

Instruction Manual for CS-1 GYRO

--- Rated Gyro for RC Cars/ Boats ---

CS-1 Drift Gyro is a super high performance steering gyro that supports a wide range of needs and is perfect for all levels hobbyists from beginners to high-level competitors. With newly developed circuitry, this gyro offers 2 selectable modes, features EPA setting and supports to use with latest Futaba S.BUS2 protocol. This helps to eliminate any undesired steering shake from gyro operation, helping to detect excessive movement and reducing the chance of unsettling the chassis.

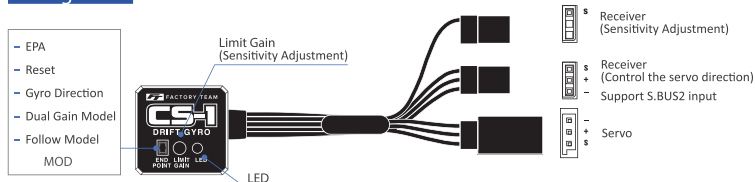
Specification

- Shell Material: AL6061
- Weight: 10g
- Dimension: 25.7x24.7x9.5mm
- Operating Voltage: 3.7 ~ 8.4V
- Dual Gain Mode: Normal / AVCS
- Current Drain: 20mA/6V
- Operating temperature: -10°C+50°C
- Control System: PID Control System
- Input Signal: PWM (50-333Hz) / SANWA SHR; SSR / FUTABA S.BUS2
- Output Signal: 1520uS (50Hz/333Hz) / SANWA SSR

Feature

- CNC aluminum case for high efficiency cooling and well-protection
- Reliable and high-performance gyroscope sensor
- Simple and quick installation with compact size
- Compatible with latest Futaba S.BUS2 and other common signal such as PWM, Sanwa SSR/SHR
- Easy adjustment with dual gain modes
- EPA feature for matching different scale car models
- Perfect for RC Competition Drifting Cars and Boats

Diagram



LED Status

LED	Status
Red Fast Blink	Gyro Initialization
Yellow Fast Blink	Loss of Control Signal
Green Solid Light	Normal Mode/ Gain Adjusted by Gain Channel(CH3)
Green Slow Blink	Normal Mode/ Gain Adjusted by Potentiometer
Red Solid Light	AVCS Mode / Gain Adjusted by Gain Channel(CH3)
Red Slow Blink	AVCS Mode / Gain Adjusted by Potentiometer
Yellow On for 3 Seconds	Normal / AVCS Mode Setting
Yellow Slow Blink 3 times	Forward and Reverse Gain Setting
Yellow Slow Blink	Travel Setting Mode

Instruction of Function Switch

- EPA (Travel Setting)**
Press the "MOD" switch to power on, yellow LED blinks slowly. Entering to the servo travel setting, rotate the remote control steering wheel to make servo stop at the desired position (turn left / turn right). Short press "MOD" switch, yellow LED blinks 2

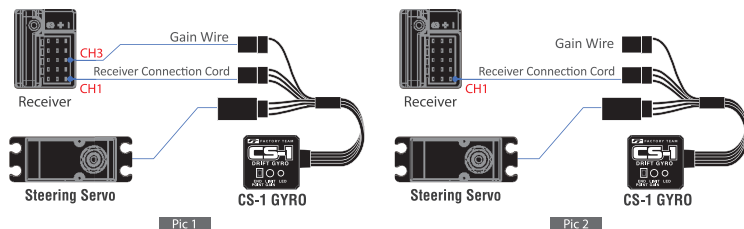
times quickly, green LED becomes solid, and red LED blinks slowly, it means current travel has been saved. Then rotate the remote control steering wheel to make the servo stop at the other desired position, short press the switch, yellow LED blinks 2 times quickly, and then the yellow LED turns on, it means current travel has been saved as well. 2 seconds later, the gyro will automatically enter into initialization, once completed, gyro is ready for use.

- Reset (Travel Restore Default Setting)**
Press the "MOD" switch to power on and enter into the travel setting mode. After pressing and holding the switch for 3 seconds, the yellow LED starts to blink alternately. Restore to default after 2 seconds. Then it will enter into initialization, once initialization is completed, the gyro is ready for use.
- Gyro Direction (Forward / Reverse Gain Setting)**
In normal working status, press and hold the "MOD" switch for 4 seconds, yellow LED blinks slowly 3 times, then switch the gain forward or reverse.
- Dual Gain Mode Setting (Normal / AVCS Mode)**
In normal working conditions, fast press the "MOD" switch 2 times, yellow LED is on lasting for 3 seconds, then switch the mode to Normal or AVCS. **Normal side: Green LED, AVCS side: Red LED**
- PWM Follow Mode Set (Digital / Analog)**
Fast press "MOD" 3 times, blue LED is on, enter into PWM Follow Mode.
Gyro input signal within 50-100Hz, gyro output frequency is same as input frequency, this mode is suitable for analog servo; Gyro input signal is within 100-385Hz and neutral position is around 1500uS, output 333Hz, this mode is suitable for digital servo. Fast press "MOD" 3 times again, blue LED is off, exit the follow mode.
Note: Some special input signal such as Futaba S.Bus, Sanwa SSR etc are not included in the follow mode range.

Receiver Connection (Input Signal Mode)

- PWM (50-333Hz)**
Suitable for most of remote control systems, while plug in the gain wire, it can adjust the sensitivity by transmitter (as pic 1); While do not plug in the gain wire, the gyro's potentiometer can be used for gain adjustment.(as pic 2)
- FUTABA S.BUS2**
Suitable for FUTABA latest S.BUS2 and S.BUS remote control system. When S.BUS2 signal input is used, default CH3 channel for sensitivity adjustment, and the gyro gain wire is not used.
- SANWA SSR / SANWA SHR**
Suitable for SANWA remote control system. When using SSR /SHR signal input, the output signal is automatically adapted to SSR /SHR signal.

Note: The SANWA SSR signal is only applicable to SSR servos. It may cause permanent damage if using regular servos.



Limit Gain (Gain Adjustment)

- Adjust the gain via gain channel of the transmitter (default for S.BUS2 input), the range is from -100% ~ 0 ~ +100%.
(a) 0 means sensitivity zero. (b) -100% / +100% means maximum gain.
- While do not plug in the gain wire, the gyro's potentiometer can be used for gain adjustment.