



Instruction manual

Mouse Trap WiFi



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1 – Introduction

The Mouse Trap Mini WiFi is a multi-catch mechanical trap designed for the containment of mice and small rats, featuring WiFi connectivity and real-time notifications. It allows you to receive alerts via email and Telegram, monitor the status of the anti-rot liquid (if used), view the device status via an e-paper display, and manage multiple units from a centralized web app.

This manual guides you step-by-step from initial setup to daily operation, including cloud recording, notification configuration, and maintenance.

2 – Warnings and Safety

- Read the entire manual before using the device.
- The device is designed for mice and small rats. Do not use it for other sized animals.
- Do not expose the electronics to direct water jets.
- Power with a 5V, 1A USB-C charger (do not use power supplies with higher voltages).
- Keep out of reach of children.
- When using with anti-rot liquid, use only compatible, non-corrosive products; avoid contact with skin and eyes.
- Follow local laws regarding the handling and release of captured animals; dumping in the wild may be subject to regulations.

4 – First start-up – initial step-by-step configuration

4.1 Power On

1. Connect the device to a 5V power source via USB-C (5V/1A smartphone charger).
2. Press the ON button to start. The e-paper display lights up and the LED ring performs a start-up sequence.

4.2 Access Point (AP) Mode – Initial Setup

If the device fails to connect to the SmartiLab server, it automatically enters AP mode:

- A message appears on the display with the SSID and password, and the configuration address: <http://192.168.4.1>.
- The LED ring lights up yellow (AP mode).

4.3 Connecting from your phone/PC

1. On your smartphone or PC, open the WiFi settings and connect to the SSID shown on the display.
2. Open a browser and go to <http://192.168.4.1>. This will open the device's local configuration page.

4.4 Fill in the fields on the configuration page

The AP page will ask for the following parameters:

- Language: Italian / English.
- Device Name: Name that identifies the trap (e.g., Garden Trap, also used as the AP SSID).
- Access Password (config page): To protect local settings.
- WiFi Network (SSID): Select your home/business 2.4 GHz WiFi network.
- WiFi Password: Password for the selected network.
- Enable Liquid Reading: ON/OFF (enable if using anti-rot liquid inside the bucket).

Copy Device Token: button to copy the device's unique key (Token) – VERY IMPORTANT for cloud registration.

Note: Check that your router/server does not have any captive portals or restrictions that prevent IoT devices from connecting and a 2.4 GHz Wi-Fi signal.

4.5 Save and Restart

1. After completing the fields, press Save.
2. The device saves the settings and restarts with the new parameters.
3. Upon restart, it will attempt to connect to the SmartiLab server. If the connection is successful, the LED ring will turn green; the display will indicate "Connected" and the catch count and liquid percentage (if active) will appear.

5 — Cloud registration and remote access activation (1 year)

After local configuration, to manage the device remotely you need to register it on the SmartiLab cloud service.

5.1 Creating a cloud account

1. Access www.smartilab.it/webapp (or the dedicated web app) from your browser.
2. Click Register / Sign up.
3. Enter your email address, a secure password, and your device key. Accept the terms and conditions and privacy policy.
4. Confirm your account via email (click the verification link).

5.2 Adding the device to your existing account

1. Make sure the device is turned on and connected to the smartilab server.
 2. Log in to the user area of the Web App.
 3. Navigate to → New Device.
 4. Paste the token copied during local setup.
 5. Confirm: the server verifies the token and associates the device with your account.
- Remote access duration: The association provides remote access to the device and the Web App for 1 year from the registration date. At the end of the year, you will be offered renewal via the Web App (payment/subscription options).

Note: Registration may fail if the device is offline, the token is incorrect, or the device is already registered to another account. Check the device's online status before proceeding.

6 — Web App Overview — Main Features

Once registered, the Web App allows you to:

- View the live status of your devices (online/offline).
- Monitor catch count and liquid level (%).
- Receive and view notifications.
- Remotely reset catches.
- View a map showing the location of your devices and navigate to them.

7 — Notifications: Email and Telegram

Activated from the Settings → Notifications page (Web App or device page).

- You can choose the notification type.
- Example email (Capture):
Subject: SmartiLab Mouse Trap Mini

Body:

 Catches: 3

 Liquid: 65%

7.2 Telegram Notifications — Bot Integration

The Web App integrates registration via the Telegram bot [@smartilab_bot](https://t.me/smartilab_bot).

7.2.1 Telegram Registration Procedure (from the Web App)

1. In the Web App, open Device Settings → Notifications → Telegram.
2. Click Open Telegram and you will be redirected to the chat for confirmation.
3. Once your Telegram account is associated, the Web App will allow you to activate Telegram notifications.
4. You will also have access to a series of shortcuts directly in the Telegram bot chat.
5. You can always open the Web App from within Telegram from the bot, as well as externally with a standard browser.

7.2.2 What happens after Telegram registration?

- You will receive direct messages from the bot for enabled devices (e.g., "Capture recorded," "Liquid 8%").
- Messages can include dynamic quick actions:
 - Open Web App
 - Device List
 - Device Details
 - Location (opens map/navigation)
- Example Telegram notification (with actions):

🔔 Mouse Trap 1 🔔

🐭 Catches: 7

💧 Liquid: 0 %

[Info] [Start Navigation]

7.2.3 Privacy and Permissions

- The bot only saves the chat ID needed to send notifications.
- No sensitive information is shared publicly.
- See the Web App Privacy page for details. <https://smartilab.it/terms/>

8 – Map and multi-device management

The web app features a Map view where you can monitor multiple devices.

- You can set the location for each device by simply dragging it on the map; the new location will be saved.
- The Navigate button opens the device's map app (Google Maps) with the route to the device's coordinates.

9 – Meaning of LEDs and messages on the e-paper display

9.1 RGB LED Ring – Colors and Meaning

- 🟢 Green: The device is connected and online
- 🟣 Purple: The device is not connected or the server is offline
- 🟡 Yellow: Configuration mode is active (Access Point mode)
- 🔴 Red: One or more acquisitions have been recorded
- 🔵 Blue: The anti-rot liquid level is less than 10%
- 🔴 + 🔵 Half red / half blue: One or more acquisitions have been detected and the liquid level is less than 10%

9.2 E-paper display – message examples

- "AP Mode – SSID: trap-XX / Password: mousetrapmini6313"
- "Server Online – Captures: 2 – Liquid: 95%"
- "Server Connection Error – Check WiFi"

10 – Daily Use and Placement Tips

10.1 Where to Place the Trap

- Along walls: rodents follow edges.
- Near food sources and nests: kitchens, bins, storage rooms.
- In quiet, dark areas: less human traffic increases catches.
- Avoid direct exposure to the elements: if placed outdoors, protect it from direct rain.

10.2 Which Bait to Use

- Dried fruit, grains, feed, peanut butter, or a small piece of dried meat (depending on the local population). For liquid bait, use safe, non-corrosive products.

10.3 Best Practices

- Check the trap after notification.
- Do not leave the trap unattended for long periods without monitoring.

11 – Maintenance and cleaning

Disconnect the power and USB cable.

1. Remove the bait drawer and empty it.
2. Clean the drawer with warm water and mild soap; rinse and dry completely.
3. DO NOT immerse the electronics; wipe the casing with a damp cloth and dry.

12 – Firmware Update (OTA)

- When a firmware update is available, the Web App will notify you.
- Typical procedure: Web App → Device → Firmware → Update.
- Before updating: Make sure the device is online, powered on, and stable (do not interrupt power during the OTA).
- The update will take a few minutes; once complete, the device will automatically reboot.

13 – Factory reset and device unpairing

13.1 Factory Reset (Local)

- Press and hold the Reset button (or the combination indicated in the device's quick start guide) for 10 seconds.
- The unit will reboot with factory defaults and enter AP mode.
- All local settings and the token will be reset, including the user-device pairing (it will need to be re-registered using its key).

13.2 Cloud Unpairing

- Refer to the previous paragraph (13.1) to completely reset the device.
- After unpairing, the unit can be registered by another account (repeat the pairing procedure).

Caution: A factory reset removes the association between the Web App and the device; registration will need to be repeated.

14 – Troubleshooting

Problem: Device does not enter AP mode or display SSID

- Solution: Power cycle; press CONFIG button.

Problem: Unable to connect to Wi-Fi

- Verify that the network is 2.4 GHz (many IoT modules do not support 5 GHz).
- Check that the password has been entered correctly.
- Move the device closer to the router and try again.

Problem: Invalid token during registration

- Make sure you've copied the token correctly from the configuration page or label.
- Verify that the device is online: if it's offline, registration may fail.

Problem: Telegram notifications not received

- Verify that the bot is started in chat and that registration has completed.
- Check the notification settings in the Web App.
- Make sure there are no firewall or provider blocks preventing HTTP requests to Telegram (rare).

Problem: Unreliable liquid reading

- Clean the ultrasonic sensor of any dirt or debris.
- Check settings: Enable liquid reading must be ON.

If problems persist, contact support (see section 16) and attach: device ID (Token), screenshot of the configuration page, and date/time of the event.

15 – Technical Specifications (indicative summary)

- Power supply: USB-C 5V, 1A
- Microcontroller: ESP32 (built-in WiFi)
- WiFi: 802.11 b/g/n – 2.4 GHz
- Display: 2.13" e-paper (approximate resolution 250×122)
- Indicators: RGB LED ring
- Sensors: Reed switch for catch counting; ultrasonic liquid level sensor
- Body material: reinforced plastic
- Operating temperature: -10°C to +50°C
- Certifications: The product is designed in compliance with the essential safety requirements of European directives. The CE declaration of conformity is available upon request.
- Cloud connectivity: Web App + Email Notifications + Telegram Bot

Note: Technical values may vary depending on the hardware version; refer to the product label or the official data sheet and firmware version.

16 – Warranty, Liability, and Support Contacts

- Warranty: 12 months from the date of purchase (standard conditions: manufacturing defects).
- Limitations: The warranty does not cover damage from misuse, immersion in water, or unauthorized modifications.
- Support Contacts:
 - Email: desk@smartilab.it
 - Telegram (support): [@SeventyFive3D](https://t.me/@SeventyFive3D) / [@smartilab_bot](https://t.me/@smartilab_bot) (for guided assistance)
 - Website: www.smartilab.it

When contacting support, please include: model, device token/ID, firmware version, description of the problem, and any logs or screenshots.

17 – FAQ**Can I use the device without an internet connection?**

Yes: in local mode, the device works (counts captures), but it won't send remote notifications or be manageable from the web app until it's online.

What happens after 1 year?

Remote access to the Web App is subject to renewal; the trap will continue to function locally.

Can I receive SMS notifications?

The system currently supports email and Telegram; SMS integrations may be evaluated in the roadmap.

Can I use the device outdoors?

Yes, but protect it from direct rain; consider a case or indoor placement.

18 – Quick Reference

Quick initial setup

1. Power the device (USB-C 5V/1A) → press ON.
2. If AP Mode appears: connect to the displayed SSID / open <http://192.168.4.1>.
3. Enter Wi-Fi, Device Name, and enable liquid reading (if necessary).
4. Copy Token → Save → Reboot.
5. Register the device in the Web App with your email/password → paste the Token.
6. (Optional) Connect to Telegram via the link in Settings → Notifications.

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Contacts:



desk@smartilab.it



www.smartilab.it