions above and assume full responsibility using this product. The values about weight, size and others specified by CS-ELECTRONIC are only bench marks. CS-ELECTRONIC does not assume any liability for these specifications for technological changes on behalf of the product can arise other values.