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› Freenove Super Starter Kit for Raspberry Pi Pico 2 W Instruction Manual

FREENOVE FNK0063E

Freenove Super Starter Kit for Raspberry Pi Pico 2 W Instruction Manual

Model: FNK0063E | Brand: FREENOVE

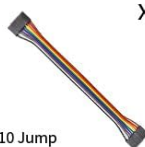
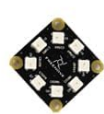
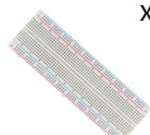
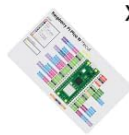
INTRODUCTION

The Freenove Super Starter Kit for Raspberry Pi Pico 2 W is a comprehensive educational package designed for electronics enthusiasts, students, and makers. It provides a robust platform for learning microcontroller programming and electronics with the powerful Raspberry Pi Pico 2 W board.

This kit includes a wide array of components, detailed tutorials, and project examples to guide users from basic concepts to more complex applications. The Raspberry Pi Pico 2 W, included in this kit, features a dual Arm Cortex-M33 and dual Hazard3 RISC-V microcontroller, offering enhanced performance and connectivity with onboard wireless LAN and Bluetooth.

WHAT'S INCLUDED

Your Freenove Super Starter Kit contains 177 items, carefully selected to support a wide range of projects. The kit is designed to provide all necessary components for the included tutorials and beyond.

Download Needed: Tutorial and Code (No paper tutorial.) The download link can be found on the box!		Official Raspberry Pi Pico 2 W x1 		x1  USB Cable	x1  LCD Module	
x4  Push Button	x1  Infrared Remote	x4  Red LED	x4  Green LED	x4  Blue LED	x2  Rectifier Diode	x20  Resistor-220
x1  Photoresistor	x1  Thermistor	x1  RGB LED	x2  NPN Transistor	x2  PNP Transistor	x10  Resistor-10K	x10  Resistor-1K
x1  10 Jump Wire F-F	x1  10 Jump Wire F-M	x1  65 Jump Wire M-M	x1  Motor Driver Chip	x1  Serial to Parallel Chip	x1  Crowbar	x3  Potentiometer
x1  Passive Buzzer	x1  Active Buzzer	x1  7-Segment Display	x1  LED Bar Graph	x1  8 RGB LED Module	x1  Motor	x1  Servo
x1  Joystick	x1  2X AA Battery Holder	x1  Project Board	x1  Pinout Card	x1  Pinout Sticker	x1  Resistor Color Code Card	x1  Plastic Box

A visual representation of the kit's contents, detailing each component type and quantity, such as push buttons, LEDs, resistors, and the Raspberry Pi Pico 2 W board.

The kit also includes a project board (breadboard) for easy circuit assembly without soldering, and a USB cable for connecting the Raspberry Pi Pico 2 W to your computer.

RASPBERRY PI PICO 2 W OVERVIEW AND SPECIFICATIONS

The Raspberry Pi Pico 2 W is the central component of this kit, offering significant improvements over previous versions. It is a powerful, low-cost microcontroller board with flexible digital interfaces.

Raspberry Pi Pico 2 W

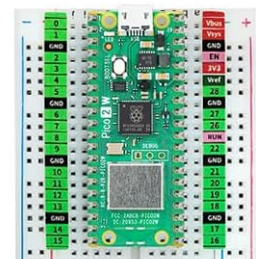
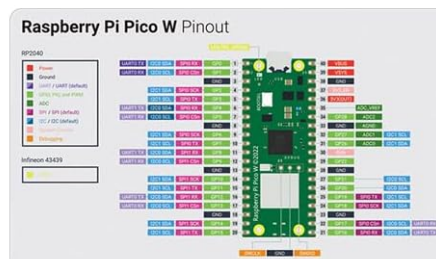
Latest upgraded board with more powerful switchable cores, WLAN and Bluetooth.



Dual Arm Cortex-M33
Dual Hazard3 RISC-V switchable cores
Up to 150 MHz flexible clock
520 KB on-chip SRAM
4 MB on-board QSPI flash
26 x multifunction GPIO pins
24 x PWM, 3 x ADC
2 x UART, 2 x SPI, 2 x I2C
2.4 GHz 802.11n wireless LAN
Bluetooth 5.2

Compatible with Arduino IDE

Comes with pinout card and stickers.



Close-up view of the Raspberry Pi Pico 2 W board, highlighting its compact size and key features like the USB port and pin headers, along with a list of its technical specifications.

Key Features:

- **Processor:** Dual Arm Cortex-M33 and Dual Hazard3 RISC-V Microcontroller.
- **Clock Speed:** Up to 150 MHz flexible clock.
- **Memory:** 520 KB on-chip SRAM and 4 MB on-board QSPI flash.
- **GPIO Pins:** 26 multifunction GPIO pins.
- **Peripherals:** 2 x UART, 2 x SPI, 2 x I2C, 24 x PWM, 3 x ADC.
- **Wireless Connectivity:** 2.4 GHz 802.11n wireless LAN and Bluetooth 5.2.
- **Compatibility:** Compatible with Arduino IDE.

Technical Specifications:

Specification	Value
RAM	264 KB LPDDR

Specification	Value
Wireless Type	802.11n
Operating System	MicroPython
Item Weight	15.1 ounces
Product Dimensions	5.67 x 1.81 x 7.87 inches
Processor Brand	ARM
Number of Processors	2
Computer Memory Type	SRAM
Connectivity Technology	Bluetooth, USB, Wi-Fi

PROGRAMMING AND OPERATION

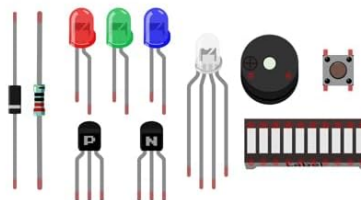
The Freenove Super Starter Kit comes with a comprehensive 588-page digital tutorial that guides you through the programming process step-by-step. This tutorial includes basic electronics knowledge, schematics, wiring diagrams, and detailed explanations for each project.

Detailed Tutorial

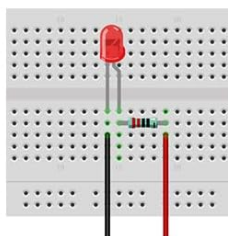
Shows you how to program Raspberry Pi Pico.



Includes popular C and MicroPython code, and interesting Processing (Java) projects.



Knowledge of electronics and components is included. Start by lighting up an LED.



```
// led on
digitalWrite(ledPin, HIGH);
delay(1000);

// led off
digitalWrite(ledPin, LOW);
delay(1000);
```

Dozens of projects from simple to complex are included. Each has wiring diagrams, code and explanations.



Provide free and timely technical support services. Feel free to contact us if you need any help.

The download link can be found on the box! (No paper tutorial.)

An illustration showing the three supported programming languages (C, MicroPython, Processing) and the type of content included in the detailed tutorial.

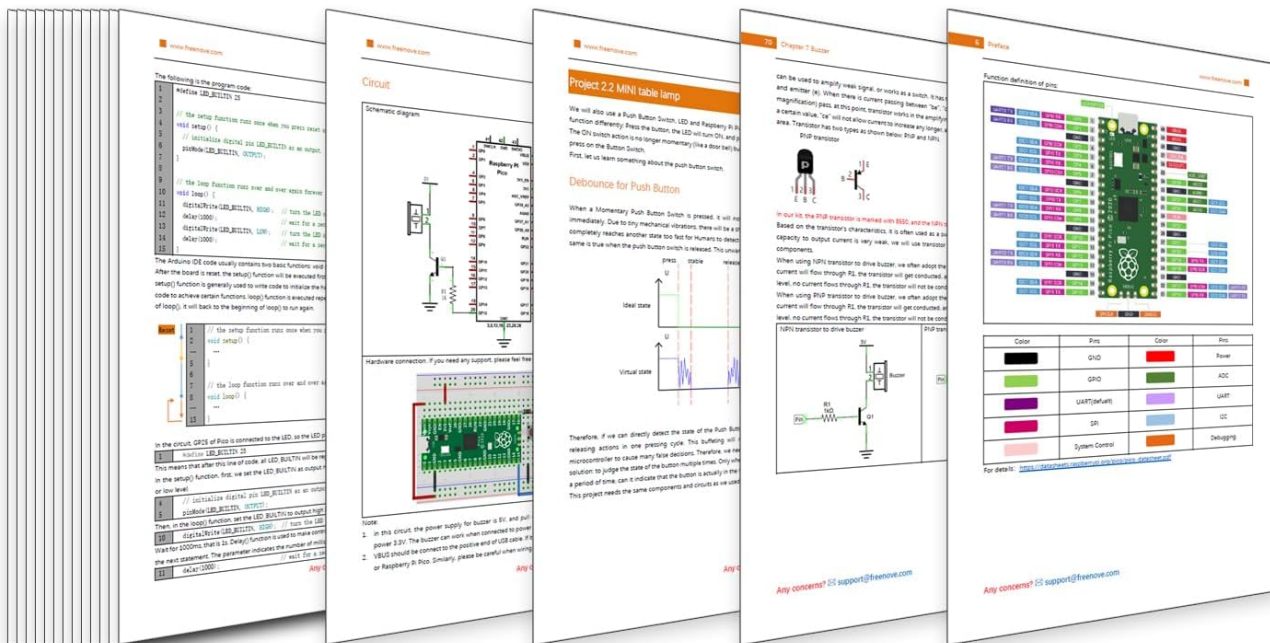
Supported Programming Languages:

- **MicroPython:** An easy-to-use and popular implementation of Python 3, optimized for microcontrollers.
- **C:** The classic and widely used language for embedded systems programming, offering fine-grained control over hardware.
- **Processing (Java):** Codes run on computers to provide graphical interfaces, allowing for interactive projects.

The tutorial provides complete code examples for each project, making it easy to follow along and understand the concepts. The download link for the tutorial can be found on the product box.

Tutorial Examples

Provides step-by-step guide and detailed explanations.



The download link can be found on the box! (No paper tutorial.)

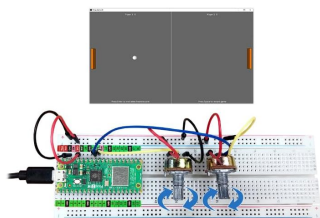
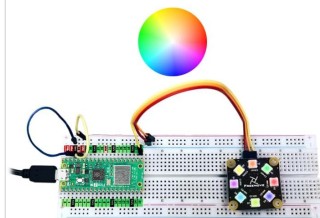
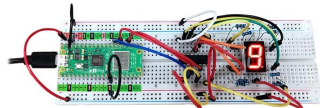
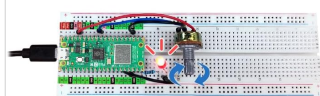
A visual representation of several pages from the digital tutorial, showcasing circuit diagrams, code snippets, and detailed explanations for various projects.

PROJECT EXAMPLES

The kit includes 94 projects, ranging from simple LED blinking to more complex sensor-based applications and interactive systems. These projects are designed to build your skills progressively.

Project Examples

Includes dozens of projects from simple to complex.



Examples of completed projects, including controlling components like LEDs and 7-segment displays, and interacting with software interfaces.

Each project is accompanied by clear instructions, wiring diagrams, and complete code, ensuring a smooth learning experience. You will learn to control various electronic components and interact with software interfaces.

TROUBLESHOOTING

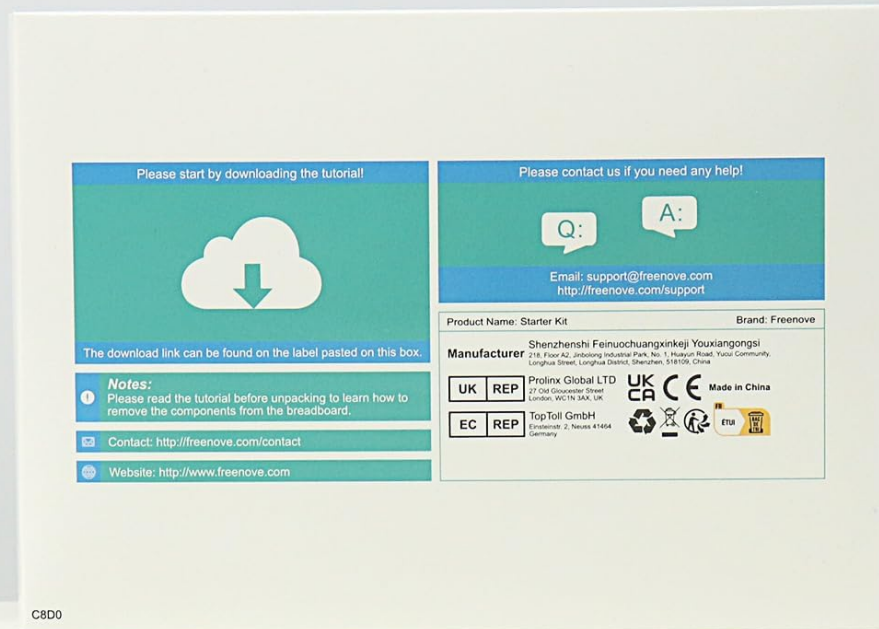
If you encounter issues while using your Freenove Super Starter Kit, consider the following common troubleshooting steps:

- **Power Issues:** Ensure the Raspberry Pi Pico 2 W is properly connected to a power source via the USB cable. Verify that the cable is a data-transfer cable, not just a charging cable, as data connection is required for programming.
- **Code Upload Failure:** Double-check your wiring against the provided schematics in the tutorial. Ensure the correct board and port are selected in your IDE (MicroPython, C, or Processing environment). Sometimes, restarting the IDE or your computer can resolve connectivity issues.
- **Component Malfunction:** If a specific component is not working, verify its polarity (for LEDs, diodes) and connections. Test components individually if possible. Ensure resistors are of the correct value as specified in the project.
- **Software Setup:** Confirm that all necessary drivers and software environments (e.g., Thonny for MicroPython, Arduino IDE for C) are correctly installed and configured according to the tutorial.

Refer to the detailed tutorial for specific troubleshooting tips related to each project. Many common problems are addressed within the guide.

SUPPORT AND WARRANTY

Freenove is committed to providing excellent customer support for its products. While this kit does not include a paper tutorial, the comprehensive digital tutorial is available for download, providing all the information you need to get started and complete projects.



The back of the Freenove Starter Kit box, indicating where to find the download link for the digital tutorial and contact information for support.

For any technical assistance or inquiries, Freenove offers free and timely technical support. You can find contact information, including email support and website links, on the product box and within the digital tutorial.

FCC Statement

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.

IC Statement

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (1) this device may not cause interference; and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie 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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



E1F2G0

Safety and User Guide

www.freenove.com

- > **EN** For development use only. **WARNINGS:** Not suitable for children under 14 years. For use under adult supervision.
- > **BG** Само за разработка. **ПРЕДУПРЕЖДЕНИЯ:** Неподходящо за деца под 14 години. Да се употребява само под пряк надзор от възрастни.
- > **ES** Sólo para uso en desarrollo. **ADVERTENCIAS:** No conviene para niños menores de 14 años. Utilícese bajo la vigilancia de un adulto.
- > **CS** Pouze pro vývojové použití. **UPOZORNĚNÍ:** Nevhodné pro děti do 14 let. Používat pouze pod dohledem dospělých osob.
- > **DA** Kun til udviklingsbrug. **ADVARSLER:** Ikke egnet for børn under 14 år. Skal anvendes under opsyn af en voksen.
- > **DE** Nur für Entwicklungszwecke. **WARNHINWEISE:** Nicht geeignet für Kinder unter 14 Jahren. Benutzung unter Aufsicht von Erwachsenen.
- > **ET** Ainult arenduseks kasutamiseks. **HOIATUS:** Ei ole sobiv alla 14 aastaste lastele. Kasutada ainult täiskasvanu järelevalve all.
- > **EL** Μόνο για χρήση ανάπτυξης. **ΠΡΕΙΔΟΠΟΙΗΣΕΙΣ:** Δεν είναι κατάλληλο για παιδιά κάτω των 14 ετών. Να χρησιμοποιείται υπό την επίβλεψη ενήλικου.
- > **FR** Pour usage de développement uniquement. **AVERTISSEMENTS:** Ne convient pas aux enfants de moins de 14 ans. À utiliser sous la surveillance d'un adulte.
- > **GA** Le húsáid forbartha amháin. **RABHADH:** Níl sé oiriúnach do leanal faoi 14 bliana. Le húsáid faoi mhaoriseacht aosach.
- > **HR** Samo za razvojno upotrebu. **UPOZORENJA:** Nije prikladno za djecu mlađu 14 godina. Koristiti samo pod nadzorom odraslih.
- > **IT** Solo per uso di sviluppo. **AVVERTENZE:** Non adatto a bambini di età inferiore a 14 anni. Da usare sotto la sorveglianza di un adulto.

- > **LV** Izmantot tikai izstrādei. **BRĪDĪJUMI:** Nav piemērots bērniem līdz 14 gadu vecumam. Izmantot tikai pieaugušo uzraudzībā.
- > **LT** Naudoti tik plėtrai. **ĮSPĖJIMAI:** Netinka vaikams iki 14 metų. Naudoti prižiūrint suaugusiesiems.
- > **HU** Csak fejlesztési célra használható. **FIGYELMEZTETÉSEK:** Nem alkalmas 14 év alatti gyermekek számára. Fejlesztő felügyelete mellett használható.
- > **MT** Għall-użu ta' żvilupp biss. **TWISSIJJET:** Mhux adattat għal tfal taht 14 snin. Għall-użu taht superviżjoni ta' adult.
- > **NL** Alleen voor ontwikkelingsgebruik. **WAARSCHUWINGEN:** Niet geschikt voor kinderen jonger dan 14 jaar. Gebruiken onder toezicht van volwassenen.
- > **PL** Tylko do użytku rozwojowego. **OSTRZEŻENIA:** Nie nadaje się dla dzieci w wieku poniżej 14 lat. Do używania pod nadzorem osoby dorosłej.
- > **PT** Apenas para uso em desenvolvimento. **AVISOS:** Contra-indicado para crianças com menos de 14 anos. A utilizar sob a vigilância de adultos.
- > **RO** Numai pentru utilizare în dezvoltare. **AVERTISMENTE:** Contraindicat copiilor mai mici de 14 ani. A se utiliza sub supravegherea unei persoane adulte.
- > **SK** Len na vývojové použitie. **UPOZORNENIA:** Nevhodné pre deti vo veku do 14 rokov. Používať pod dohľadom dospelých osôb.
- > **SL** Samo za razvojno uporabo. **OPOZORILA:** Ni primerno za otroke, mlajše od 14 let. Uporabljati pod nadzorom odrasle osebe.
- > **FI** Vain kehityskäyttöön. **VAROITUKSET:** Ei alle 14-vuotiaille lapsille. Käytettäväksi aikuisen valvonnassa.
- > **SV** Endast för utvecklingsbruk. **VARNINGAR:** Inte lämplig för barn under 14 år. Ska användas under tillsyn av vuxen.
- > **JP** 開発用途のみ。警告: 14 歳未満のお子様には適していません。大人の監督の下で使用してください。
- > **CN** 仅供开发使用。警告: 不适合 14 岁以下的儿童。在成人监督下使用。

A general safety and user guide document, which typically includes important notices and contact information for the manufacturer.

Please refer to the contact details provided on the product packaging or within the digital tutorial for the most up-to-date support information. Freenove stands behind its products and is ready to assist you with your learning journey.

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For more information, visit www.freenove.com

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

<https://manuals.plus/asin/B0DRJVY11T>

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