TIMER FLEXITIMER FX486

USER MANUAL

FOXTEK TECHNOLOGY SYSTEMS
68250 ROUFFACH, FRANCE

WARNING & PRECAUTIONS

WARNING: Any changes or modifications to this device not expressly approved by the party responsible for compliance may void the user's authority to use the device.

WARNING: Do not place the appliance on a soft, porous, or sensitive surface, to avoid damage to the surface. Use a protective shield between the device and the surface.

CAUTION: Danger of explosion if battery is replaced incorrectly. Replace it only with the same or equivalent type of battery.

IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.

2) Save these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Clean the appliance only with a dry cloth.

6) Do not install the appliance near heat sources such as radiators, heat accumulators, stoves, or other appliances that produce heat.

7) Use only the power cable/AC adapter/accessories specified by the manufacturer

8) Unplug this appliance during a thunderstorm.

9) Remove the batteries from the device in case it is not used for a long time.

10) Have all repairs done by qualified personnel. The appliance must be repaired if it has been damaged in such a way that the cord or charging power plug is damaged, if a liquid has leaked or an object has fallen inside, if it is not operating normally or has been dropped.

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1. Introduction

1.1 About the FlexiTimer

The FlexiTimer, developed by Foxtek Technology Systems, is an innovative programmable timer designed to meet a variety of applications requiring accurate time measurement. This compact device incorporates advanced features and maximum flexibility, making it a versatile tool for various industries.

1.2 Main features

Unmatched Accuracy:
The FlexiTimer displays hours, minutes, seconds and milliseconds with exceptional accuracy, ensuring reliable and accurate measurements.

Programmation Intuitive :
Thanks to its 4x4 numeric keypad, programming the FlexiTimer is simple and intuitive, offering optimal adaptability to your specific needs.

Remote Control:
The 433MHz remote control allows for convenient remote control, adding a layer of convenience and safety to using the FlexiTimer.

Rechargeable battery:
Equipped with a lithium-ion battery that can be recharged via USB-C, the FlexiTimer provides long-lasting runtime for uninterrupted use.

Code Open-Source :
Based on the Arduino platform, the FlexiTimer offers editable open-source code, allowing for full customization to your specific needs.

Versatile connectors:
The 12-pin connectors offer maximum expandability, allowing the integration of external modules for additional functionality.

Applications Diverses :
Whether for demining training, industrial automation, timing of sporting events or project management, the FlexiTimer adapts to a multitude of applications.

Provisional Patent:
The FlexiTimer is currently protected by a provisional patent, a testament to our commitment to innovation and the protection of this revolutionary technology.

1.3 Package Contents

The FlexiTimer is carefully packaged to ensure safe delivery and ensure that every user has all the necessary items for an optimal experience. Before you start using your FlexiTimer, please check that the contents of the package are complete. Standard package contents include:

1. **FlexiTimer:** The main device, with an 8-digit display and equipped with all the features described in this manual.
2. **433MHz Remote Control:** A wireless remote control for remote control of the FlexiTimer.
3. **4x4 Keypad:** A numeric keypad for intuitive programming of the FlexiTimer.
4. **120W USB-C Charger:** A 220V USB-C 120W charger with cable for charging the FlexiTimer's battery. This loader can also be used for uploading various codes available on Foxtek's GitHub account.
5. **Waterproof & Shockproof Carrying Case:** A case specially designed to carry and protect your FlexiTimer in a variety of conditions. Waterproof and shockproof, it ensures the safety of your device while on the move.
6. **Quick Start Guide:** A succinct guide to help you quickly set up your FlexiTimer and get started.
7. **Warranty Card:** A warranty card with important information about the product's warranty.

Please keep the original packaging in case you need to transport or store your FlexiTimer in the future. If you find that any items are missing or damaged, please contact our customer service immediately.

The FlexiTimer is designed to be ready to use right out of the box. Follow the instructions in the Quick Start Guide for quick and easy setup.

1.4 Configuration requise

Before using your FlexiTimer, make sure that your environment meets the following configuration requirements:

For Basic Use:

- **Power Supply:** A standard 220V power source for charging the FlexiTimer. Use the included 120W USB-C charger.
- **Workspace:** Have a clean and uncluttered workspace for safe use.

For Programming and Advanced Features:

- **Computer:** A computer equipped with a USB port for uploading codes from the Foxtek GitHub account.
- **Internet Connection:** An internet connection to access Foxtek's GitHub account and download additional codes.

For Transport and Protection:

- **Carrying Case:** When transporting, use the supplied waterproof and shockproof case to ensure the safety of your FlexiTimer.

Important Note:

- **Compatibility:** Make sure that any code uploaded from Foxtek's GitHub account is compatible with the current version of the FlexiTimer. Check the release notes on the GitHub account for specific information.

Advice:

- To extend battery life, use only the included 120W USB-C charger.

Before you begin, familiarize yourself with the features of your FlexiTimer by reviewing the appropriate section of this manual. If you have any questions regarding configuration or if you encounter any issues, please contact our technical support.

2. Getting Started

2.1 Charging the battery

Before using your FlexiTimer for the first time, make sure the battery is properly charged. Follow these simple steps:

1. **Connect the Charger:** Use the 120W USB-C charger that came with your FlexiTimer. Plug it into a 220V power outlet.
2. **Connect the Cable:** Plug the USB-C end of the cable into the corresponding port on the charger. Connect the other end of the cable to the USB-C port on the FlexiTimer.
3. **Check the Charge Indicator:** An indicator light will indicate the charging status. Red means the battery is charging, blue means the battery is fully charged.
4. **Full Charge:** Allow the battery to fully charge before unplugging the FlexiTimer.

2.2 Switching on and off

1. **Ignition:** Once the battery is charged, press the ON button on the 433Mhz remote control.
2. **Power off:** To turn off the FlexiTimer, press the OFF button on the 433Mhz remote control.

2.3 First use

Before making full use of your FlexiTimer, we recommend that you follow these steps for a successful first use:

1. Check out the Quick Start Guide for a quick and basic setup.
2. Explore basic features such as the 8-digit display and 4x4 numeric keypad to familiarize yourself with the device.
3. Visit Foxtek's GitHub account to download additional codes, such as clock, stopwatch, and programmable countdown codes. Follow the code upload instructions to customize your FlexiTimer.

With these steps, you're ready to get the most out of your FlexiTimer and explore its many features.

3. Basic Features

3.1 8-digit display

The FlexiTimer features an 8-digit segment display that displays hours, minutes, seconds and milliseconds with exceptional accuracy. The display is clear and easy to read, ensuring accurate visualization of elapsed or scheduled time.

3.2 Programming with the numeric keypad

Programming the FlexiTimer is made easy with the built-in 4x4 keypad. Use it to set precise durations, time intervals, or other parameters based on your specific needs. Follow the instructions in the manual for intuitive programming.

3.3 Remote control with remote control

The included 433MHz remote control allows for convenient remote control of the FlexiTimer. Use it to start and stop the timer remotely. Make sure the FlexiTimer is within range of the remote control for effective control.

3.4 Use of open-source code

The core of the FlexiTimer is based on an Arduino Nano Every, offering complete flexibility thanks to its open-source code. Explore the different codes available on our GitHub account to extend the functionality of the FlexiTimer. You'll find clock codes, stopwatch codes, programmable countdown timer codes via the 4x4 keypad, and many more. Upload the desired code to your FlexiTimer using the USB-C cable and customize your experience to suit your needs.

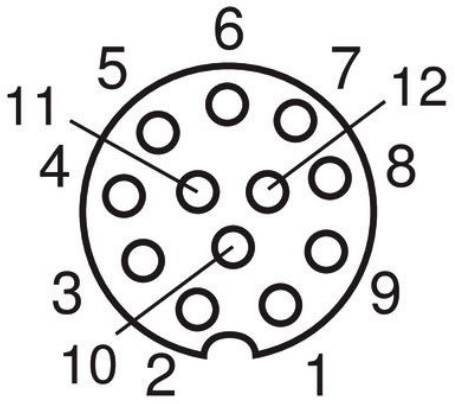
4. Advanced features

4.1 12-pin connectors

The FlexiTimer is equipped with versatile 12-pin connectors, offering maximum expandability. Each pin is clearly marked to simplify the connection of other plug-ins. Use this connector to integrate sensors, external displays, or other devices according to your specific needs.

1 Pinout table on M12 output

P/N	Correspondence	Type
1	+5V	VDC
2	+3.3V	VDC
3	0V	GND
4	A2	Analog
5	A3	Analog
6	A4 (SDA)	Analog/I2C
7	A5 (SCL)	Analog/I2C
8	A6	Analog
9	RST	Reset
10	0V	GND
11	RX	Serial
12	TX	Serial

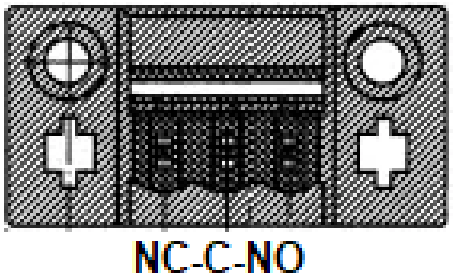


4.2 Integration of plug-ins

Explore new possibilities by integrating plug-ins into your FlexiTimer. The 12-pin connector allows for quick and easy setup. Download the corresponding codes from Foxtek's GitHub account to customize the interaction between your FlexiTimer and plug-ins.

4.3 Using the Internal Relay

The FlexiTimer has an internal NO/NC relay (green 3-pin connector located on the left side of the FlexiTimer), which automatically activates when the timer reaches zero thanks to the countdown code. This feature allows external devices such as lights, alarms, or other equipment to be triggered. Relay programming is also customizable via the open-source code link on the A1 output of the Arduino Nano Every.



5. Specific applications

5.1 Mine clearance training

The FlexiTimer finds a crucial application in demining training. Thanks to its millisecond accuracy, it can be used to simulate demining scenarios, helping professionals train realistically and safely. Advanced features, such as remote control and internal relay, add a layer of complexity for more realistic training exercises.

5.2 Industrial Automation

In the field of industrial automation, the FlexiTimer offers a versatile solution for time management. Use it to synchronize processes, trigger specific actions at specific intervals, or coordinate automated tasks. The 12-pin connectors facilitate integration with other industrial equipment and sensors.

5.3 Timing of sporting events

The FlexiTimer excels at timing sporting events, providing unparalleled accuracy for measuring elapsed time. Schedule it for outdoor competitions, workouts, or sporting events. The remote control allows for easy control, while the 8-digit display ensures optimal visibility.

5.4 Project Management

For project management, the FlexiTimer can be used as a valuable tool to set deadlines, plan milestones, and coordinate activities. The 12-pin connectors offer the possibility of integrating sensors or external devices for advanced automation. Set alarms, reminders, or specific actions to optimize your project management.

6. Maintenance & Safety

6.1 Cleaning & Maintenance

The FlexiTimer is designed to be low maintenance, but a few simple steps can extend its life and ensure optimal performance:

- **Cleaning:** Use a soft, dry cloth to clean the screen and case. Avoid the use of harsh solvents or chemicals.
- **Moisture Protection:** Keep the FlexiTimer away from moisture and water. If exposed to wet conditions, be sure to dry the device thoroughly before use.
- **Firmware Update:** Check our website or GitHub account regularly for firmware updates. Follow the instructions provided to ensure your FlexiTimer has the latest features and bug fixes.

6.2 Safe to use

To ensure safe use of the FlexiTimer, follow these safety guidelines:

- **Power Supply:** Use only the included 120W USB-C charger to charge the FlexiTimer. Make sure the power supply is within the specifications in the manual.
- **Operating Temperature:** Use the FlexiTimer within a specified temperature range (see manual). Avoid extreme heat or cold conditions.
- **Careful Handling:** Avoid violent physical shocks and do not drop the FlexiTimer. The included carrying case can also provide extra protection when travelling.

6.3 Troubleshooting

If you're having trouble with your FlexiTimer, follow these troubleshooting steps:

- **Checking Power:** Make sure the battery is properly charged and the FlexiTimer is connected to a power source.
- **Reset:** If problems persist, try resetting the FlexiTimer by following the instructions in the manual.
- **Firmware Update:** Check to see if a firmware update is available. Upload the update by following the instructions provided.

If problems persist, contact our technical support for further assistance.

7. Partnerships & Licensing

7.1 Provisional Patent

The FlexiTimer is currently protected by a provisional patent, demonstrating our commitment to innovation and the protection of this revolutionary technology. The provisional patent provides temporary protection while allowing Foxtek Technology Systems to continue the development, partnerships and commercialization of this invention.

7.2 Partnership Policy

Foxtek Technology Systems encourages partnerships with companies, institutions, and developers interested in integrating the FlexiTimer into various applications. Our partnership policy aims to facilitate collaboration and the exploration of new opportunities. Potential partners can benefit from the following benefits:

- **Source Code Access:** Partners have access to the FlexiTimer's open-source source code, allowing for specific customizations and integrations.
- **Technical Support:** Foxtek offers dedicated technical support to partners to ensure smooth integration and optimal use of the FlexiTimer in their projects.
- **Resource Sharing:** Partnerships can include sharing resources, expertise, and knowledge to maximize mutual benefits.
- **Co-Development:** For specific projects, Foxtek is open to co-development collaborations aimed at creating innovative solutions.

If you are interested in partnering with Foxtek Technology Systems, please contact our dedicated partnerships team to discuss opportunities and terms.

8. Support technique

8.1 Contact Support

Our technical support team is available to answer your questions, troubleshoot issues, and provide general assistance regarding your FlexiTimer. To contact our technical support:

- **E-mail Address:** Send us an e-mail to support@foxtek.eu detailing your question or problem. We will get back to you as soon as possible.
- **Phone Number:** Call our technical support line at +33788462998 for immediate assistance.
- **Contact Form:** Fill out the contact form available on our website at www.foxtek.eu/contact to submit your request online.

8.2 Firmware Updates

Be sure to check our website and Foxtek's GitHub account regularly for FlexiTimer firmware updates. Updates may include new features, performance improvements, and bug fixes. Follow the instructions that come with each update to ensure proper installation.

8.3 Frequently Asked Questions (FAQs)

Check out our Frequently Asked Questions (FAQ) section on our website to find answers to common questions about the FlexiTimer. This section is regularly updated to include new frequently asked questions from users. If your question is not listed in the FAQ, please do not hesitate to contact our technical support for personalized assistance.

9. Legal information

9.1 Guarantee

Limited Warranty

Foxtek Technology Systems warrants that the FlexiTimer will be free from defects in materials and workmanship for a period of 12 months from the original date of purchase. If a defect occurs during the warranty period, Foxtek will repair or replace the product, subject to the warranty conditions and exclusions specified in the user manual.

Warranty Conditions:

- The warranty does not cover damage resulting from improper use, neglect, unauthorized modifications or external causes.
- Accessories, batteries and wear parts are excluded from the warranty.
- The warranty is valid only for the original purchaser with proof of purchase.

To claim the warranty, please contact our technical support in accordance with section 8.1.

9.2 User Responsibilities

Proper Use & Safety

The user is responsible for the proper and secure use of the FlexiTimer. Follow all instructions in the user manual to ensure proper use. Foxtek accepts no liability for improper use, negligence or failure to comply with safety instructions.

Modification of the Product

Any unauthorized modification of the FlexiTimer will void the warranty and may compromise the safety and performance of the product. Foxtek is not responsible for any damages resulting from unauthorized modifications.

9.3 Regulatory Compliance

The FlexiTimer complies with current safety standards and regulations. However, it is the user's responsibility to ensure that the use of the FlexiTimer complies with local laws and regulations. Foxtek is not responsible for non-compliance with local regulations.

10. Contacts

10.1 Foxtek Technology Systems

Address:

7 Avenue de la gare, 68250 Rouffach, France

General E-mail Address:

info@foxtek.eu

Telephone:

+33788462998

Website:

www.foxtek.eu

10.2 Support technique

Contact Technical Support:

- **E-mail address:** support@foxtek.eu
- **Phone Number:** +33788462998
- **Contact Form:** www.foxtek.eu/contact

10.3 Customer service

Contact Customer Service:

- **Adresse E-mail :** customer.service@foxtek.eu
- **Phone Number:** +33788462998
- **Contact Form:** www.foxtek.eu/contact