AG63PRO BRAKING AND STEERING GYRO

The AG63pro gyro integrates a braking and steering gyroscope, an electromagnetic brake controller, which are applied to a fixed-wing model aircraft with the steering nose wheel.

The AG63pro gyro can correct the deflective trend of model aircraft taxiing on the ground and respond accurately to the rudder stick.

The AG63pro gyro can control the force of the electromagnetic brake to keep the model aircraft taxiing on the right way.

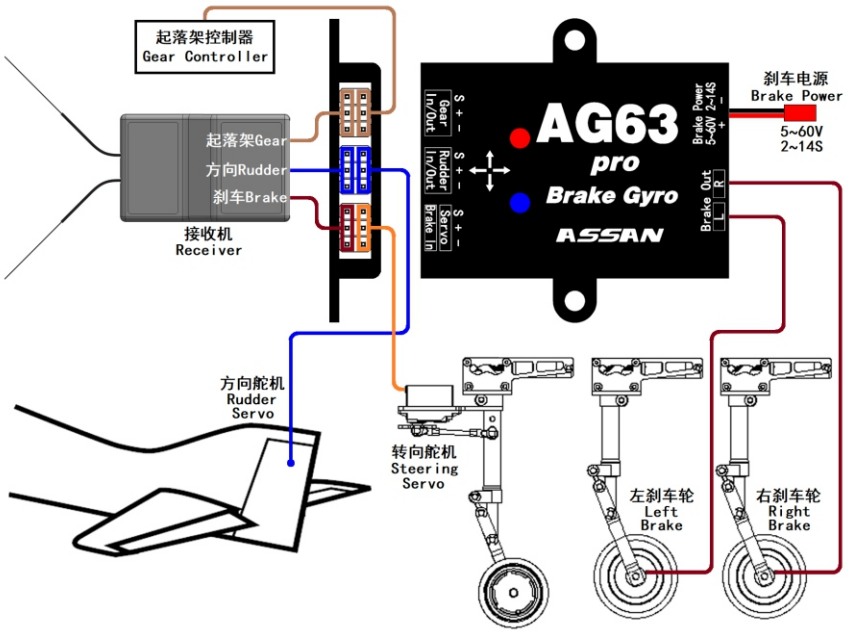
The most important highlight of the AG63pro gyro is that it uses intelligent adaptive algorithm, which eliminates the tedious operation such as setting sensor direction and adjusting sensitivity of traditional model gyroscope products. It only needs to automatic direction adaptation once during installation, and there is no need to adjust when using, so that its installation and use is very simple and convenient.

The AG63pro gyro has outstanding effects on taxiing correction and braking correction, and can be widely used in all kinds of model aircraft, such as scale model aircraft using Electric Ducted Fan or JET power.

INSTALLATION

The AG63pro gyro supports six-direction installation, which can either make the gyro bottom surface parallel to the bottom plane of the model aircraft (the gyro label face up or down), or make any one of the four arrows on the gyro label perpendicular to the bottom plane of the model aircraft. The gyro is securely attached to the model aircraft using screws or double-sided adhesive. Caution, the AG63pro gyro cannot be installed near the motor or engine!

CONNECTION



The power supply for the AG63pro gyro is provided by the Rudder channel of the receiver. Power on the receiver and the AG63pro gyro will work. The power input from the brake power plug of the AG63pro gyro is only used to drive the brakes.

If the model aircraft does not use the retractable landing gear, the Gear In/Out may not be connected.

If the model aircraft is not use the electromagnetic brake rear wheels, the Brake In and Brake Power may not be connected.

The Servo jack can only be plugged into the nose wheel steering servo. Do not connect the rudder servo to this jack. Otherwise, the model aircraft will not operate properly in the air!

POWER ON INITIALIZATION

After installation of the AG63pro gyro, power on the model aircraft, red and blue lights flash quickly indicating that the gyro is initializing. At this time, do not move the model aircraft, do not move the transmitter rudder stick ether. After the AG63pro gyro initialization is complete, the blue light is solid on or flash shortly.

The blue light solid on indicating that the AG63pro gyro considers that the transmitter gear switch is at the landing gear extend position, and the steering nose wheel can turn by moving the transmitter rudder stick. The blue light flash shortly indicates that the AG63pro gyro considers that the transmitter gear switch is at the landing gear retract position, and the steering nose wheel cannot turn by moving the transmitter rudder stick. If the actual state of the landing gear does not correspond to the status indicated by the blue light, please refer to **"AUTOMATIC DIRECTION ADAPTATION"** bellow, in order that the AG63pro gyro can correctly identify the transmitter gear switch state.

If the blue and red lights is always flash quick and the initialization cannot be completed, please check whether the model aircraft was vibrated, whether the transmitter is on, whether the transmitter rudder stick is in the neutral position, whether the receiver signal good, and whether the Rudder In of the gyro is properly connected to the receiver rudder channel.

Caution, the AG63pro gyro records the neutral point of the transmitter rudder stick during power on initialization, if you adjust the transmitter rudder trim in flight, will make AG63pro gyro think that the rudder stick has been moved, may turn the steering nose wheel to one side, causing landing accidents! So do not adjust the transmitter rudder trim in flight! After adjusting the transmitter rudder trim on the ground, you need to cycle the model aircraft power, so that the AG63pro gyro can re-record the neutral point of the transmitter rudder stick.

CHECK THE STEERING NOSE WHEEL DIRECTION

Before checking the steering nose wheel direction, make sure the model aircraft rudder is set correctly. When you push the transmitter rudder stick to the **left**, the model aircraft rudder should turn to the **left**. If it is not correct, please reverse the rudder channel on the transmitter. After confirm that the model aircraft rudder is moving in the right direction, the steering nose wheel should turn to the **left** when the transmitter rudder stick is pushed to the **left**. If it is **correct**, select the steering nose wheel **does not need to be reversed** in the next step of **"AUTOMATIC DIRECTION ADAPTATION"**. If it is not correct, select the steering nose wheel **needs to be reversed** in the next step of **"AUTOMATIC DIRECTION ADAPTATION"**.

AUTOMATIC DIRECTION ADAPTATION

If the installation of the AG63pro gyro is completed or the installation direction is adjusted, and if the rudder or gear channel on the transmitter had be reversed, the AG63pro gyro must perform an automatic direction adaptation function once to make the gyro run correctly.

Power the model aircraft **horizontally**, and switch the transmitter gear switch on the landing gear **extend** position. **Within** one minute **after** the initialization of the AG63pro gyro, quickly move the transmitter rudder stick to the **left and right ends** for 5 or more times(10 or more times in total), and finally let the rudder stick stop at the **left end**. The blue and red lights of the AG63pro gyro alternating flash quickly, indicating the starting automatic direction adaptation of the gyro.

If the steering nose wheel **does not need to be reversed**, keep the rudder stick at **left end** until automatic direction adaptation is complete.

If the steering nose wheel **needs to be reversed**, immediately after the AG63pro gyro red and blue lights start flashing alternately, push the rudder stick to **right end** and keep the rudder stick at **right end** until automatic direction adaptation is completed.

Note that the AG63pro gyro will not start the automatic direction adaptation no matter how to move the rudder stick more than 1 minute after initialization!

If you cannot start automatic direction adaptation after following the above proceedings, please temporarily increase the transmitter rudder channel travel to 100%, again for automatic direction adaptation. After the automatic direction adaptation is completed, restore the original setting of the transmitter rudder channel travel.

After the AG63pro gyro blue and red lights alternating flash 3~5 seconds, the automatic direction adaptation is completed, the gyro can be used normally. If the blue and red lights always alternating flash and the automatic direction adaptation cannot be completed, please check whether the model aircraft is standing horizontally, or whether the AG63pro gyro is correctly installed in the direction described in the **"INSTALLATION"** section above.

CHECK THE STEERING NOSE WHEEL RESPONSE

After the automatic direction adaptation of the AG63pro gyro is completed, it is necessary to check whether the steering nose wheel movement direction and the correction response direction are correct.

When you push the transmitter rudder stick to the **left**, the steering nose wheel should turn to the **left**. If it is not correct, please do **"AUTOMATIC DIRECTION ADAPTATION"** again and select the steering nose wheel **needs to be reversed**.

If the steering nose wheel is moving in the right direction, tilted the model aircraft nose slightly (no more than 40°) and swing the model aircraft nose to the **left**. The steering nose wheel should turn to the **right**. If it is not correct, please do **"AUTOMATIC DIRECTION ADAPTATION"** again and select the steering nose wheel **does not need to be reversed**.

INDICATOR LIGHT

Red and blue lights flash quickly	Power on initialization.
Blue light solid on	Rudder stick is in neutral point.
Blue light double flash	Rudder stick is moved, not in neutral point.
Blue light flash shortly	The model aircraft tilts more than 40°, or the landing gear is retracted. The gyro correction function off.
Red light solid on	Electromagnetic brake is on.
Red light flash shortly	Electromagnetic brake is off.
Red light flash slowly	Electromagnetic brake overcurrent protection.
Red and blue lights alternating flash quickly	The gyro is automatically adapting the mounting direction, the rudder and gear signal direction.

SPECIAL FUNCTIONS

Tilt the model aircraft over 40°, the AG63pro gyro will stop correction function after two seconds, but the steering nose wheel will respond to the transmitter rudder stick, so that you can observe and adjust the steering nose wheel.

Retract the landing gear of the model aircraft, the AG63pro gyro will immediately stop correction function and keep the steering nose wheel in neutral position. Extend the landing gear of the model aircraft, the AG63pro gyro will start correction function after 5 seconds.

The braking force of AG63pro gyro is adjustable. If the knob or slider on the transmitter is used to control the brake channel signal, the braking force can be continuously adjusted. If the switch on the transmitter is used to control the brake channel signal, adjust the high travel of the brake channel on the transmitter to adjust the braking force.

If the electromagnetic brake is not turned off for more than one minute, the AG63pro gyro will automatically turn off the brake to prevent the electromagnetic coil in the brake from overheating.

If the brake power supply voltage is higher than 12V, the brake output voltage is 12V. If the brake power supply voltage is lower than 12V, the brake output voltage is the same as the brake power supply voltage.

FAQ

1. As a result of most landing gear retracting servo or retracting controller have power-on position protection function, can cause the following phenomena: When the landing gear is extended, power on the model aircraft, if the transmitter gear switch in the landing gear retracted position, then the landing gear will be kept extended, but the AG63pro gyro received a transmitter landing gear retracted signal, make the steering nose wheel does not respond to the transmitter rudder stick, which leads to the operator mistakenly thought the AG63pro gyro is out of order. Just switch the transmitter gear switch to the landing gear extend position and wait 5 seconds for the steering nose wheel to respond to the transmitter rudder stick.

2. When the landing gear is extended, the steering nose wheel does not respond to the transmitter rudder stick, while the landing gear is retracted, the steering nose wheel responds to the transmitter rudder stick, which requires automatic direction adaptation. Please read the above section **"AUTOMATIC DIRECTION ADAPTATION "** carefully and follow the procedure described above.