



Ⓒ Operating Instructions

# 4 Channels Gen4 Pistol Grip Remote Control 2.4 GHz

Item No. 2267650

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# 1. Introduction

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Dear customer,

Thank you for purchasing this product.

This product complies with the statutory national and European requirements.

To maintain this status and to ensure safe operation, you as the user must observe these operating instructions!



These operating instructions are part of this product. They contain important notes on commissioning and handling. Also consider this if you pass on the product to any third party. Therefore, retain these operating instructions for reference!

If there are any technical questions, please contact: [www.conrad.com/contact](http://www.conrad.com/contact)

## 2. Explanation of symbols

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The symbol with the exclamation mark in the triangle is used to indicate important information in these operating instructions. Always read this information carefully.



The arrow symbol indicates special information and advice on operation.

## 3. Intended use

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The transmitter has 4-channels and operates on a 2.4 GHz automatic frequency hopping digital system (AFHDS). It comes with a compact receiver that has an integrated antenna. The receiver uses standard PWM output. Extra channels are available for various switching tasks or control functions.

Contact with moisture must be avoided under all circumstances.

For safety and approval purposes, you must not rebuild and/or modify this product. If you use the product for purposes other than those described above, the product may be damaged. In addition, improper use can result in other hazards. Read the instructions carefully and store them in a safe place. Make this product available to third parties only together with its operating instructions.

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## 4. Delivery content

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- Transmitter
- Receiver antenna
- Operating instructions (on CD-ROM)

# 5. Up-to-date operating instructions

Download the latest operating instructions at [www.conrad.com/downloads](http://www.conrad.com/downloads) or scan the QR code shown. Follow the instructions on the website.



# 6. Safety instructions



Read the operating instructions carefully and especially observe the safety information. If you do not follow the safety instructions and information on proper handling in this manual, we assume no liability for any resulting personal injury or damage to property. Such cases will invalidate the warranty/guarantee.

Normal wear and tear in operation and damage due to accidents (like the receiver aerial being torn off, the receiver casing broken etc.) are excluded from the warranty.

## Location

- Do not operate in the following locations:
  - Any location where interference from other radio controlled activity may occur.
  - Near power lines or communication broadcasting antennas.
  - Near people or roads.
  - On any body of water when passenger boats are present.
- Do not use the product at night or in bad weather such as rain or thunderstorms.

## Before use

- Set the Fail-safe. See "d) Fail-safe (safety mechanism)" on page 14.
- Turn the transmitter ON first, and then turn the receiver ON. This will prevent loss of control.
- Check the transmitter batteries have sufficient charge to avoid losing control of the model.
- Check all servos and their connections.

## During use

- Make sure the model stays within the transmission range to prevent loss of control. See "a) Transmitter (TX)" on page 18.

## After use



- Turn the receiver OFF first, and then turn the transmitter OFF. This will prevent loss of control.
- Do not touch any part of the model that may generate heat. The engine, motor, or speed controller can become hot enough to cause burns!



## a) General information

- This product is not a toy. It is not suitable for children under 14 years of age unless closely supervised by a responsible adult.
- Do not leave packaging material lying around carelessly. This may become dangerous playing material for children.
- Protect the appliance from extreme temperatures, direct sunlight, strong jolts, high humidity, moisture, flammable gases, steam and solvents.
- Do not place the product under any mechanical stress.
- If it is no longer possible to operate the product safely, take it out of operation and protect it from any accidental use. Safe operation can no longer be guaranteed if the product:
  - is visibly damaged,
  - is no longer working properly,
  - has been stored for extended periods in poor ambient conditions or
  - has been subjected to any serious transport-related stresses.
- Please handle the product carefully. Jolts, impacts or a fall even from a low height can damage the product.
- Consult an expert when in doubt about the operation, safety or connection.
- Maintenance, modifications and repairs must only be completed by a technician or an authorised repair centre.
- If you have questions which remain unanswered by these operating instructions, contact our technical support service or other technical personnel.

## b) Operation

- Make sure you are sufficiently insured for the operation of the model, e.g. by a personal liability insurer. If you already have personal liability insurance, check with your insurance company if the operation of the model is also insured.
- Only use the model when it is within your sight as a large object can block the RF signal and lead to loss of control.
- Only use the model when you are fully alert and able to respond, fatigue, alcohol or medications can affect your ability to respond.
- Avoid using the model in very low outdoor temperatures. Plastic parts lose their elasticity in cold temperatures. This can result in serious damage even after a minor accident.
- The operation and handling of remote controlled models must be learned! Novice operators should operate the model conservatively and get used to the reactions of the model and remote control inputs.
- Do not use the product in rain or snow. Exposure to moisture (water or snow) may cause erratic operation or loss of control.
- Make sure the product is properly installed in your model. Failure to do so may result in serious injury.



### c) Receiver / antenna

- To prevent loss of control:
  - Make sure the receiver battery is disconnected before turning off the transmitter.
  - Do not power on the receiver during the setup process.
- For best signal quality:
  - Mount the antenna is mounted perpendicular to the model body in an upright position.
  - Mount the receiver away from motors, electronic speed controllers, or any device that can interfere with the signal.
  - Keep the receiver antenna at least 1 cm away from conductive materials such as carbon or metal.
- Protect the receiver from dust, dirt, moisture, heat, and vibration.

### d) Transmitter

- Never point the transmitter aerial towards the model as it will decrease the range.
- The maximum range will be achieved when the aerial of the transmitter and model are both vertical.

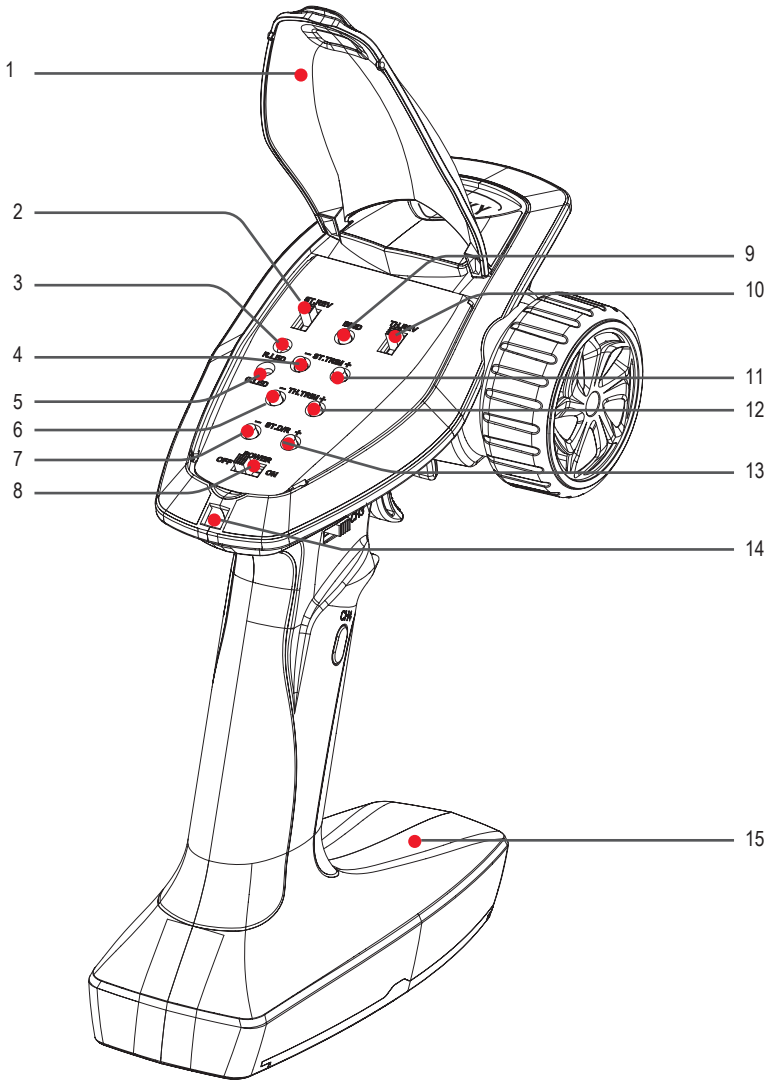
### e) (Rechargeable) batteries

- Correct polarity must be observed while inserting the (rechargeable) batteries.
- The (rechargeable) batteries should be removed from the device if it is not used for a long period of time to avoid damage through leaking. Leaking or damaged (rechargeable) batteries might cause acid burns when in contact with skin, therefore use suitable protective gloves to handle corrupted (rechargeable) batteries.
- (Rechargeable) batteries must be kept out of reach of children. Do not leave (rechargeable) batteries lying around, as there is risk, that children or pets swallow them.
- All (rechargeable) batteries should be replaced at the same time. Mixing old and new (rechargeable) batteries in the device can lead to (rechargeable) battery leakage and device damage.
- (Rechargeable) batteries must not be dismantled, short-circuited or thrown into fire. Never recharge non-rechargeable batteries. There is a risk of explosion!

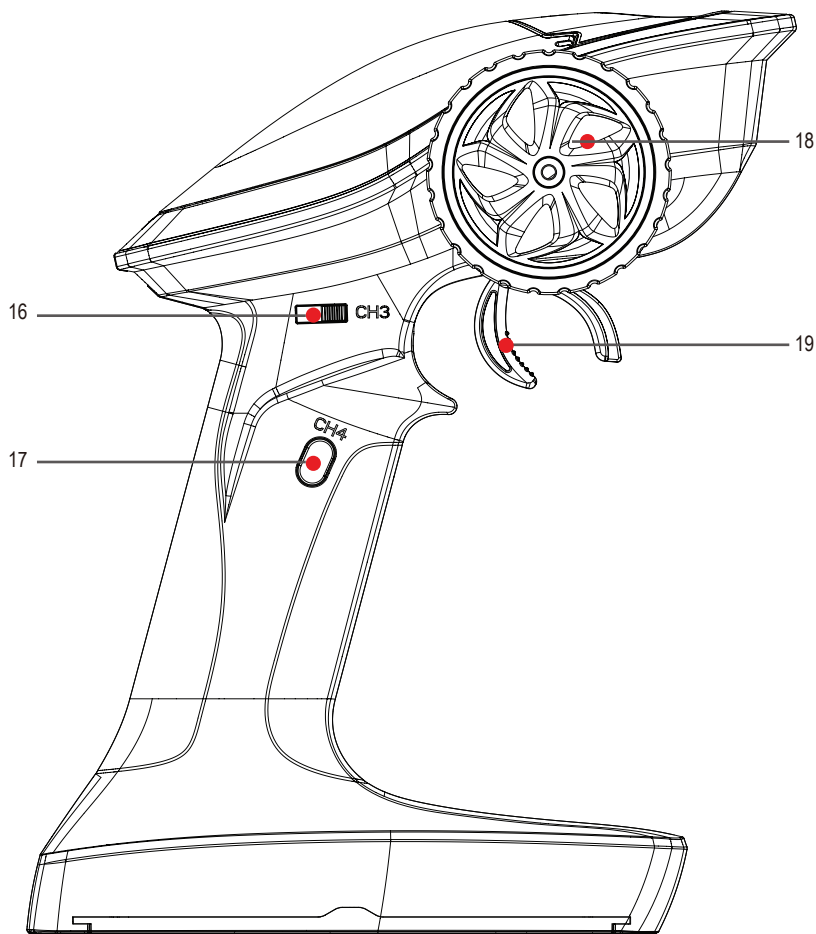
# 7. Operating elements

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## a) Transmitter

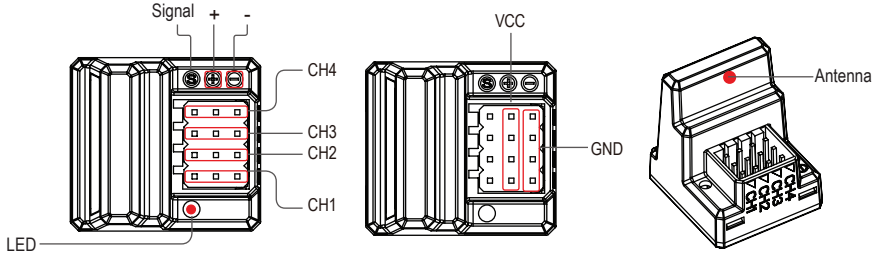






- |                                   |                              |                                    |
|-----------------------------------|------------------------------|------------------------------------|
| 1 Panel cover                     | 8 Power switch (ON/OFF)      | 15 Base / battery compartment      |
| 2 Steering reverse switch (ST.RV) | 9 Bind button (BIND)         | 16 Three-position AUX switch (CH3) |
| 3 Power indicator LED (R.LED)     | 10 Throttle reverse (TH.REV) | 17 AUX button (CH4)                |
| 4 Steering trim (ST.TRIM -)       | 11 Steering trim (ST.TRIM +) | 18 Steering wheel (CH1)            |
| 5 Status indicator: Green (G.LED) | 12 Throttle trim (TH.TRIM +) | 19 Throttle lever (CH2)            |
| 6 Throttle trim (TH.TRIM -)       | 13 Steering D/R (ST.D/R +)   |                                    |
| 7 Steering D/R (ST.D/R -)         | 14 Lanyard eye               |                                    |

## b) Receiver / antenna



Channel	Description
CH1	Steering servo
CH2	Throttle servo
CH3	AUX servo
CH4	AUX servo / battery connector

→ The battery can connect to any channel.

CH3 and CH4 can be used for various switching tasks or additional control functions such as lighting circuits.

## 8. Transmitter batteries

### ⚠ Important

- Do not use lithium batteries. The output voltage may not be sufficient and can trigger the low battery warning.
- Replace the batteries when the **G.LED** on the panel flashes.

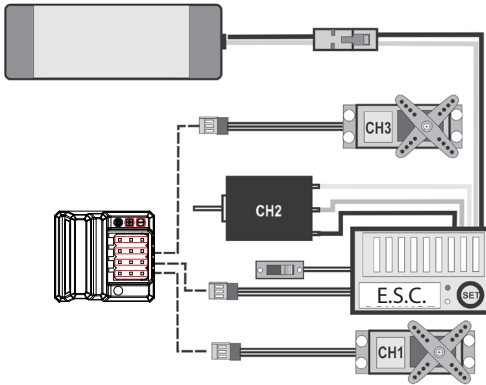
1. Remove the battery compartment cover.
2. Insert 4x AA batteries matching polarity as shown inside the compartment.
3. Replace the battery compartment cover.

# 9. Standard wiring diagrams

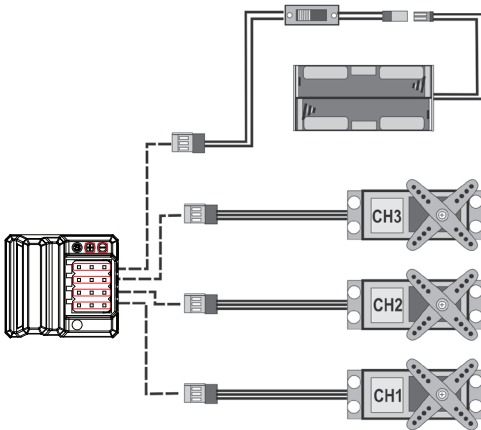
**⚠ Important:**

- Observe Safety instructions → "c) Receiver / antenna" on page 7.
- Two-sided adhesive foam (servo tape) is a suitable method for fastening the base of the receiver / antenna to the model.

## a) Electronic speed controller (E.S.C.)




## b) Gas powered motors



# 10. Operation

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## a) Power ON

 **Important:** Turn the transmitter ON first, and then turn the receiver ON.

1. Check that the batteries are fully charged and installed correctly.
2. Switch the transmitter **POWER ON**, the **R.LED** will light.
3. Switch the receiver power supply ON.

## b) Binding (transmitter with receiver)

The transmitter has already been bound to the receiver at the factory. Follow these steps if the receiver needs to be replaced or additional receivers bound:

1. On the transmitter, press and hold the **BIND** button then switch the **POWER ON**. The **G.LED** will flash quickly.
2. Turn the receiver power ON. It will automatically enter searching mode.
3. Once binding is successful:
  - Receiver: The **G.LED** will flash slowly.
  - Transmitter: The LED will be solid on.

## c) Calibrate (steering and throttle)

This function is for setting the neutral position of throttle lever and steering wheel. The transmitter has already been calibrated at the factory. Follow these steps if the receiver needs to be recalibrated:

1. Turn the steering to the maximum clockwise position (and hold), push the throttle lever all the way forward (and hold), then switch the **POWER ON**.
  - The **R.LED** and **G.LED** will both flash to indicate you are in calibration mode.
2. Calibrate the steering wheel: Turn the wheel completely clockwise, then completely counter-clockwise.
  - The **R.LED** will turn off when the steering is calibrated.
3. Calibrate the throttle lever: Pull the trigger all the way back, then push it all the way forward.
  - The **G.LED** will turn off when the throttle is calibrated.
4. Press the **BIND** button to save and exit calibration.
  - The **G.LED** will go off and the **R.LED** will stay on.

## d) Power OFF

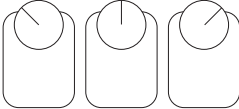
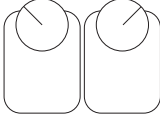
**⚠ Important:** Turn the receiver OFF first, and then turn the transmitter OFF.

1. Switch the receiver power supply OFF.
2. Switch the transmitter **POWER OFF**.

# 11. Controls

---

## a) Transmitter channels

Channel	Description
CH1	Steering servo
CH2	Throttle servo
CH3	AUX servo switch (three-positions). For example, the three-switch positions affect the servos as follows: 
CH4	AUX servo button (minimum / maximum). Pressing the button will switch the PWM between 1000 $\mu$ s (min.) and 2000 $\mu$ s (max.). The default output of CH4 is 1000 $\mu$ s. For example, each button press affects the servo as follows: 

## b) Beginner mode

There are two modes, normal and beginner. Beginner mode is designed for novice model users. The throttle response will be reduced by 50% making the model easier to control.

- To enter beginner mode: Press and hold the **CH4** button and the steering wheel all the way counter-clockwise, and then switch the transmitter **POWER ON**.
  - The **G.LED** will flash to indicate you are in beginner mode.
  - The mode will be saved after powering off.
- To exit beginner mode: Press and hold the **CH4** button and the steering wheel all the way counter-clockwise, and then switch the transmitter **POWER ON**.
  - The **G.LED** will not light up
  - The active mode will be saved after powering off.

## c) Channel reverse

These switches are used to reverse the direction of movement in relation to the input.

- **ST.REV**: Reverses CH1 (steering input).
- **TH.REV**: Reverses CH2 (throttle input).

## d) Fail-safe (safety mechanism)

### Important

- The fail-safe determines what the receiver will do if it loses the signal from the transmitter, and includes the servo position.
- If no fail-safe has been set, the receiver will not output any signals when the connection is lost.

1. Switch the transmitter **POWER ON** and check that it is bound to the receiver.
  - Receiver: The **G.LED** will flash slowly.
  - Transmitter: The LED will be solid on.
2. Hold the steering wheel and throttle lever at the desired failsafe position, for example:
  - Steering wheel: Neutral "Hands off" position.
  - Throttle lever: Neutral "Hands off" position.
3. Press and hold the **BIND** button for three seconds, the **G.LED** will flash every 2 seconds to indicate that the fail-safe has been set.

## Test the fail-safe

1. Turn the transmitter **POWER ON** first, then turn the receiver power supply ON.
2. Support the model on a stand so that any moving parts can run freely.
3. Activate and hold the throttle or steering, then switch the transmitter **POWER OFF**.
4. The throttle and steering should enter the fail-safe setting.

## e) Adjust trim

### Important

- Adjusting the trim helps fine tune the throttle and steering response. Trim should not be used to compensate for poor mechanical setup.
- See "f) Adjust servo travel" on page 16.
- The adjustment range is:  $-120\ \mu\text{s}$  to  $+120\ \mu\text{s}$ , each step is  $4\ \mu\text{s}$  (max. 30 adjustments each way)

## LED indicator

The **G.LED**:

- Lights up each time an adjustment is made.
- Will not light when the maximum number of adjustments has been reached.
- Will blink at the default (zero) setting.

## Steering trim (ST.TRIM)

- By default, **ST.TRIM** is set to adjust the trim for CH1 (steering).
- **ST.TRIM** can be reassigned to adjust the trim for CH3 or CH4. For information about how to reassign, see "g) Multiplexing" on page 16.
- Adjust the trim:
  - Decrease: Press **ST.TRIM-**
  - Increase: Press **ST.TRIM+**

→ Press and hold for rapid adjustments.

## Throttle trim (TH.TRIM)

- **TH.TRIM** adjusts the trim for CH2 (throttle).
  - Decrease: Press **TH.TRIM-**
  - Increase: Press **TH.TRIM+**

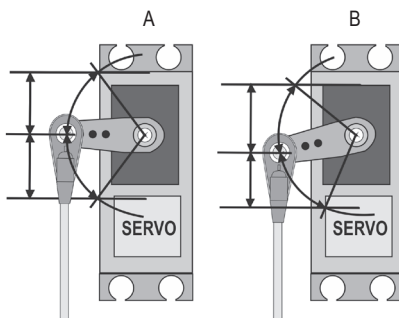
→ Press and hold for rapid adjustments.

## f) Adjust servo travel

After installation, if the servo arms are not square / 90° to the axis of the servo (image A), adjust the servo travel to center the arm image B).

You will not need to adjust the servo travel again unless the setup has changed.

- By default, **ST.D/R** is set to adjust the trim for CH1 (steering).
- **ST.D/R** can be reassigned to adjust the servo travel for CH2 (throttle), CH3, or CH4. For information about how to reassign, see "g) Multiplexing" on page 16.
- The adjustment range is: 0 to 120% (default 100%), each step is 5 %.
  - Decrease: Press **ST.D/R-**
  - Increase: Press **ST.D/R+**



→ Press and hold for rapid adjustments.

## LED indicator

The **G.LED**:

- Lights up each time an adjustment is made.
- Will not light when the maximum number of adjustments has been reached.

## g) Multiplexing

Use this function to assign the **ST.TRIM** and **ST.D/R** buttons to different channels.

1. Switch the transmitter **POWER ON**.
2. Double-press the **BIND** button to cycle through modes.

Mode	G.LED	Channel	Button	Setting
1	1x flash	CH1	<b>ST.TRIM</b>	Adjust trim
		CH1	<b>ST.D/R</b>	Adjust servo travel
2	2x flash	CH1	<b>ST.TRIM</b>	Adjust trim
		CH2	<b>ST.D/R</b>	Adjust servo travel
3	3x flash	CH3	<b>ST.TRIM</b>	Adjust trim
		CH3	<b>ST.D/R</b>	Adjust servo travel
4	4x flash	CH4	<b>ST.TRIM</b>	Adjust trim
		CH4	<b>ST.D/R</b>	Adjust servo travel

→ Mode 1 is the default



## 12. Care and cleaning

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Do not use any aggressive cleaning agents, rubbing alcohol or other chemical solutions as they can cause damage to the housing and malfunctioning.

- Before each cleaning, first turn the receiver OFF and then turn the transmitter OFF.
- Wipe the product with a dry, fibre-free cloth.

## 13. Declaration of Conformity (DOC)

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Conrad Electronic SE, Klaus-Conrad-Straße 1, D-92240 Hirschau hereby declares that this product conforms to the 2014/53/EU directive.

→ Click on the following link to read the full text of the EU declaration of conformity:

[www.conrad.com/downloads](http://www.conrad.com/downloads)

Select a language by clicking on a flag symbol and enter the product order number in the search box. You can then download the EU declaration of conformity in PDF format.

## 14. Disposal

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### a) Product



Electronic devices are recyclable waste and must not be disposed of in the household waste. At the end of its service life, dispose of the product in accordance with applicable regulatory guidelines.



Remove any inserted (rechargeable) batteries and dispose of them separately from the product.

### b) (Rechargeable) batteries



You as the end user are required by law (Battery Ordinance) to return all used (rechargeable) batteries. Disposing of them in the household waste is prohibited.

Contaminated (rechargeable) batteries are labeled with this symbol to indicate that disposal in the domestic waste is forbidden. The designations for the heavy metals involved are: Cd = Cadmium, Hg = Mercury, Pb = Lead (name on (rechargeable) batteries, e.g. below the trash icon on the left).

Used (rechargeable) batteries can be returned to collection points in your municipality, our stores or wherever (rechargeable) batteries are sold.


You thus fulfill your statutory obligations and contribute to the protection of the environment.

# 15. Technical data

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## a) Transmitter (TX)

Battery .....4x AA 1.5 V (6 V/DC)

 **Important:** Do not use lithium batteries. The output may be <4.2 V which will trigger the low battery warning.

Low battery warning .....<4.2 V

Channels .....4

Modes .....Normal and beginner

Application .....Car, boat

Antenna .....internal

Wireles protocol .....ANT

Frequency range .....2.406 - 2.474 GHz

Transmission power.....<20 dBm

Transmission range .....approx. 300 m (open area)

Operating/Storage conditions .....-10 to +60 °C, 20 – 95 % RH (non-condensing)

Dimensions (W x H x D) .....97 x 193 x 160 mm

Weight .....250 g (without batteries)

## b) Receiver (RX) / antenna

Input power.....3.5 to 8.4 V

Ingress protection .....IPX4

Wireless frequency .....2.406 - 2.474 GHz

Wireles protocol .....ANT

Antenna .....single (internal)

Channels .....4


RSSI .....no

Data port.....PWM (pulse width modulated)

Operating/Storage conditions .....-10 to +60 °C, 20 – 95 % RH (non-condensing)

Dimensions (W x H x D) .....20.6 x 25.5 x 22.6 mm

Weight .....6 g

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