

**Astro 05 Brushless Planetary Motor
05 Planetary Motor with control p/n 806P
05 Planetary Motor onlyP/n 806PM**

Congratulations you have just purchased one of the finest motors made for model aviation. The new Astro 05 Brushless Motor has the latest advances in hi-tech, a samarium cobalt rotor and a sensorless speed controller. **The Astro 05 Planetary Motor** is very small. It is only 0.975 inches in diameter, 3.25 inches long and weighs only 5.75 ounces. On a 5 cell Lithium pack, the motor can handle over 600 watts.

The Sensorless Control has a decoder for the radio receiver signal and a micro processor for controlling the motor. Actual commutation is done by a six phase Mosfet bridge housed in nine tiny surface mount packages. The control can safely handle 45 amps. If you decide to use a different prop we **recommend choosing a propeller that limits the current draw on the ground to a maximum of 35 amps on a fully charged NiCad pack.** This way the current draw in the air will be between 25A and 30A for best motor efficiency and longest flights. The entire control is very small measuring 2 inches by 1 inch and 1/4 inch thick. One side of the circuit board contains the 1 amp BEC circuit and the other side contains the commutation control chip and the power mosfets. The control weighs 1 ounce.

No Adjustments The sensorless speed control has no adjustments and is set up to work with any airplane radio control unit. The control adjusts to your radio low throttle command as long as the command is between 1ms and 1.3 ms. Motor speed will increase linearly up to full throttle as the transmitter pulse width is increased by 0.7 ms.

Safe Start The speed control has a safe start feature. The software requires a continuous low throttle command between 1ms and 1.3ms for five seconds after battery power is applied before it allows the motor to start. When first setting up your

transmitter you may have to set the throttle trim low and the throttle stick low before advancing the throttle stick to get the motor to run. Once the motor starts running the control will respond to radio command as long as battery power is present. If the motor does not start, set your throttle gain to plus 100% and minus 100% and set the transmitter throttle reversing switch to reverse position.

Programming This control has many programming features. Please refer to the Castle Creations Programming instructions that are enclosed. We have programmed the control with these Default settings:

1. cut off voltage 9 volts (option 5)
2. current limiting insensitive (option 4)
3. Brake type: brake on (option 1)
4. Throttle type : auto calibrating (option 1)
5. Timing advance: standard (option 2)
6. Cut off type : soft cutoff (options 2)
7. Pwm Switching: 11KC (option 1)

Reverse The Astro Brushless 05 Motor can be run in either direction. To reverse motor direction interchange any two of the three motor wires connected to the speed control.

BEC This speed control has a BEC circuit so that you do not need to install a separate receiver NiCad in your model. Because we have incorporated the BEC this control will only to work with six to ten cell battery packs.

Astro 05 Planetary Motor p/n 806P

Name	05 Planetary
Gear Ratio	4.4 to 1
Stator Winding	5 turns #20
Winding Resistance	.080 ohms
Rotor Magnets	Sm Cobalt
Bearings	Ball Bearings
Motor Rpm/Volt	1600 rpm/volt
Geared Rpm/volt	363 rpm/volt
No Load current	1.0 amps
Motor Diameter	0.98 in
Planetary Motor Length	3.25 in
Planetary Motor Weight	5.75 oz
Motor Shaft Diameter	1/8 in
Prop Shaft Diameter	4 mm
Mounting Screws	3 ea 2.5mm
Control Type	Sensorless
Control Rating	35 amps
BEC Rating	5 v @ 1amp
Servo Connector	Universal
Power Connectors	Astro
Voltage Range	7 to 16 volts
Maximum Current	35 Amps
Maximum Power	600 Watts

Other parts you may need

Stock No	Name	Price
101	Super Whattmeter	\$59.95
105	Servo Tester	\$19.95
110	Digital Charger 1-24 cells	\$109.95
525	Astro Connectors	\$5.95

Planetary 05 Motor with APC 12 x 8 prop

Cells	Amps	Watts	Rpm
4 Lithium	14 amps	230 watts	6,200
5 Lithium	19 amps	380 watts	7,000
6 Lithium	27 amps	680 watts	8,100

Planetary 05 motor with APC-14 x 7 prop

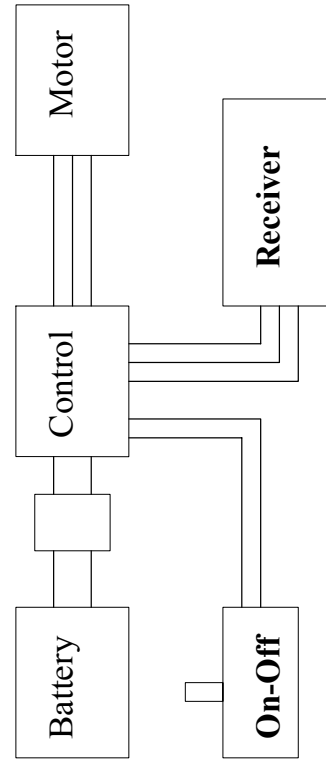
Cells	Amps	Watts	Rpm
3 Lithium	16 amps	190 watts	5,500
4 Lithium	23 amps	370 watts	6,600
5 Lithium	30 amps	600 watts	7,500

Planetary 05 Motor with Aeronought 14 x 8 Folding prop

Cells	Amps	Watts	Rpm
4 Lithium	21 amps	360 watts	5,600
5 Lithium	27 amps	550 watts	6,300

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Wiring Diagram



Connect servo cable from control to throttle channel of receiver

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