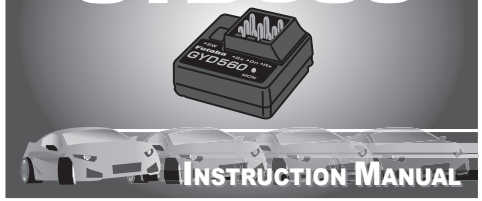
1M23N40402

Futaba

Gyro for RC Drift Cars

GYD560



INSTRUCTION MANUAL

For RC models | **Only for Futaba digital servo**

Before using your new gyro, please read this manual thoroughly and use the gyro properly and safely. After reading this manual, store it in a safe place.

- No part of this manual may be reproduced in any form without prior permission.
- The contents of this manual are subject to change without prior notice.
- Futaba is not liable for any potential damage (accidental or otherwise) that may occur after installation.

Features of GYD560

● Dedicated RC Drift car setting

Vehicle straight-line and cornering performance can be increased without taking into account the effect of the road surface, etc.

● Remote gain function and mode switching function

You can adjust gain from the transmitter (3 or more CH) by using the remote gain function. The mode switching function allows AVCS/NORMAL gyro mode switching.

● Integrated, compact, and light weight

Compact size (20.7x21.7x10.6 mm) and light weight (5.4 g) realized by high density mounting technology.

● Aluminum case

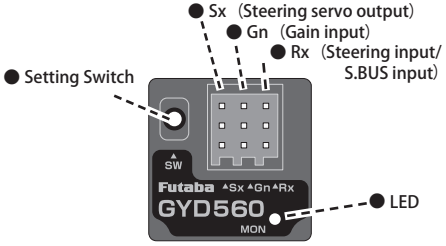
The GYD560 is equipped with a robust and highly rigid aluminum case.

● Supporting the S.BUS/S.BUS2 connection

Only one wire connection to the receiver can operate the GYD560.

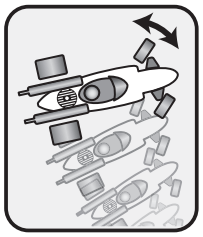
● Only for Futaba digital servo

Functions



Monitor LED display

State	Color	Move	Reference
1. No servo pulse / Error	Red	Slow blink	
2. Signal input from receiver	Green	Fast blink	
3. Sensor initialization	Red/Green	ON	AVCS (Red) Normal (Green)
4. Turn	Red/Green	Fast blink	Right (Green) Left (Red)
5. Neutral offset	Orange	Slow blink	Steering operation
6. Gain off	—	OFF	
7. Low battery	Red	One flash	Less than 3.8 V
8. Parameter Settings	Parameter setting reference		



Thank you for purchasing the GYD560 RC cars gyro. Compact and lightweight, the GYD560 is designed to control steering for RC Drift cars. Features include S.BUS/S.BUS2 connectivity.

The transmitter needs 3 or more channels to control the gyro gain.

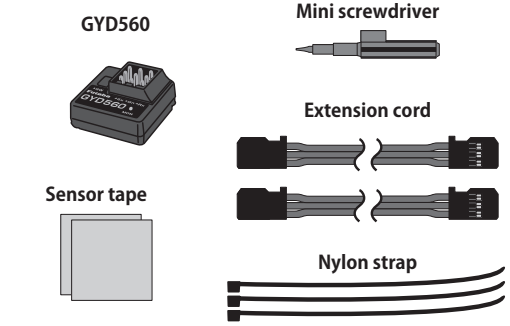
GYD560 Ratings:

(Integrated sensor type gyro)

- Gyro sensor: MEMS vibrating structure gyro
- Operating voltage: DC 3.5 V to 8.4 V
- Current drain: 30 mA (excluding a servo)
- Operating temperature range: -10 ºC to +45 ºC
- Dimensions: 20.7 x 21.7 x 10.6 mm (0.82 x 0.85 x 0.42 in) (except protrusion)
- Weight: 5.4g (0.19 oz)
- Functions: LED monitor. Servo selection (UR/SR mode). S.BUS/S.BUS2 connection.

Set Contents

The following items are supplied with the GYD560:



⚠ WARNING

Failure to follow these safety precautions may result in severe injury to yourself and others.

❗ Check that there is sufficient battery capacity.

⃠ Do not operate the model and transmitter steering wheel for about 3-5 seconds after turning on the GYD560 (When shared with the receiver).

- GYD560 initialization and neutral position reading. The GYD560 is initialized when the power is turned on. The neutral position is also read at the same time. If initialization ends normally, the operator is informed by two repetitive movements of the servo to the left and right (a little).

❗ Always check the direction of operation of the gyro.

⃠ Do not strike the gyro with a hard object. Do not drop it onto a concrete surface or other hard floor.

- The sensor may become damaged during strong impacts.

⃠ Do not use trims or mixing.

- All corrections are made by the gyro. Therefore, if trimming and mixing, are turned on, operation will be the same as deviating from the neutral position.

⃠ Do not use the GYD560 for applications other than RC cars.

- This gyro is designed for RC cars only. Do not use it for other applications.

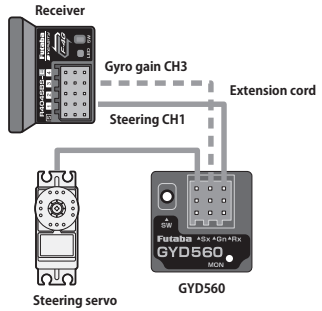
⃠ Analog servos cannot be used.

- The use of analog servos may cause servo trouble.

⃠ Do not place gyro near heating equipment (engine, motor, ESC, battery, servo, etc.).

- Always allow the gyro to adjust to the surrounding environmental temperature before use. A large temperature change during use will cause drift and other operational issues.

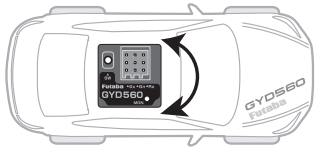
Connecting the GYD560



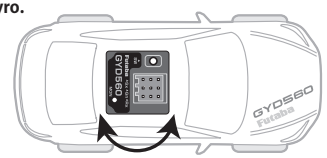
Mounting to Chassis

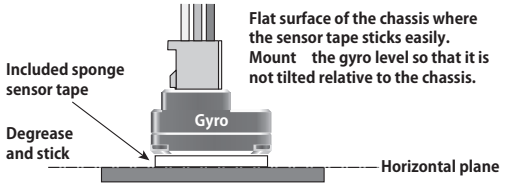
Use the included double-sided sponge tape to firmly attach the gyro perpendicular to the control axis, at a position where there is as little vibration as possible. Make the wiring loose and bundle it with the included nylon strap so that it will not interfere with the linkage rod.

Gyro mounting position



The direction of rotation fixed by the gyro can be any direction within 360° relative to the steering axis controlled by the gyro.

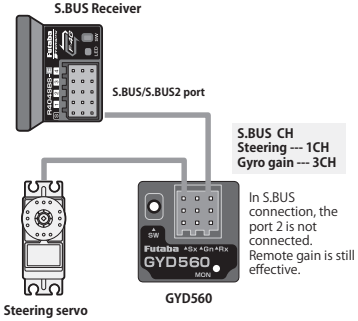


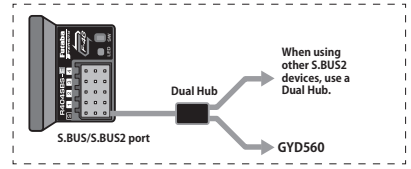


When GYD560 is turned ON

The GYD560 requires 3-5 seconds to initialize when the power is turned on. **Do not move the car and do not move the steering wheel** during this initialization or the gyro may not initialize properly. Once the initialization process has been completed the steering servo will move (a little) several times indicating that the GYD560 is now ready for use. If the neutral has shifted, LED will blink orange. In that case, it reboots.

S.BUS Connecting the GYD560





Steering servo

Link the servo in accordance with the kit instruction manual.

When using S.BUS servo, initialize a parameter.

Make the servo operating range as wide as possible.

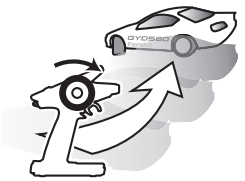
Make the numerical value of EPA (ATV) equal in left and right.

AVCS / NORMAL Modes

The gyro has 2 operating modes: **NORMAL** mode and **AVCS** mode. In the **AVCS** mode, **gyro control is firmer**. Because the feel of operation is different, choose your favorite mode.

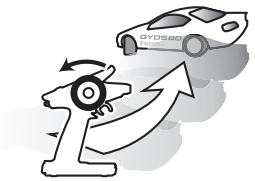
NORMAL

The driver needs to perform counter-steer ⇒Operation opposite to the turn direction



AVCS

Gyro performs countersteer ⇒Steer in the turn direction.



UR mode

It is possible when using the S.BUS setting compatible transmitter to change the servo to "UR Mode" and improve the servo response. If the servo can't be changed to UR mode, do not set the TX to UR mode.

Adjustments

Setup before a run

Gain adjustments are carried out with a transmitter.

1 Select the appropriate setting for the steering servo that you are using. Set the servo type in the **Parameter settings**.

*Do not use a normal digital servo in the UR/SR servo mode. The servo may be damaged.

2 Run the car in the gyro off mode **(gyro gain 0%)** and adjust the **steering trim** (sub trim). Make EPA and D/R 100%

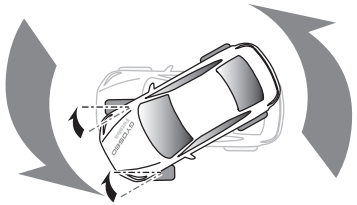
3 Sets the gyro **Neutral/limit point.**.

4 Set the gyro sensitivity to about 70% at the NORMAL or AVCS side in according to the transmitter's instruction manual. Refer to the **<GAIN CH> <AVCS / NORMAL Modes>** graph on the next page.

Gyro sensitivity zero --- LED OFF
AVCS side --- LED red
NORMAL side --- LED green

***Make the gain tuning adjustment after running the car and noting the behavior.**

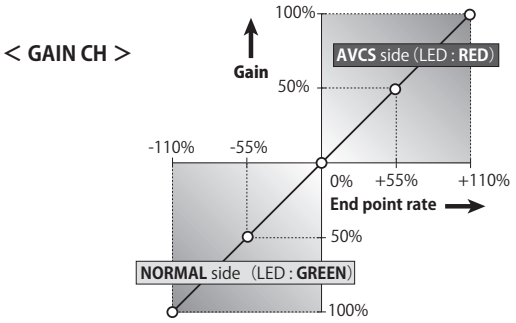
5 Using the gyro direction set, adjust the gyro direction so that steering moves all the way to the right when the car is turned to the left. Correctly set gyro operating direction or the car will not run.



If the car is turned to the left by hand → steering goes out on the right

Gyro Gain and Mode Switching

When the remote gain function is used, **NORMAL** and **AVCS** mode switching is performed in accordance with the direction of operation of the transmitter's remote gain channel. At the **+ rate side**, the **AVCS** mode is selected and at the **– rate side**, the **NORMAL** mode is selected. The sensitivity is changed by adjusting the end point rate. The sensitivity setting criteria by end point is shown in the figure below.



AVCS / NORMAL Modes

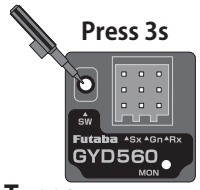
The gyro has 2 operating modes: NORMAL mode and AVCS mode. In the AVCS mode, gyro control is firmer.

Because the feel of operation is different, choose your favorite mode.

Parameter Settings

● Switching to Setting mode

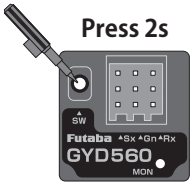
GYRO turned on, press and hold the setting switch for about 3 seconds.



① Servo Types

Each time press the setting switch, it switches between the following three servo types.

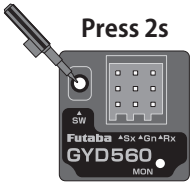
1：Digital servo — **Green flashes once**
Short press
2：SR mode — **Red flashes once**
Short press
3：UR mode — **Orange flashes once**



② Gyro Reverse

Each time press the setting switch it will switch between normal and reverse.

1：Normal — **Green flashes twice**
Short press
2：Reverse — **Red flashes twice**
Short press

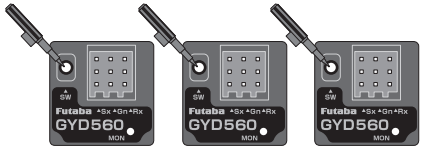


③ Reset

Resets the parameter settings to their default values.

Green flashes 3 times

3 short presses



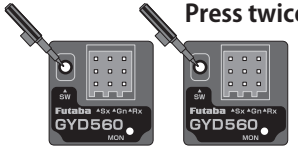
① Servo Types

● Power OFF to escape

Neutral/limit point

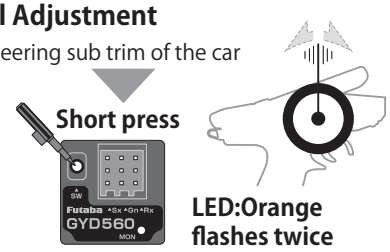
● Switching to Setting mode

When the receiver is in receiving state, short press twice within 1 second. *The setting mode cannot be started until the gyro has been initialized.



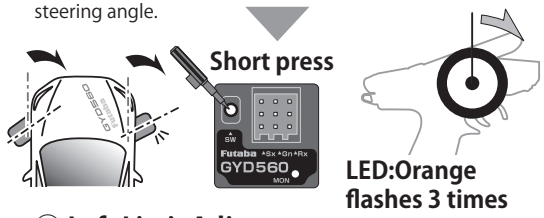
① Neutral Adjustment

Adjust the steering sub trim of the car



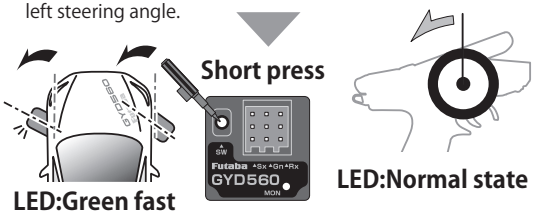
② Right Limit Adjustment

Operate the steering wheel to the limit of the machine's right steering angle.



③ Left Limit Adjustment

Operate the steering wheel to the limit of the machine's left steering angle.



● Exiting the setting mode

Completed step 3, will exit the setting mode.

Wireless Settings

GYD560 can be wireless setting from T10PX and R404SBS/R404SBS-E. In that case, it is necessary to update T10PX and R404SBS/R404SBS-E to the version corresponding to GYD560 wireless setting. Refer to the version update manual for setting details.

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