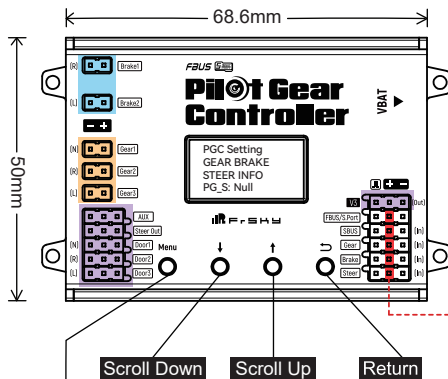


## Introduction

The Pilot Gear Controller (PGC) is a fully integrated system that simplifies the setup of retractable landing gear, gear doors, brakes, and ground steering for your Turbine or large-scale model. It also features adjustable brakes and a built-in Gyro assist system for both steering and brakes.

Apart from the standard features, the PGC also features an integrated power system that can simplify your power distribution as well. There are 3 individual BEC voltage outputs to power various systems within the PGC and also has the ability to power external receivers and servos if you prefer a one-battery solution.

## Overview



### V1 Separately Adjustable 6.0-12V

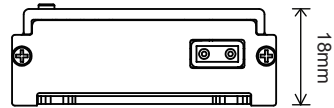
Continuous Current via V1: 5A

### V2 Separately Adjustable 6.0-12V

Continuous Current via V2: 10A

### V3 Separately Adjustable 6.0-12V

Continuous Current via V3: 10A



**Notice: Power is NOT supplied by these pins**

- Short click** Toggle between Main Menu Items / ENTER to save or confirm items
- Long click** SELECT main menu Items

### PG\_S (Gear Status)

PG\_S: Null (Indicates the landing gear is NOT connected.)  
 PG\_S: Retracted (Indicates the landing gear is in retracted status.)  
 PG\_S: Deployed (Indicates the landing gear is in deployed status.)  
 PG\_S: Stop (Indicates the landing gear stops at a position.)

## Specifications

- Dimension: 68.6×50×18mm (L×W×H)
- Battery Input Connector: XT30
- Battery Voltage Input Range: 8.4V~60V (2S~14S)
- Adjustable Voltage Output Range: 6.0V~12V
- Weight: 81.6g
- Operating Current: 65mA@12V
  - Continuous Current via V1: 5A (Up to 40W)
  - Continuous Current via V2: 10A
  - Continuous Current via V3: 10A

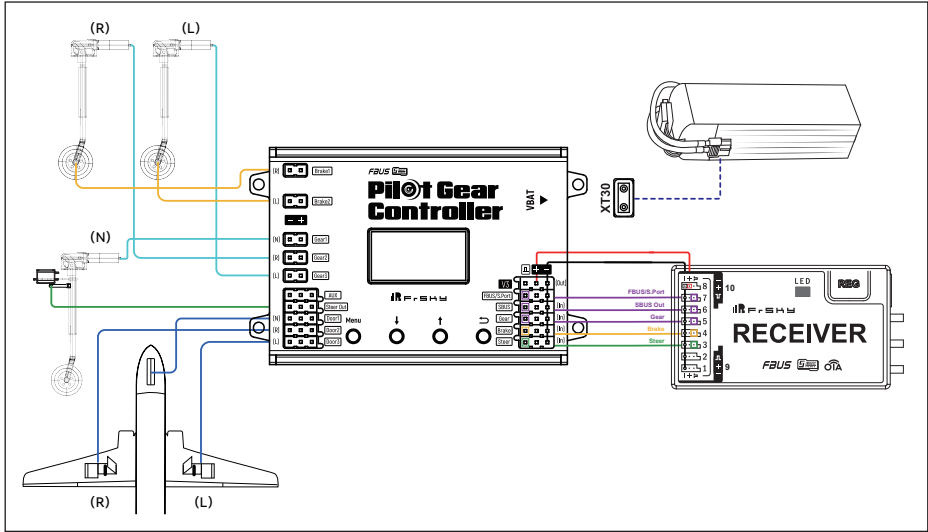
**Note: When a 4s to 14s battery is used, output voltages are fully adjustable between 6-12v. 2s or 3s battery can be used to power the device but your set BEC voltages need to be less than the battery's voltage (Output upper limit is less than its input).**

## Features

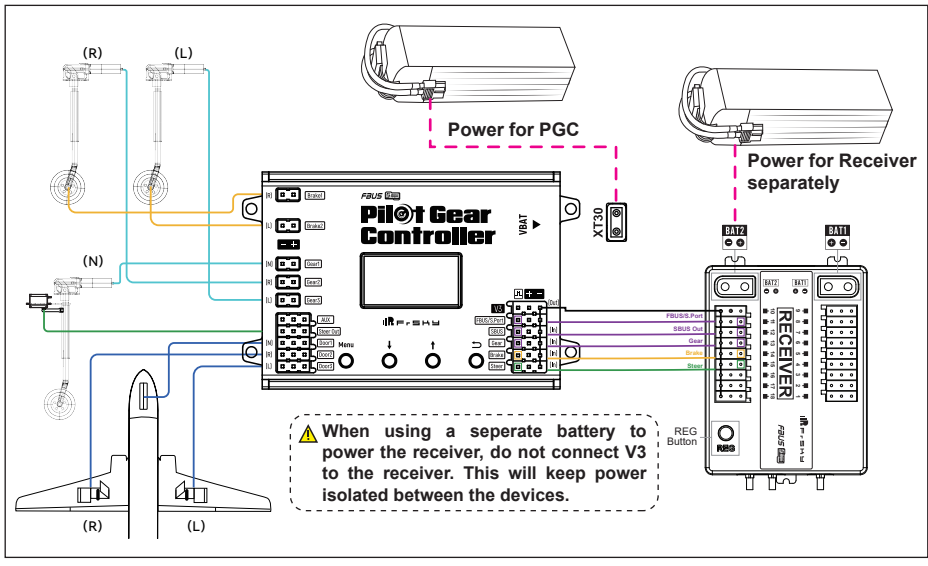
- Landing & Door Gear Control System
- Adjustable Braking Performance
- Gyro Assist for Steering and Brakes
- 3 Independent Adjustable BEC Voltages
- Stable and Reliable Voltage Output

## Recommended Power Connection Diagram

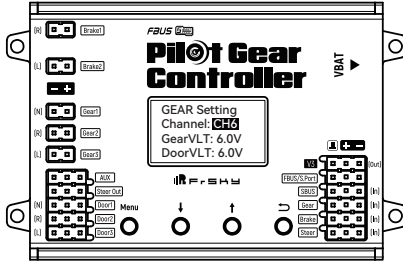
**Scenario 1: Powering the PGC module and Receiver with the same power supply by XT30 connector.**



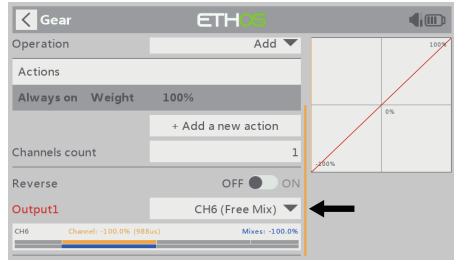
**Scenario 2: Powering the PGC module and Receiver separately with different power supplies.**



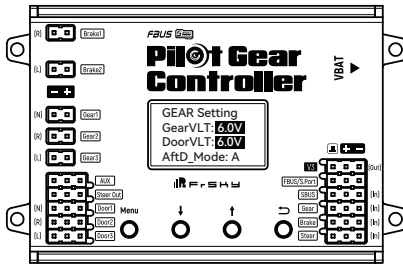
## Retract Gear & Door Gear Settings



1. Select a channel (CH1-24 is selectable) in the PGC's GEAR menu to control the Retract Gear and Door Gear.



2. Create a new Mixer for Gear (Retract & Door) in the radio, then select the same channel for this Mixer and set up a switch as the input.

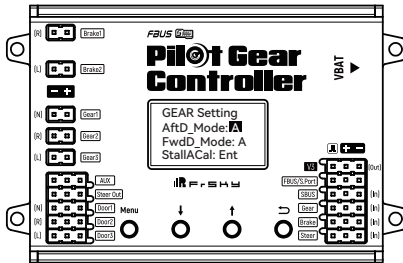


3. Please refer to the Retract Manufacturer for proper voltage settings for the retract motors and door servos.

**GearVLT:** Set Voltage for Retract Gear Motors.

**DoorVLT:** Set Voltage for Gear Door Servos.

**⚠ Door Voltage value is also used for the steering servo. Please ensure that both devices are capable of the voltage value you set.**

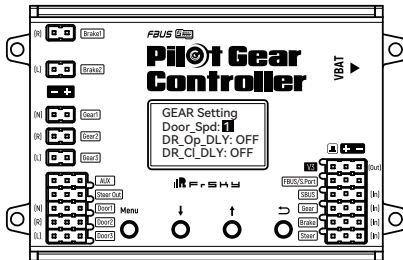


4. Select the operation mode for the retract doors

**AftD\_Mode** → AfterDoor Mode

**FwdD\_Mode** → ForwardDoor Mode

**Mode A:** Door Closes after landing gear is deployed.  
**Mode B:** Door remains Open when landing gear is deployed.

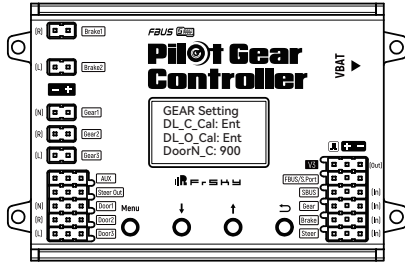


5. Set up the Open/Close Speed & Open/Close Delay of the Gear Doors.

- **Door\_Spd:** Adjusts the Speed of the door for both Open and Close modes. (It is configurable from 1-10 seconds. The minimum operation duration just 1s, and the maximum is 10s.)

- **DR\_Op\_DLY:** The Delay time setting for activating the Release of the landing gear after the Door opens. (Configurable from 1-10 seconds.)

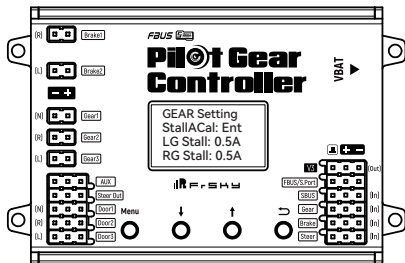
- **DR\_CI\_DLY:** The Delay time setting for activating the Retraction of the landing gear before the Door Closes. (Configurable from 1-10 seconds.)



6. Set up the stop positions (in Close & Open status) of the Doors.

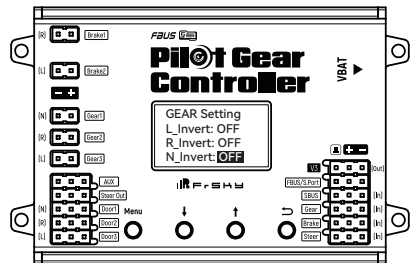
- ① **Dx\_C/O\_Cal**: Click the Ent to start the Door calibration procedure for door Open/Close end point adjustment. Stays at the center point by default for the first use, and by using ↑/↓ buttons to do the quick calibration. (Please ensure the gears are connected to the PGC module properly.)
- ② **Doorx\_C/O**: Calibrate data auto populates here. Or you can manually fine adjust open and closed end points.

## Retract Gear Settings - Stall Ampere Calibration & Control Inversion



1. The PGC senses current to determine when the gear is fully retracted or fully deployed. By setting a current value, once that value is exceeded, the gear will stop and the PGC will determine that the gear is fully up or down.

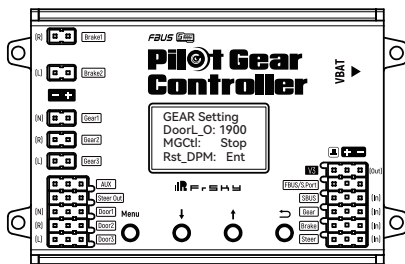
- ① **StallACal**: Click the Ent to start the StallACal procedure and by using ↑/↓ buttons to have all the gears into the Stall status to auto-detect the stall current. After completing the auto-detect procedure, press the ↑/↓ buttons to have all the gears quit the Stall status. (Please ensure that the retracts are connected and functioning before using this mode.)
- ② **xG\_Stall**: StallACal will populate these fields once executed. You can fine tune the numbers here as well.



2. If the Gear Status Display on the Main menu does not match the actual gear position, you can Reverse the gear position by enabling (On) the Invert function for the corresponding gear.

- **L\_Invert**: Control inversion for the Left retract
- **R\_Invert**: Control inversion for the Right retract
- **N\_Invert**: Control inversion for the Nose retract

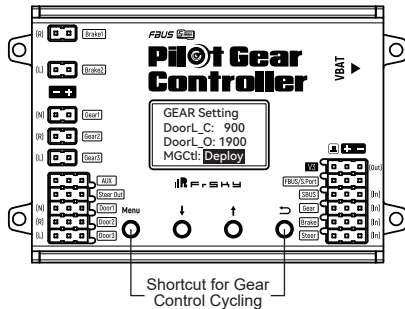
## Reset Door Position Memory (Rst\_DPM)



When the PGC module is about to be installed on a new airplane equipped with landing gear, resetting the previously recorded door position data from other aircraft in the module is required to ensure re-configurations of door positions for the new airplane.

**Note:** Enter this function, pressing the ↑/↓ button will complete the reset process.

## Manual Gear Control

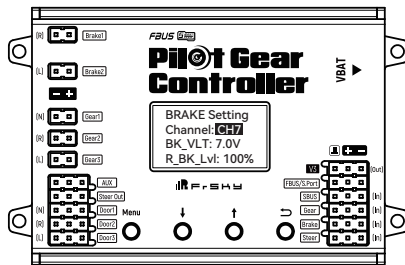


Enabling this feature allows manual control of all connected gear devices (Deploy/Stop/Retract) directly through the module, without the need for the radio. Disabling this feature will allow the system settings to take control of all connected devices.

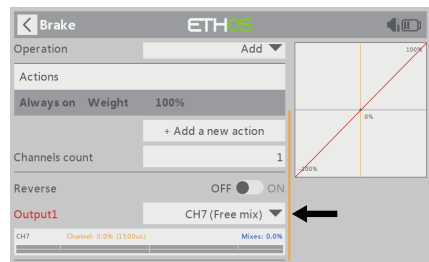
Method 1: Enable the feature by manually cycling through Deploy, Stop, and Retract in the system menu.

Method 2 (Shortcut): Press and hold both the Menu and Return buttons for more than 1 second. The controller will cycle through the actions in order by each Shortcut press: Deploy → Stop → Retract.

## Brake System Settings

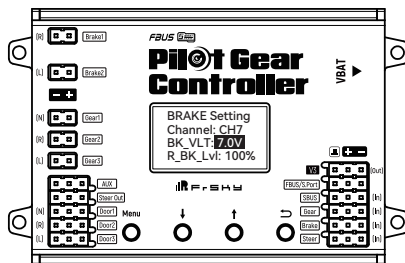


1. Select a channel (CH1-24 is selectable) in the PGC's BRAKE menu to control the Brake system.

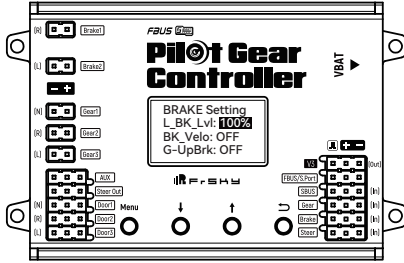


2. Create a new Mixer for Brake function in the radio, then select the same channel for this Mixer and set up a switch/pot as the input.

- Using a switch (e.g. a 3-position) allows you to reach the brake force you set with 3 fixed force values.
- Using a pot can enable linear adjustment to achieve the desired brake force.



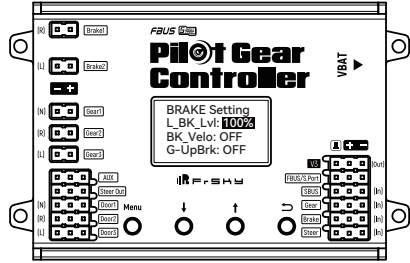
3. Please refer to the brake manufacturer's specifications to determine the proper voltage to set BK\_VLT (Brake Voltage).



4. Set the Brake Force Level / BrakeVelocity / Brake while GearUp to meet the control requirements in different applications.

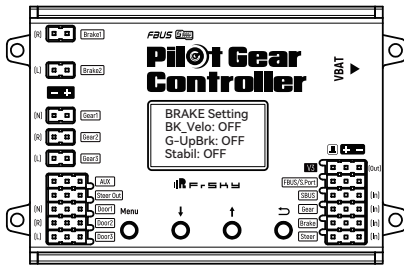
- L/R\_BK\_Lvl: 0-100% adjustable for max brake force. 100% set by default.
- BK\_Velo (Velocity): A value that describes the transition speed from the initiation of braking to a set max brake force. (0.5~5.0 seconds configurable, and OFF by default.) The larger the set value is, the slower achieving the set max brake force. When set to OFF, the set max brake effects immediately.

**⚠ (Note: When the set value is exceeded, the system will brake at a constant speed using the set value. )**



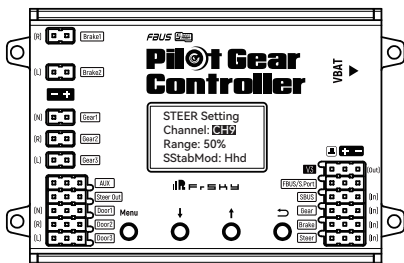
- **G-UpBrk**: A feature that applies brake effects to the wheels when they are retracted, preventing them from spinning inside the fuselage. Default is OFF.

**⚠ (Note: Please refer to the Device Manufacturer for proper settings. Recommend to start with a smaller setting value and adjust it to match the actual usage scenario.)**

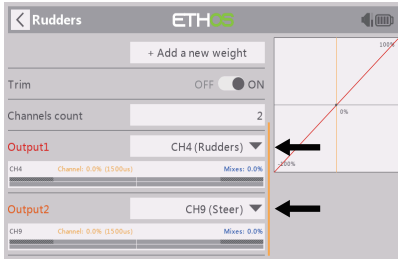


5. **Stabil**: Default is OFF. When Activated, a range of 1-30 determines the amount of Gyro gain for the Brakes.

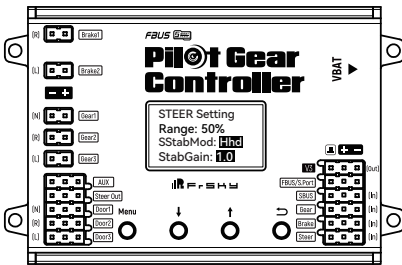
## Steering & Gyro Setup



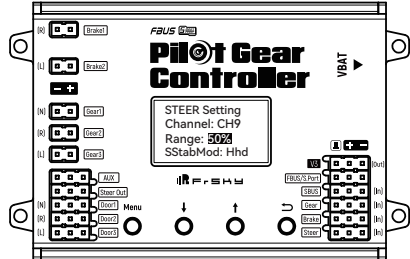
1. Select a channel (CH1-24 is selectable) in the PGC's STEER menu to control the Steering (Nose) wheel.



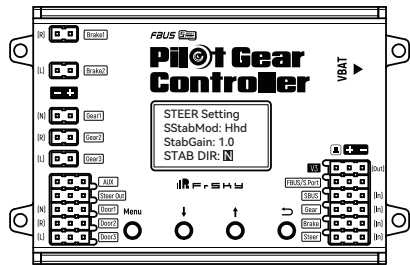
2. Use the created Rudder mixer and add another Output channel for Steering function. Also, set up a switch to enable/disable the function.



4. **SStabMod(SteerStabMode):** Select the Gyro Mode (Heading Hold / Stabilization) for the Steering Wheel.  
**StabGain:** Adjusts Gyro Gain for Steering. (0.1-9.9 adjustable, and OFF indicates the Gyro effect is off)



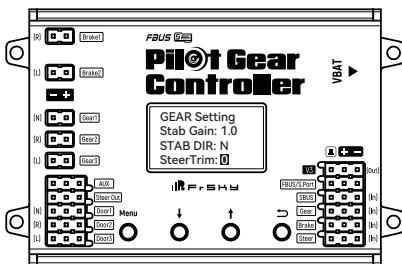
3. **Range:** Set up the stabilized angle range for the gyro wheels in the rudder dimension. (0-100% adjustable, 50% set by default)



5. **Stab Direction Selection:**

- Mode N: Normal mode
- Mode R: Reversed Mode. Gyro effect reversing. If the Gyro is correcting the wrong direction, Reverse the mode.

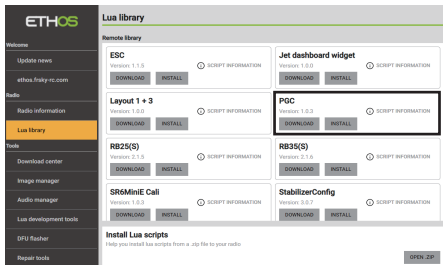
## Steering Nose Wheel - Center Position Calibration



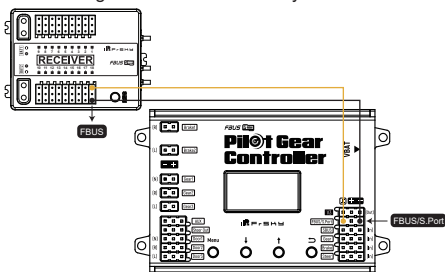
Use Steer Trim to offset the nose wheel trim so your plane is tracking straight.

## Configuring the PGC with a Lua script on ETHOS radios.

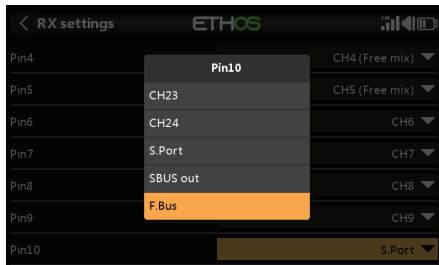
Once the full-feature configuration has been completed on the module end, some settings can remotely be adjusted via the Lua tool on the ETHOS radio.



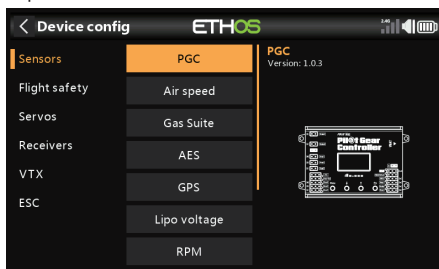
1. Download and install the latest module configuration tool using the Suite software on your PC.



3. Ensure the receiver is connected to the PGC via the S.Port/FBUS interface.



2. Bind the receiver with the ETHOS radio, and set the port intended for PGC connection to FBUS mode.



4. Navigate to the PGC configuration tool and locate the desired setting positions.  
[System] > [Device config] > [Sensors] > [PGC]