

# WIRELESS DIGITAL POOL THERMOMETER

## Instruction manual

Model:SH-212

### 1. Description of parts

Fig. 1: Indoor monitor

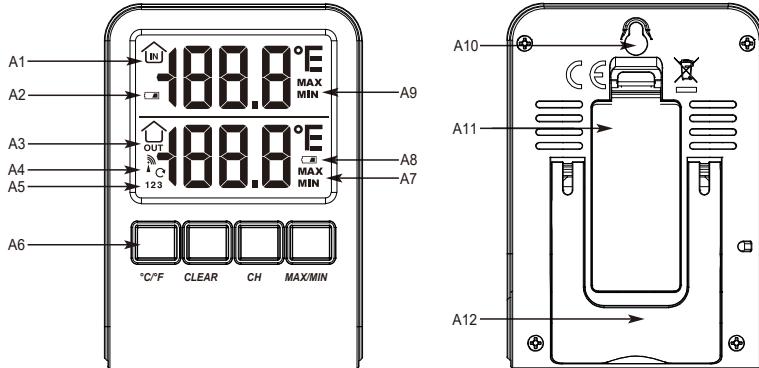


Fig. 2: Pool thermometer

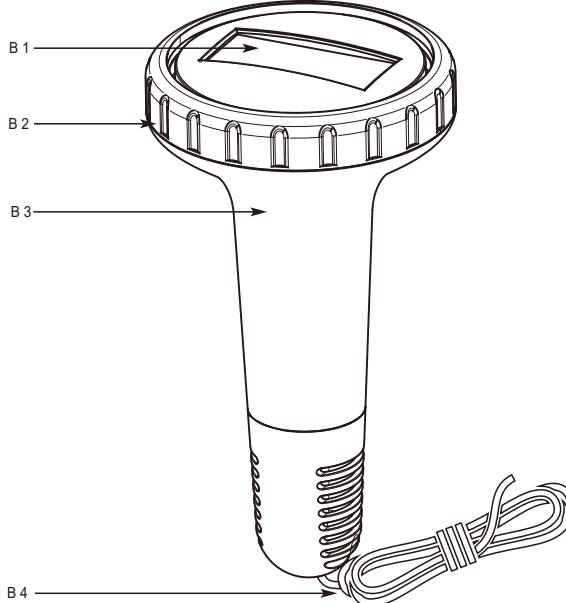


Fig. 1

- A1: Indoor temperature
- A2: Indoor monitor battery status
- A3: indicator Pool temperature
- A4: RF indicator
- A5: Channel number
- A6: Buttons

Fig. 2

- B1: LCD screen
- B2: Screw cover

- A7: Pool temperature max and min values indicator
- A8: Pool thermometer battery status indicator
- A9: Indoor temperature max and min values indicator
- A10: Wall mounting hole
- A11: Battery cover
- A12: Support

- B3: Body
- B4: Rope

## **2. Before starting using it**

- Please make sure to read the instruction manual carefully  
This information will help you to familiarize yourself with the device, find out about the important details of its first use, learn its functions and parts, learn how to operate it and how to get advice in the event of a malfunction
- Following the instructions in the manual will prevent damage to the device and loss of your statutory rights arising from possible defects due to incorrect use
- We shall not be liable for any damage occurred as a result of not following these instructions nor shall we take any responsibility for any incorrect readings and any consequences which may result from that
- Please keep this instruction manual for future reference

## **3. What's included**

- Indoor monitor
- Pool thermometer
- Instruction manual

## **4. Specifications**

- Measuring range for indoor temperature: 14°F~140°F (-10°C~+60°C)
- Measuring range for pool temperature: -4°F~140°F (-20°C~+60°C)
- Accuracy: +/-2°F(1°C) for temperature readings between 32°F to 122°F, otherwise +/-4°F(2°C)
- Power source: Indoor monitor 2 X 1,5V AAA (not included), Pool transmitter 2 X 1,5V AAA (not included)
- Transmission distance: up to 196 feet (60 m) in open air
- Transmission frequency: 433 Mhz
- Transmission time: every 50s
- Low battery indicator
- Maximum and minimum temperature display
- Pool thermometer waterproof rating: IP7

## **5. For your safety**

- This product is intended exclusively for the field of application described above. It should only be used as described in these instructions
- Unauthorized repairs, modifications or changes to the product are prohibited



**Caution!**

**Risk of injury:**

- Keep the device out of reach of children
- Never mix old and new batteries or batteries of different types

## **6. Getting started**

### **6.1 Inserting the batteries into the indoor monitor**

- Place the pool thermometer and the indoor monitor on a desk approximately 5 feet apart
- Avoid being close to sources of possible electromagnetic interference such as electronic devices and RF transmitters
- Remove the protective film from the display of the indoor monitor
- Remove the battery cover and insert two new 1.5V AAA alkaline batteries ensuring correct polarity
- Close the battery compartment
- LCD segments will display for a short moment
- The icon  will start blinking searching for a signal from the pool transmitter

## 6.2 Inserting the batteries into the pool thermometer

- Open the screw cover of the pool thermometer (Fig. 3)
- Insert two new 1.5V AAA alkaline batteries following correct polarity (Fig. 4)

Fig. 3 open the pool thermometer

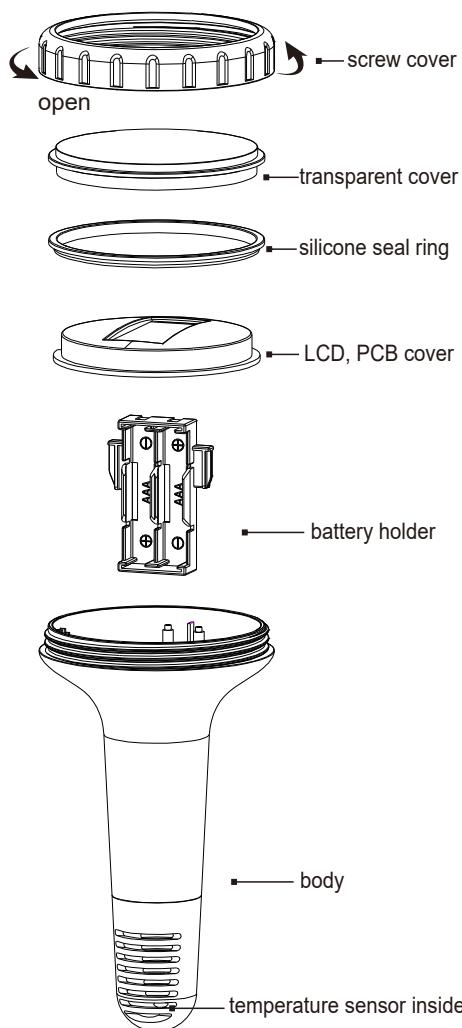


Fig. 4 insert the batteries

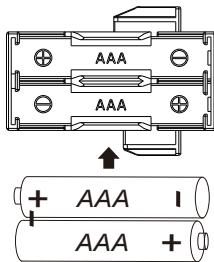


Fig. 5 assemble the pool thermometer

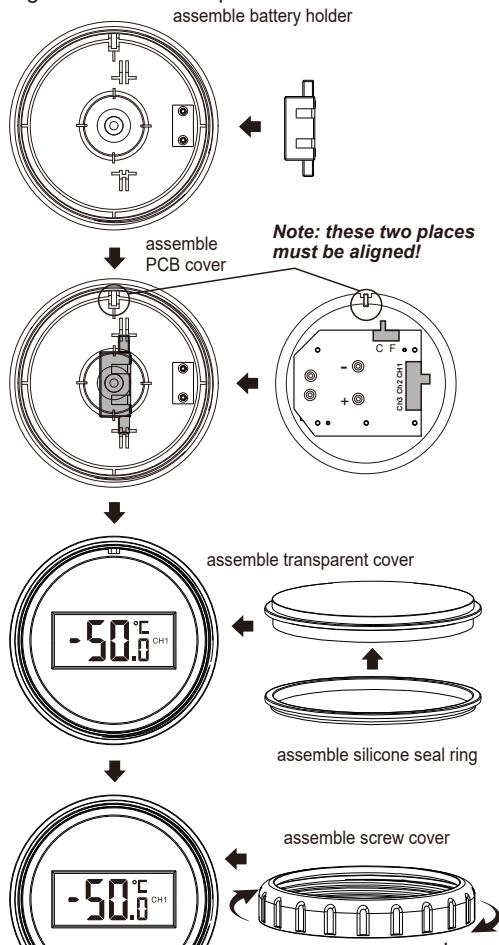
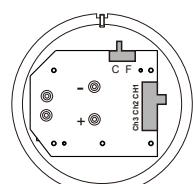


Fig. 6 channel & °C/F switch



- Assemble the pool thermometer (Fig. 5)

### 6.3 Pool thermometer readings

- Once the batteries are inserted into the monitor  will flash searching for pool thermometer signal for 3 minutes. After the thermometer signal is received,  will stop flashing assigning the default channel CH1. Within those 3 minutes insert the batteries into the pool thermometer to transmite the signal to the indoor monitor. Once the red led is flashing, indicating that the monitor received the signal, the values will appear on the display.
- If the signal is not received within 3 minutes, "- -" will appear on the display and the RF symbol  will not display. Check the batteries of the pool thermometer and try again. Check if there is any source of interference.
- You can also start the pool thermometer signal search manually.

For example, when the pool thermometer is lost or the batteries got changed: hold the CH button on the indoor monitor for three seconds, "--" will appear on the display, and the symbol will be flashing  Once the new batteries are inserted into the pool thermometer, it will transmit a signal to the monitor. The indoor monitor will display the recordings from the pool thermometer.

#### NOTE:

- After you change the batteries in the pool thermometer, you must hold CH button on the indoor monitor for 3 seconds on the corresponding channel (for example, if pool thermometer had been assigned CH1, then hold CH button on channel 1 on the indoor monitor) to re-register the pool thermometer with the indoor monitor.**
- If the indoor monitor cannot display the pool thermometer values for a long time, hold CH button for 3 seconds on the corresponding channel to search for the pool thermometer signal.**
- After you assemble the pool thermometer, it might display an error, and the indoor monitor might display the pool thermometer reading error. It happens due to the PCB cover sensor not contacting the PCB well. To correct that, reassemble the pool thermometer properly aligning the sensors.**

## 7. Thermometer

- If the temperature readings are outside of supported range, either "HH.H" will display for above maximum supported temperature or "LL.L" for below supported minimum

### 7.1 Maximum/Minimum function

- Pressing the MAX/MIN button in normal mode will display MAX showing highest temperature reading for indoor/pool since the last reset
- Pressing the MAX/MIN button again will display MIN showing the lowest temperature readings for indoor/pool since the last reset
- Pressing the MAX/MIN button once again will display current temperatures
- The device will automatically quit the MAX/MIN mode if no buttons further pressed
- Pressing the CLEAR button while the maximum or minimum readings are displayed clears the recorded readings

### 7.2 Setting the temperature unit

- In the normal mode you can switch between °C (Celsius) or °F (Fahrenheit) for temperature unit by pressing the +/°C/°F button

## 8. Additional pool thermometers

- To add another pool thermometer, select a channel using the CH1/2/3 switch on the PCB (Fig. 6)
- The new thermometer will be automatically connected to the indoor monitor. Press and hold the CH button on the indoor monitor or restart the monitor according to the manual
- If you have more than one pool thermometer, press the CH button on the monitor to switch between channels 1 to 3. The temperature readings will display for each pool thermometer on the indoor monitor
- You can alternate between channels by pressing the CH button

The cycle symbol  will display

## 9. Positioning indoor monitor and the pool thermometer

- The indoor monitor can be placed onto any flat surface with support of the foldable leg or it can be wall mounted by the hanging holes on the back of the unit. Avoid being close to any interfering devices such as computer monitors, TV sets and solid metal objects.

Check the transmission signal from the pool thermometer to the indoor monitor (transmission range of up to 196 ft in open air). Please, note that concrete structures weaken the signal.

## 10. Care and maintenance

- Clean the devices with a soft damp cloth. Do not use solvents or scouring agents.
- Remove the batteries and pull the power adapter out of the socket, if you do not use the product for a long period of time.
- Store the product in a dry place.

### 10.1 Battery replacement

- Change the batteries of the pool thermometer/indoor monitor when the low battery indicator appears on the corresponding temperature display.
- **Please note:** when the batteries are being changed, the communication between the pool thermometer and the indoor monitor gets lost and must be restored by inserting new batteries into both

## 11. Troubleshooting

Problem	Solution
The indoor monitor doesn't turn on	<ul style="list-style-type: none"><li>→ Ensure that the batteries' polarity is correct</li><li>→ Change the batteries</li></ul>
No connection with the pool thermometer, Indication "--" for channel 1/2/3	<ul style="list-style-type: none"><li>→ No pool thermometer is installed</li><li>→ Check batteries of the pool thermometer (do not use rechargeable batteries!)</li><li>→ Restart the pool thermometer and the indoor monitor according to the manual</li><li>→ Start the pool thermometer search manually according to the manual.</li><li>→ Reduce the distance between the pool thermometer and the monitor. Check if there is any source of interference.</li></ul>
Incorrect readings or low power indicator display 	<ul style="list-style-type: none"><li>→ Change the batteries</li></ul>

## 12. Waste disposal

This product has been manufactured using high-grade materials and components which can be recycled and reused.



Never dispose of empty batteries and rechargeable batteries in household waste. As a consumer, you are legally required to take them to your retail store or to an appropriate collection site depending on national or local regulations in order to protect the environment. The symbols for the heavy metals contained are: Cd=cadmium, Hg = mercury; Pb=lead. This product is labelled in accordance with the EU Waste Electrical and Electronic Equipment Directive (WEEE).



# FCC Compliance Information

## Part 15 Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subjected 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.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**CAUTION! Any changes or modifications to this equipment not expressly approved by the party responsible for the compliance could void your authority to operate the equipment.**



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## **One-year Limited Warranty**

**Important: Evidence of original purchase is required for warranty service.**

**WARRANTOR:** Ferro LLC

**ELEMENTS OF WARRANTY:** Ferro LLC warrants, for one year, to the original retail owner, this Product to be free from defects in materials & craftsmanship with only the limitations or exclusions set out below.

**WARRANTY DURATION:** This warranty to the original user shall terminate & be of no further effect 12 months after the date of original retail sale.

The warranty is invalid if the Product is:

- (A) damaged or not maintained as reasonable or necessary,
- (B) modified, altered, or used as part of any conversion kits, subassemblies, or any configurations not sold by Ferro LLC, improperly installed,
- (D) serviced or repaired by someone other than an authorized Ferro LLC service center for defect or malfunction covered by this warranty,
- (E) used in any conjunction with equipment or parts or as part of any system not manufactured by Ferro LLC, or (F) installed or programmed by anyone other than as detailed by the owner's manual for this product.