

FANPEEC FA-H4T

FANPEEC FA-H4T Fanless Industrial Mini PC User Manual

Model: FA-H4T | Brand: FANPEEC

1. INTRODUCTION

This manual provides comprehensive instructions for the setup, operation, maintenance, and troubleshooting of your FANPEEC FA-H4T Fanless Industrial Mini PC. Please read this manual thoroughly before using the device to ensure proper functionality and longevity.

The FANPEEC FA-H4T is a high-performance fanless industrial mini PC designed for demanding applications. It features an Intel Core i7-10610U processor, 16GB DDR4 RAM, and a 512GB SSD, offering robust performance for industrial control, data analysis, digital signage, and other specialized tasks. Its fanless design ensures silent operation and enhanced durability in harsh environments.



Figure 1.1: Overview of FANPEEC FA-H4T Mini PC features including CPU, RAM, COM ports, OS, and operational characteristics.

2. SETUP

2.1 Unboxing

Carefully remove all components from the packaging. Verify that all items listed in the 'What's in the Package' section are present and undamaged. Retain the packaging for future transport or storage.

Video 2.1: This video demonstrates the unboxing process for the FANPEEC Fanless Mini PC H4T, showing how to safely remove the device and its accessories from the packaging.

2.2 What's in the Package

The standard package includes:

- 1 x FANPEEC H4-T Mini PC
- 1 x Power Adapter
- 1 x Power Cord
- 1 x HDMI Cable
- 1 x SATA Cable
- 1 x VESA Bracket
- Screws for installation
- User Manual



Figure 2.2: Visual representation of all items included in the FANPEEC H4-T Mini PC package, such as the PC unit, power adapter, cables, and mounting bracket.

2.3 Hardware Installation and Upgrades

The FANPEEC FA-H4T allows for easy installation and upgrades of memory and storage components. Follow these steps for internal hardware modifications:

Video 2.3: This video provides a step-by-step guide on installing memory (RAM) and a hard disk (SSD/HDD) into the FANPEEC Fanless PC H4T.

2.3.1 Memory (RAM) Installation

The device supports two 260-pin SODIMM DDR4 memory modules, up to a maximum of 64GB. To install:

1. Unscrew the bottom panel of the mini PC.
2. Locate the two SODIMM slots on the motherboard.
3. Align the notch on the DDR4 module with the key in the slot.
4. Insert the module at a 45-degree angle and press down until the clips on both sides secure it.

2.3.2 M.2 2280 SSD Installation

The mini PC includes an M.2 2280 slot supporting NVMe/SATA protocols, up to 2TB. To install:

1. Locate the M.2 slot on the motherboard.
2. Insert the M.2 SSD into the slot at an angle.
3. Gently push down the SSD and secure it with the provided screw.

2.3.3 2.5-inch HDD/SSD Installation

A 2.5-inch HDD/SSD (up to 6TB) can be installed using the SATA 3.0 interface. To install:

1. Attach the 2.5-inch drive to the mounting plate on the bottom panel using screws.
2. Connect the SATA data and power cables to the drive and the corresponding ports on the motherboard.
3. Carefully reattach the bottom panel.

Inner Power, Expand Infinite Possibilities

Accessories Are Visible

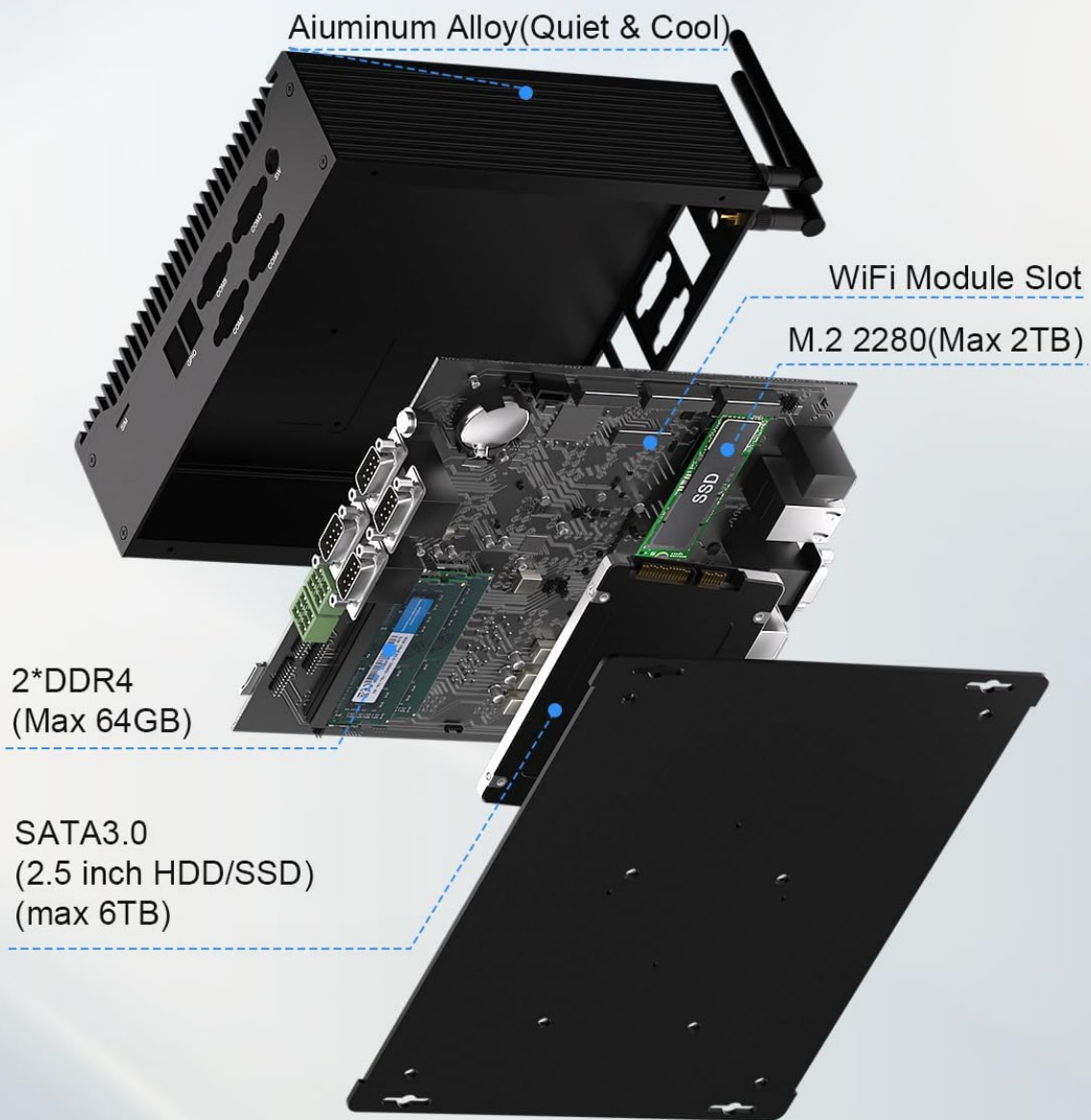






Figure 2.3: An exploded view illustrating the internal components and expansion slots, including 2*DDR4 (Max 64GB), M.2 2280 (Max 2TB), and SATA 3.0 (2.5 inch HDD/SSD Max 6TB).

Multi-Function Multiple Slots

Stay Connected Anywhere with Advanced Network Options

1.  2*DDR4 260Pin SODIMM (Max 64GB)
2.  1*SATA3.0 (for 2.5 inch HDD/SSD) (Max 6TB)
3.  1*M.2 2280 SSD (Max 2TB)
4.  1* SIM Slot Suitable for Nano-SIM Card

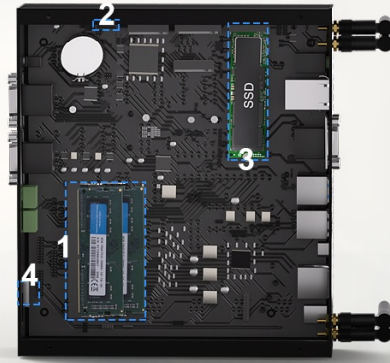


Figure 2.4: Detailed diagram of the multi-function slots, including 2*DDR4 260Pin SODIMM, 1*SATA3.0 for 2.5 inch HDD/SSD, 1*M.2 2280 SSD, and 1*SIM Slot.

2.4 Connecting Peripherals

Connect your display, power, network, and other peripherals to the appropriate ports on the mini PC.



Figure 2.5: Rear panel of the FANPEEC FA-H4T Mini PC, displaying various ports including audio jacks, LAN, COM, USB, Type-C, HDMI, and DP.

Rich Ports Meet Daily Needs

8*USB 2*Gigabit Lan 6*RS232 COM



Figure 2.6: Close-up view of the FANPEEC FA-H4T Mini PC's ports, including SPK, MIC, 2*RJ45 LAN, 6*RS232 COM, 8*USB (4*USB 3.0, 4*USB 2.0), Type-C, HDMI, DP, DC-IN, SIM Slot, and GPIO.

- **Power Adapter:** Connect the power adapter to the DC-IN port and then to a power outlet.
- **Display:** Use the HDMI, DisplayPort (DP), or Type-C ports to connect to your monitor(s). The device supports up to three 4K displays simultaneously.
- **USB Devices:** Connect keyboards, mice, and other USB peripherals to the available USB 2.0 and USB 3.0 ports.
- **Network:** Connect Ethernet cables to the 2*RJ45 LAN ports for wired network access.
- **WiFi Antennas:** Screw the provided WiFi antennas onto the designated connectors for wireless connectivity.

3. OPERATION

3.1 First Boot

After connecting all necessary peripherals and power, press the power button on the device. The system will initiate the boot process. If Windows 11 Pro is pre-installed, follow the on-screen instructions for initial setup.

3.2 Operating System

The FANPEEC FA-H4T comes with Windows 11 Pro pre-installed. It also supports other operating systems such as Windows 10, Ubuntu, CentOS, and OPNsense, providing flexibility for various applications.

Support Multiple Systems

Pre-installed Windows 11 Pro, Support Windows 10/Linux
(Ubuntu, centos, Opnsense, Etc)



Figure 3.1: The FANPEEC Mini PC is shown supporting various operating systems including Windows 11 Pro, Windows 10, Linux (Ubuntu, CentOS, OPNsense).

3.3 Display Configuration

The mini PC supports triple display output at 4K resolution via HDMI, DisplayPort (DP), and Type-C ports. To

configure multiple displays:

1. Connect your monitors to the available display ports.
2. Once the operating system loads, navigate to the display settings (e.g., right-click on the desktop in Windows and select 'Display settings').
3. Detect and arrange your displays as needed (extend, duplicate, or show only on one).



Figure 3.2: A setup demonstrating the FANPEEC Mini PC's capability for 4K triple display output, enhancing work efficiency.



Figure 3.3: Illustration of the triple display connectivity options: 1*Type-C 4K @60HZ, 1*EDP 4K@60HZ, and 1*HDMI 4K@30HZ.

3.4 Network Connectivity

The device supports both wired and wireless network connections:

- **Wired:** Utilize the two Gigabit Ethernet (RJ45) ports for stable and high-speed wired network access.
- **Wireless:** The integrated dual-band WiFi (2.4G+5.0G) and Bluetooth 4.2 provide wireless connectivity. Ensure the WiFi antennas are securely attached for optimal signal reception.

3.5 Industrial Interfaces

The FA-H4T is equipped with a variety of industrial-grade interfaces for diverse applications:

- **COM Ports:** Six RS232 COM ports (configurable as RS232/485/422) for connecting industrial devices like PLCs and sensors.
- **GPIO:** Two GPIO interfaces for custom control and monitoring.
- **CAN Ports:** Two CAN ports for automotive and industrial automation applications.
- **SIM Card Slot:** A SIM card slot is available for easy expansion with a 4G/5G module, enabling IoT deployment.



Figure 3.4: The FANPEEC Mini PC's rich interfaces, including COM ports, USB ports, and LAN ports, are suitable for various industrial applications such as industrial printers, scanners, access control systems, machine tools, cash registers, and POS machines.

4. MAINTENANCE

4.1 Fanless Design Benefits

The FANPEEC FA-H4T features a fanless design with an all-aluminum body, which offers several advantages:

- **Silent Operation:** No moving parts for cooling means completely silent operation, ideal for noise-sensitive environments.
- **Dust Protection:** The sealed design prevents dust and debris from entering the system, reducing maintenance needs and extending component lifespan.
- **Wide Temperature Range:** Designed to operate stably in temperatures from -10°C to 50°C.

7*24H Long and Quiet Operation

Fanless Designed, Silent And Stable Work



No Noise



Fanless Design



Dust Protection



Energy Saving

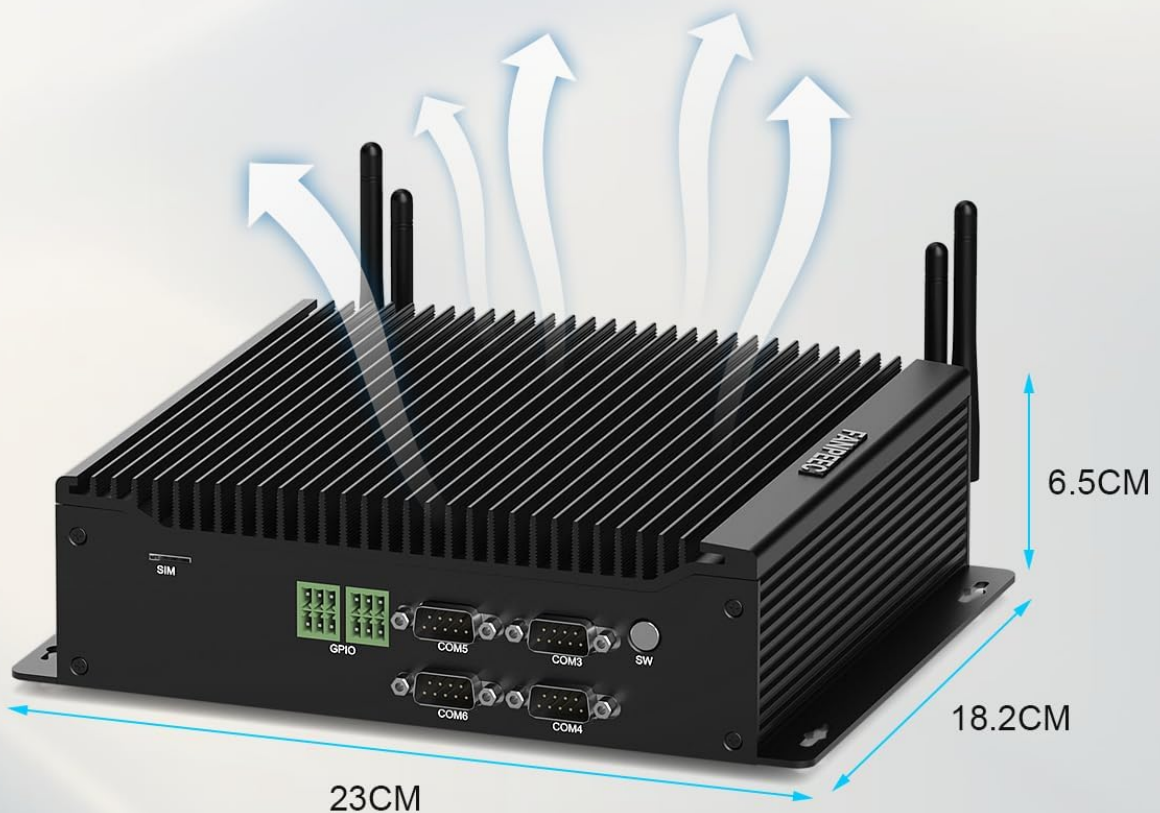


Figure 4.1: The FANPEEC Mini PC's fanless design ensures long and quiet operation, offering no noise, dust protection, and energy saving benefits.

Fanless Design And Metal Body

Still Quiet And Stable Operation In Harsh Environments



Figure 4.2: This image illustrates the fanless design and metal body of the FANPEEC Mini PC, emphasizing its dust-proof, moisture-proof, shockproof, and wide operating temperature range (-10~55°C) capabilities for stable operation in harsh environments.

4.2 Cleaning

To clean the exterior of the mini PC, use a soft, dry cloth. Avoid using liquid cleaners or abrasive materials, as they may damage the finish or internal components. Due to its fanless design, internal cleaning for dust removal is rarely necessary.

4.3 Storage Expansion

Refer to section 2.3 for instructions on expanding storage by installing additional M.2 SSDs or 2.5-inch HDDs/SSDs.

5. TROUBLESHOOTING

This section addresses common issues you might encounter with your FANPEEC FA-H4T Mini PC.

5.1 No Power

- Ensure the power adapter is securely connected to both the mini PC and a working power outlet.
- Verify that the power outlet is functional by plugging in another device.
- Check the power adapter for any visible damage.

5.2 No Display Output

- Confirm that the display cable (HDMI, DP, or Type-C) is securely connected to both the mini PC and the monitor.
- Ensure the monitor is powered on and set to the correct input source.
- Test with a different display cable or monitor if possible.

5.3 Network Connectivity Issues

- **Wired:** Check the Ethernet cable connection to both the mini PC and the router/switch. Verify router functionality.
- **Wireless:** Ensure WiFi antennas are properly installed. Check WiFi settings in the operating system and confirm connection to the correct network. Restart your router if necessary.

5.4 System Slowdown or Instability

- Check for excessive background processes or applications consuming system resources.
- Ensure the operating system and drivers are up to date.
- Verify that the system is not overheating, although the fanless design minimizes this risk.
- Run a diagnostic tool to check the health of the SSD/HDD and RAM.

5.5 Industrial Port Issues (COM, GPIO, CAN)

- Ensure correct drivers are installed for the specific industrial devices.
- Verify cable connections and pin configurations.
- Consult the documentation for the connected industrial device for compatibility and setup requirements.

6. SPECIFICATIONS

The following table outlines the key technical specifications for the FANPEEC FA-H4T Mini PC:

Feature	Specification
Processor	Intel Core i7-10610U (4 Cores, 8 Threads, up to 4.9GHz)
RAM	16GB DDR4 (2 x 260-pin SODIMM slots, Max 64GB)
Storage	512GB SSD (1 x M.2 2280 NVMe/SATA, Max 2TB; 1 x 2.5-inch HDD/SSD SATA 3.0, Max 6TB)
Operating System	Windows 11 Pro (Pre-installed)
Graphics	Integrated Intel UHD Graphics
Display Output	1 x HDMI, 1 x DisplayPort (DP), 1 x Type-C (Supports 4K Triple Display)
USB Ports	4 x USB 3.0, 4 x USB 2.0
Network	2 x Gigabit Ethernet (RJ45), Dual Band WiFi (2.4G+5.0G), Bluetooth 4.2
Industrial Ports	6 x RS232 COM (configurable RS232/485/422), 2 x GPIO, 2 x CAN, 1 x SIM Card Slot
Audio	Mic-in, Speaker-out
Power Consumption	75W (Ultra-low)
Dimensions (LxWxH)	9.06 x 7.17 x 2.56 inches (230 x 182 x 65 mm)
Weight	4.18 pounds (1.9 kg)
Operating Temperature	-10°C to 50°C
Additional Features	TPM 2.0, Wake-on-LAN, Auto-Start, Watch Dog, PXE, RTC

7. WARRANTY AND SUPPORT

7.1 Warranty Information

FANPEEC products are designed for reliability and performance. This product comes with a standard manufacturer's warranty covering defects in materials and workmanship under normal use. Please refer to the warranty card included with your product or contact customer support for specific warranty terms and conditions.

7.2 Customer Support

For technical assistance, troubleshooting, or any inquiries regarding your FANPEEC FA-H4T Mini PC, please contact our support team:

- **Support Email:** fanpeec_service@126.com
- For Amazon orders, you can also log into your Amazon account, find your order, and click "Get Help" for assistance.



Figure 7.1: FANPEEC customer support details, including support email and instructions for Amazon order assistance.