Himax Brushless motors are manufactured to high standards for the discerning modeler. Designed for light-weight, high efficiency, high torque, and durability Himax Outrunner motors are sure to make today’s radio controlled models perform. Please read the entire operating manual to ensure correct functionality and best performance. The HC2212 series motor is made for small to medium size models weighing 6 to 16 ounces.

Features:
High Efficiency - High Power - High Torque - Light-weight - Replacement for N60-280 Motors

Specifications:
Weight: 31g, (1.1oz), Motor with stick mount
Max Power: 50W, (This is dependent on several factors)
Max RPM: 20,000 RPM
Diameter: 21.8mm, (.86”)
Length: 25.6mm, (1.01”)
Shaft Diameter: 2.0mm (.0787”)
Mounting Screw Thread: 2.0mm, max depth 4.0mm, on 12mm (.472”) bolt circle
Maximum Case Temperature: 65°C, (149°F)

Electrical Specifications:
HC2212-0840 Kv = 850, Rm = .700, Io = 0.30, Efficient Operating Current = 1-4.5A, 5.0A Max 15 seconds
HC2212-1180 Kv = 1180, Rm = .300, Io = 0.50, Efficient Operating Current = 1-7.0A, 8.5A Max 15 seconds

Operation:
1. Himax Brushless motors require brushless sensorless speed controls. Failure to use a brushless sensorless electronic speed control (ESC) can result in damage to the motor and/or ESC. A Castle Creations Phoenix series ESC is recommended for best performance. The standard setting for timing advance is recommended for best operation.
2. The three wires of the motor can be connected to the three output leads of the ESC in any order. Check the direction of rotation of the motor. If the motor spins in the wrong direction switch any two of the motor wires will reverse rotation. Be sure to insulate the wires to prevent shorting which may damage the ESC.
3. Do not shorten the motor wires. Shortening or cutting the motor wires voids the warranty and may cause motor failure. If the supplied connectors are not to be used, remove them by desoldering. DO NOT CUT THE CONNECTORS OFF!
4. Allow for proper cooling of the motor during operation. With extremely high capacity batteries, care must be taken to prevent excessive motor temperature. Overheating of the motor is not covered under warranty. Insufficient cooling can result in overheated motors, even when operated at moderate power levels.
5. Do not disassemble the motor. Disassembling the motor voids the warranty. If service is required please return the unit to Maxx Products for service.
6. Install the propeller after proper rotation has been determined. Consult the ESC operation manual for proper arming and use procedures. Be sure the prop is clear before starting the motor. Once the battery is plugged in stay clear of the prop, electric motors are capable of extremely high torque and can be very dangerous.

Maintenance:
Brushless motors are almost maintenance free, so minimal care is required for long life. Keep the motor clean free of dust and dirt, especially the bearings. Dirty bearings wear quickly. Lubricate the bearings regularly with light oil. Do not immerse the motor in water, or solvents. Do not bend the wires excessively and secure wires to prevent breakage due to fatigue from vibration. Always used balanced propellers to reduce loads on bearings, to reduce noise, and reduce stress on the airframe. Be careful to install pinion gears properly. Improperly installed press fit pinion gears can result in damaged bearings, bent or broken shafts, or broken rotor assemblies. If in doubt, use set screw secured or glue-on type gears to prevent damage.

Warranty:
Himax motors have a two year limited warranty to the original owner, excluding gearboxes. All motors are guaranteed to be free from manufacturing defects within two years of date of purchase. Not covered under warranty is crash damage, customer abuse, improper use, or overheating. Warranty claims should be handled by the dealer or directly with Maxx Products, 815 Oakwood Rd, Unit D, Lake Zurich, IL 60047. Be sure to include contact information and a description of the problem including which ESC, battery, and prop was being used.

Service:
Himax motors in need of service should be sent to Maxx Products, 815 Oakwood Rd, Unit D, Lake Zurich, IL 60047. Please include a note explaining the problem. Return shipping for repair estimates must be prepaid.

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