

User Manual

Wireless Joystick

Model : FZ134

Product Name: Controller

■ Revision history

Rev.	Date	Points modified	Changes description
00	9.Aug.2024		First Release
01	22.Aug.2024	2.4 3.1	Add Warnings and Cautions Correction Electrical Specification
02	31.Oct.2024	4.1 4.3 4.3.3 4.3.4	Modify the website address Delete Label printing position Add RF Exposure Compliance
03	10.Dec.2024	3.2.1	Add Bluetooth specification
04	12.Dec.2024	3.2.1	Modify Bluetooth specification
05	24.Dec.2024	2.4 3.2.2	Add Warnings and Cautions Modify Wireless Charging specification
06	8.Jan.2025	3.2.1	Modify Bluetooth specification

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1. Overview

This product is the Wireless Joystick intended for boat maneuvering.

The system is composed of:

- The Wireless Joystick provides the following functions:
 - Maneuvering control by joystick, lever and button input
 - LCD display of operation information and operating status
 - Buzzer sounds as button feedback or warning
 - Bluetooth connection to dedicated devices
 - Wired charging using USB Type-C port
 - Wireless charging with dedicated equipment



Figure 1-1 Wireless Joystick

1.1. Joystick, lever and button input

- When the Wireless Joystick is in maneuver mode, this device can control boat via Joystick and lever input.
- The Wireless Joystick can change maneuvering modes and settings via button inputs.

1.2. LCD display

- The Wireless Joystick displays boat status and information on LCD display.
- When charging, charging screen is displayed.
- The Wireless Joystick displays a warning if there is a problem with boat or itself.

1.3. Buzzer sounds

- The Wireless Joystick sounds buzzer as feedback for button input.
- The Wireless Joystick sounds buzzer if there is problem with the boat or itself

1.4. Bluetooth connection

- The Wireless Joystick connects and communicates with dedicated devices via Bluetooth.
- The Wireless Joystick cannot be connected or paired with any device other than dedicated device.

1.5. Wired charging

- The Wireless Joystick has a USB Type-C port.
- It can be charged by supplying power to USB Type-C port.

1.6. Wireless charging

- The Wireless Joystick has an antenna for wireless charging.
- It can be charged by supplying power to dedicated wireless charger.

2. Installation notes

2.1. Wireless Joystick attachment

The Wireless Joystick consists of main unit and a Li-Ion battery.

Li-Ion battery is shipped from factory built into Wireless Joystick or installed into the Wireless Joystick by field personnel.

2.1. Access to Wireless Joystick internal parts

It is strictly forbidden to have access to the inner electrical components.

2.2. Product modifications

It is strictly forbidden to modify or tamper products.

2.3. If the product fails

All damaged components, must be replaced.

2.4. Warnings and Cautions

Batteries may leak, heat up, or explode.

- Do not replace with a different type of battery, as this may cause the protection function to not work properly.
- Do not dispose of the battery in a fire or hot furnace as it may explode. Always ask your dealer to dispose of it.
- Do not crush or cut the battery mechanically. This may cause an explosion.
- Do not leave the battery in a place where it may become hot, such as on the dashboard or in direct sunlight. This may cause an explosion or leakage of flammable liquid or gas.
- Do not expose the battery to excessively low pressure. This may cause an explosion or leakage of flammable liquid or gas.

Wired charging precautions

- Do not charge via the USB-Type C port on board.
- USB cable length must be less than 2m.

3. Technical Specification

3.1. Electrical Specification

Parameter	NOTE	MIN	NOM	MAX	UNIT
Nominal voltage	-	-	3.7	-	V
Operating voltage	-	2.9	-	4.2	V
Operating temperature		-18	25	+77	°C
Storage temperature	-	-40	25	+85	°C
Operating current	-	-	-	250	mA
Sleep current	-	-	-	100	μA

3.2. Wireless specification

3.2.1. Bluetooth

Parameter	NOTE	MIN	NOM	MAX	UNIT
Operating frequency	-	2402	2440	2480	MHz
Maximum RF Output	-	-	-	7.3	dBm
Antenna type	Pattern antenna	-	-	-	-
Modulation	GFSK	-	-	-	-
Frequency channel	40 channel	-	-	-	-
Data rate	-	-	1	-	Mbps

3.2.2. Wireless Charging

Parameter	NOTE	MIN	NOM	MAX	UNIT
Operating frequency	-	134.01	136.75	139.49	kHz
Antenna type	Loop antenna	-	-	-	-
Modulation	ASK	-	-	-	-
Data rate	-	-	1200	-	bps

4. Certification

4.1. Manufacturer

Company Name	ASAHI DENSO CO., LTD.
Address	6-2-1 Somejidai, Hamana-ku, Hamamatsu, Shizuoka 434-0046, Japan
Website	https://en.ad-asahidenso.co.jp/

4.2. Approval of each country

4.2.1. Australia / New Zealand certification



4.2.2. EU DoC

EU DoC

4.2.3. FCC(USA) certification

Product name	Controller
FCC ID	T8VFZ134

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

[RF Exposure Compliance]

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines as this equipment has very low levels of RF energy.

4.2.4. ISED(Canada) certification

Product name	Controller
IC	6505A-FZ134

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

[RF Exposure Compliance]

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the ISED radio frequency (RF) Exposure rules as this equipment has very low levels of RF energy.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'ISDE puisque cet appareil a une niveau très bas d'énergie RF.

4.2.5. Israel certification

מספר אישור אלחוטי של משרד התקשורת הוא XX-XXXX
אסור להחליף את האנטנה המקורית של המכשיר ולא
לעשות בו כל שינוי טכני אחר

4.2.6. UK DoC

UK DoC