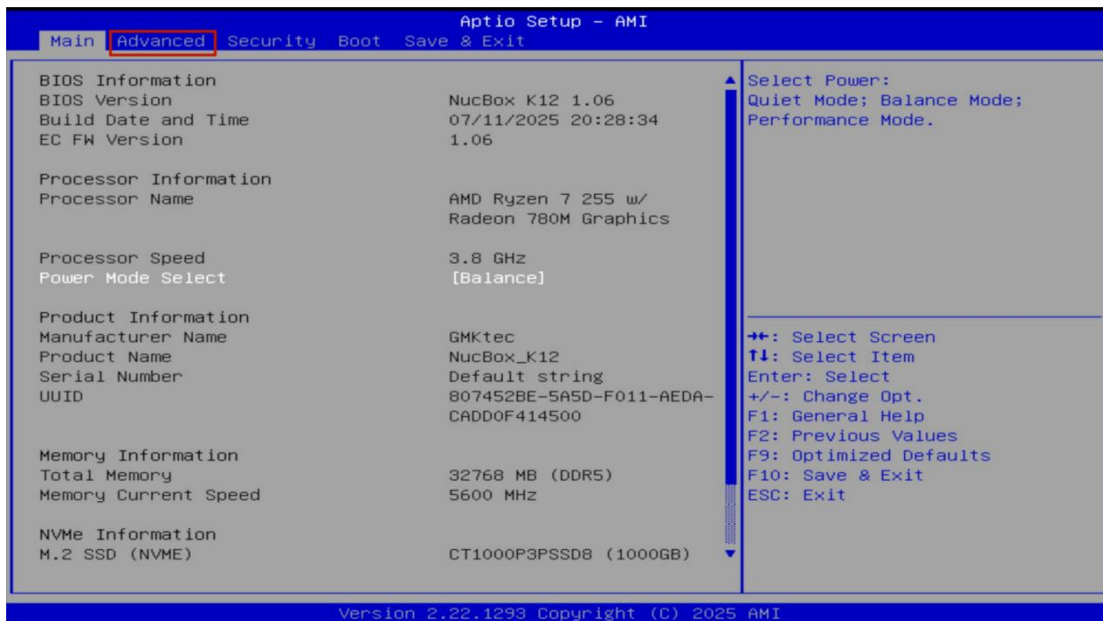


K12 Fan Speed Setting Modification Operation Guide

Note: Method 1: Supports BIOS versions from 1.0 to 1.7 and EC version 1.07. Method 2: Supports BIOS version 2.02 and later EC versions 2.02.

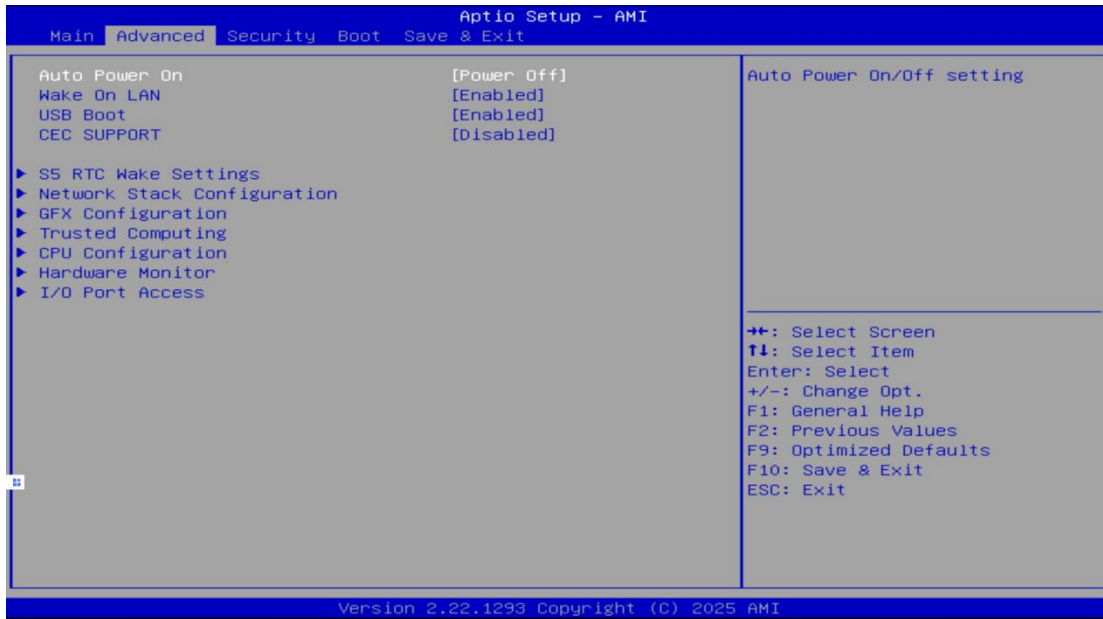
1. Enter the BIOS interface

The K12 device is connected to power and in the shutdown state. Press the device's power button briefly to turn it on. While turning on, press the ESC key continuously to enter the BIOS setup page. As shown in the following figure:



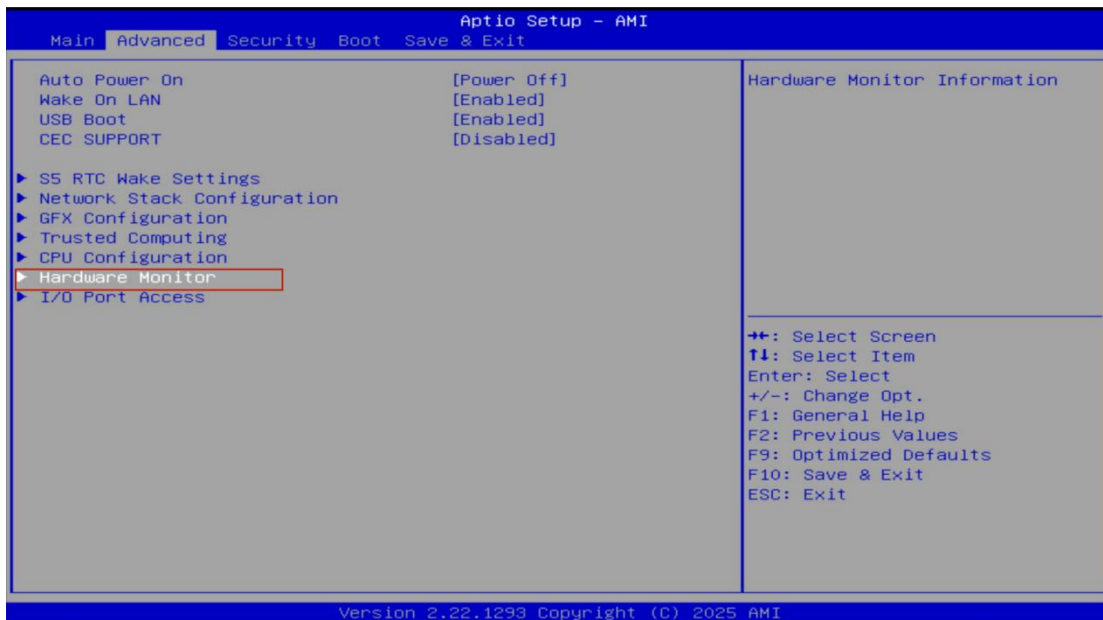
2. Enter the Advanced interface

Use the → arrow key on your keyboard to select the Advanced menu, as shown in the figure below:



3. Select the Hardware Monitor option

Use the Down Arrow Key "↓" on your keyboard to select the Hardware Monitor menu option. Press the Enter Key on your keyboard, as shown in the figure below:

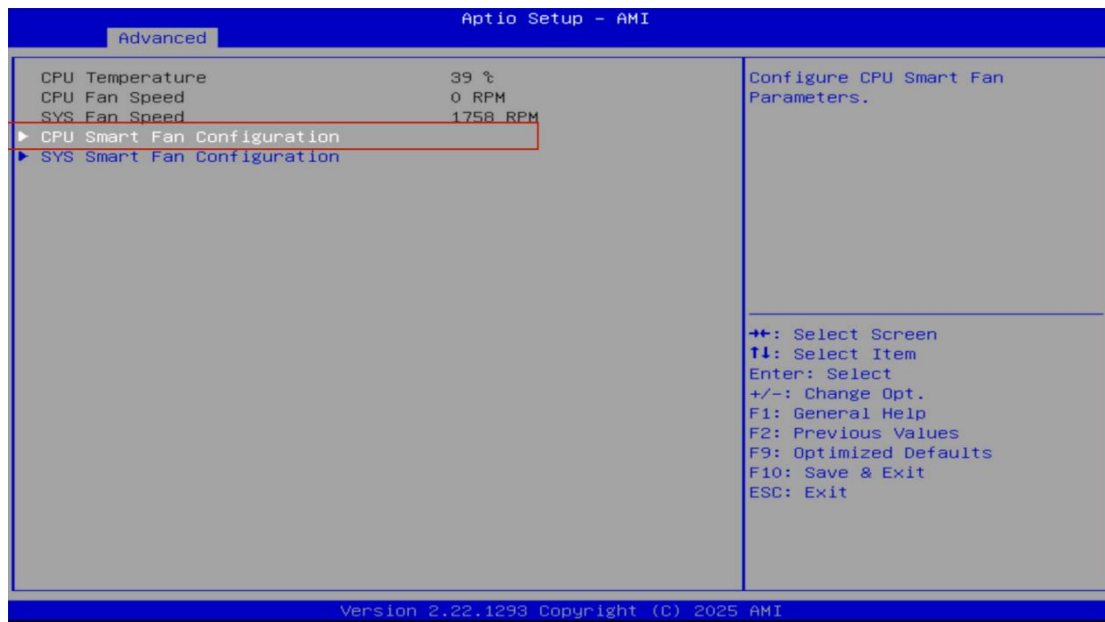


First method:

1. After entering the Hardware Monitor menu item,

You can view the current fan speed and adjust the fan speed (one CPU fan and one

system fan). Select the CPU Smart Fan configuration option and press the "Enter" key on your keyboard, as shown in the figure below:

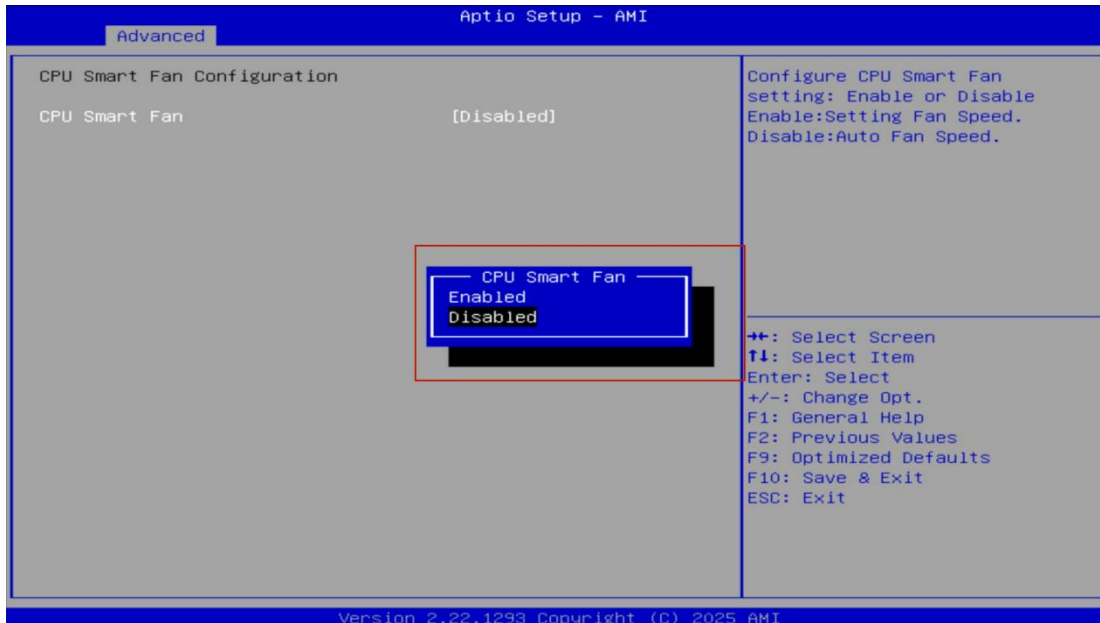


2. Turn on the fixed fan speed.

Select the CPU Smart Fan option and press the "Enter" key on your keyboard, as shown in the figure below:

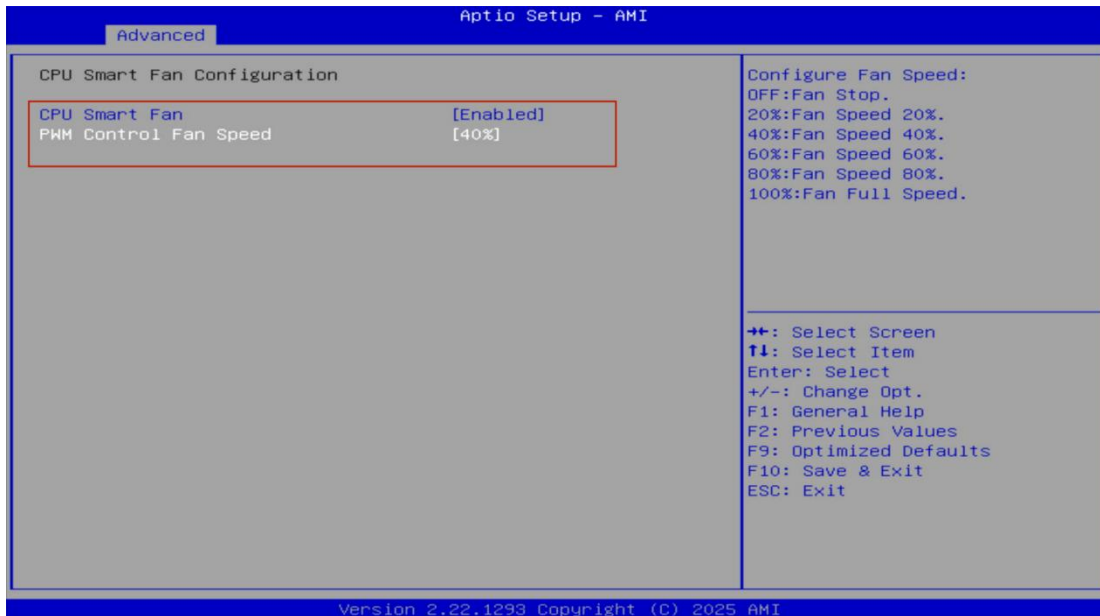
When CPU Smart Fan is set to 'Disabled' , the fan speed is automatically controlled by the system.

When CPU Smart Fan is set to 'Enabled' , the fan speed is fixed. **WARNING: Do not arbitrarily adjust the fixed fan speed, especially when the device is running high-power operations.**



3. Select the PWM Control Fan Speed option.

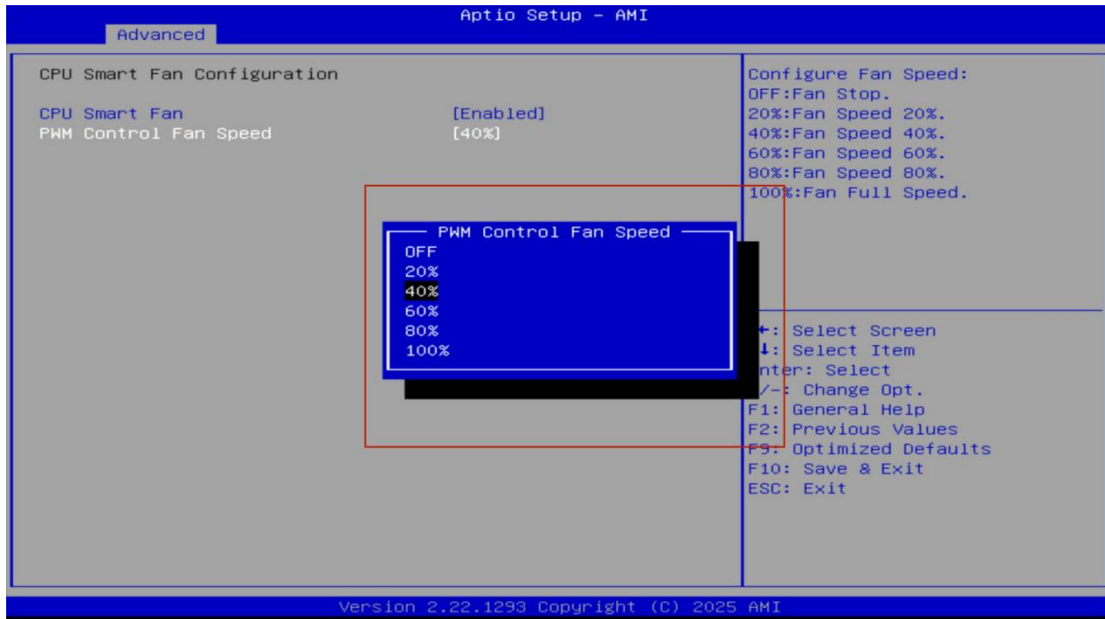
Select the keyboard direction key '↓', select PWM Control Fan Speed, and click the keyboard 'Enter' key, as shown in the following figure:



4. Adjust the fixed fan speed

Use the Up and Down Arrow Keys (↑/↓) on your keyboard to switch between the

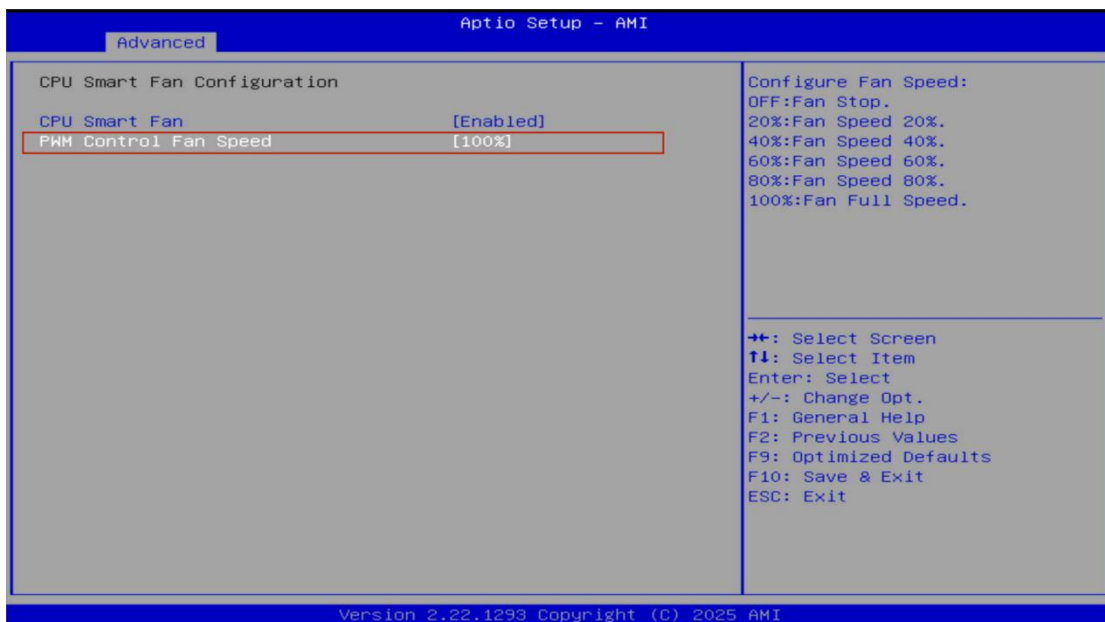
fixed fan speed percentages in the pop-up window, as shown in the figure below:



5. Adjust the fixed fan speed

Select the appropriate fixed fan speed percentage, then click the keyboard 'Enter'

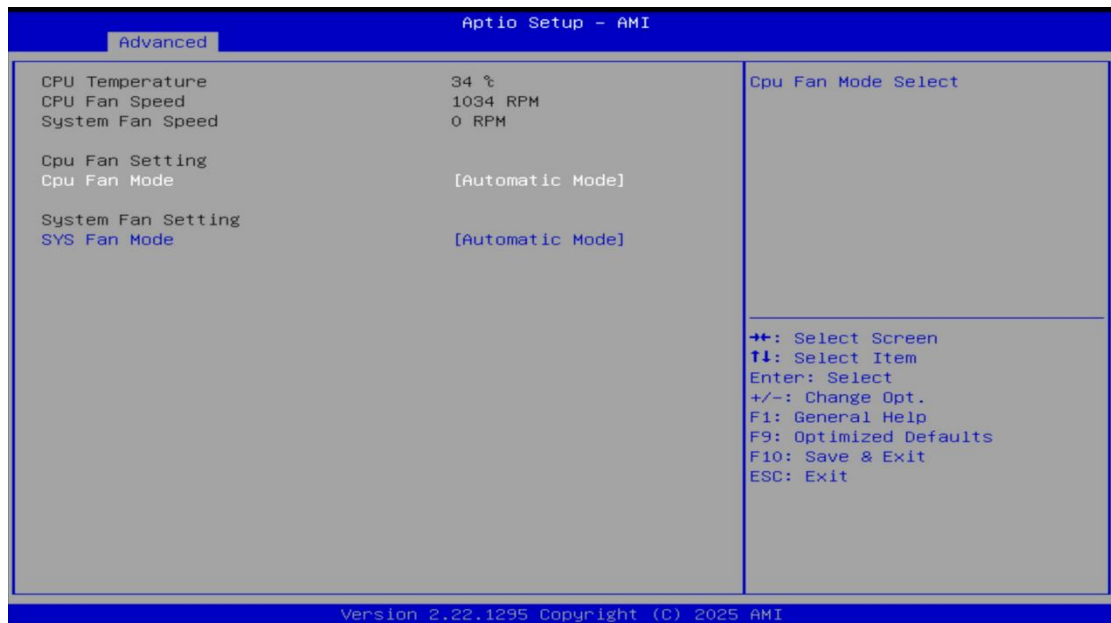
key, as shown in the following figure:



Second method:

1. After entering the Hardware Monitor menu item,

You can view the current fan speed and adjust the fan speed (CPU fan and system fan speed). Select the 'CPU Fan Mode' item and click the keyboard 'Enter' key as shown in the following figure:



2. Set CPU Fan item

Press the Enter key to bring up the settings submenu. Then use the Down Arrow Key '↓' on the keyboard to switch between the CPU Fan Mode options.

(Manual PWM Mode -- manually adjust the fan, Automatic mode -- automatically adjust the fan). As shown in the following figure:

Fan OFF temperature limit -- Fan off temperature;

Fan Start temperature limit -- Fan on temperature;

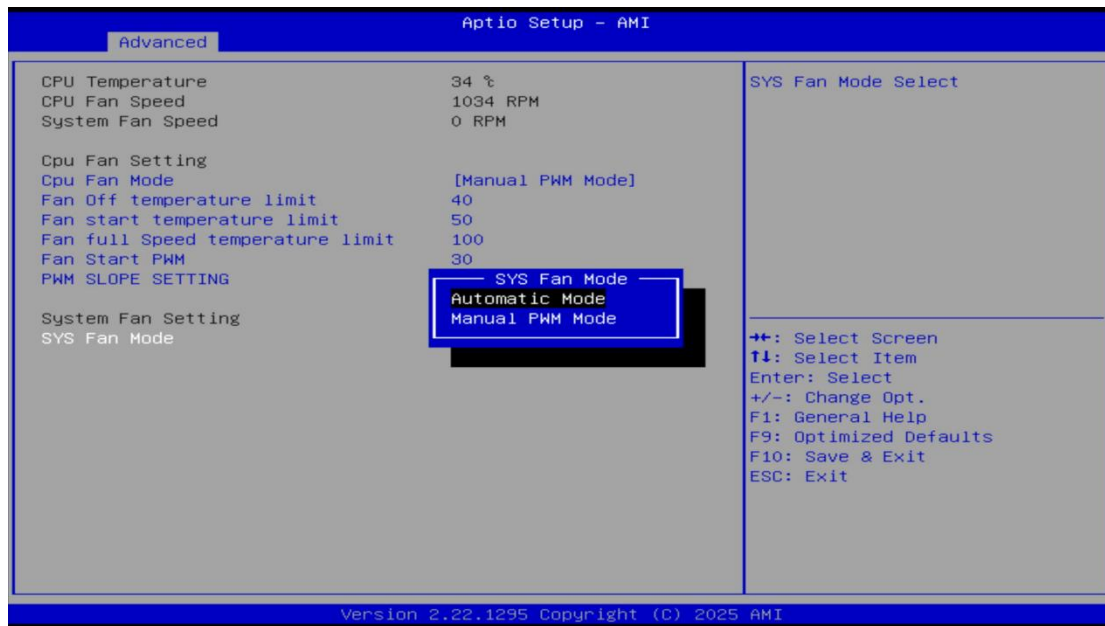
Fan Full Speed temperature limit -- Fan full speed operating temperature;

Fan Start PWM -- Initial duty cycle (initial duty cycle setting * 100%);

PWM SLOPE SETTING -- PWM slope setting;

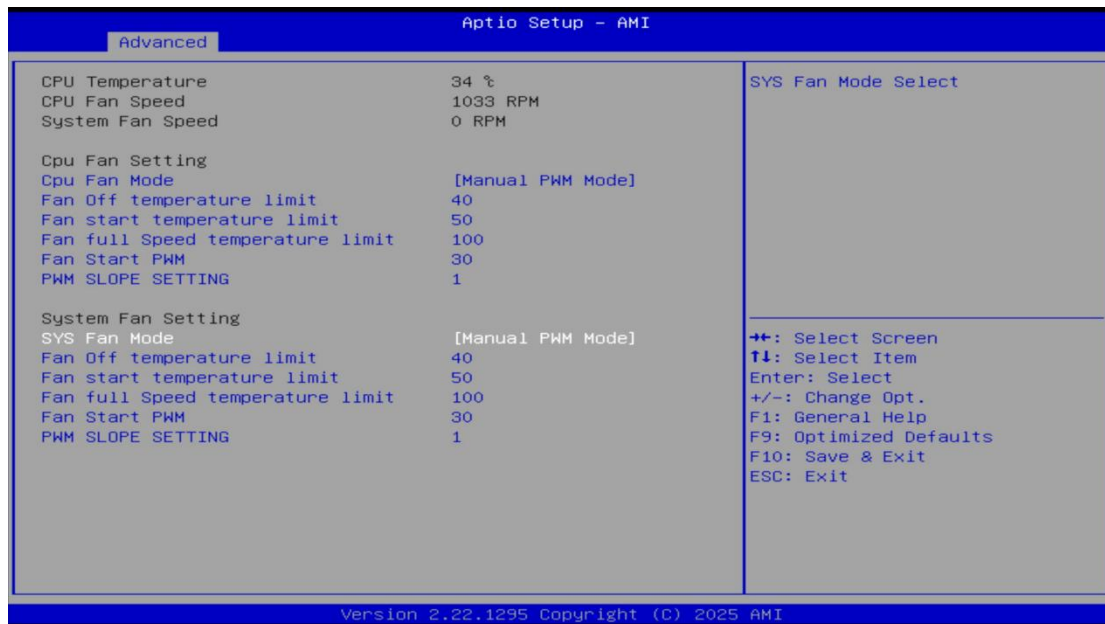
Note: Final fan speed = Maximum fan speed × PWM duty cycle

$$\text{PWM duty cycle} = [\text{Initial duty cycle setting} + (\text{Current device temperature} - \text{Fan startup temperature}) \times \text{PWM slope setting}] \times 100\%$$



3. Modify the Fan Start temperature limit value.

You can enter manually or after pressing the Enter key, use the '+'/'-' to adjust the Fan Start temperature limit item. The value set for the Fan Start temperature limit item is the minimum starting temperature for full-speed operation. As shown in the following figure:

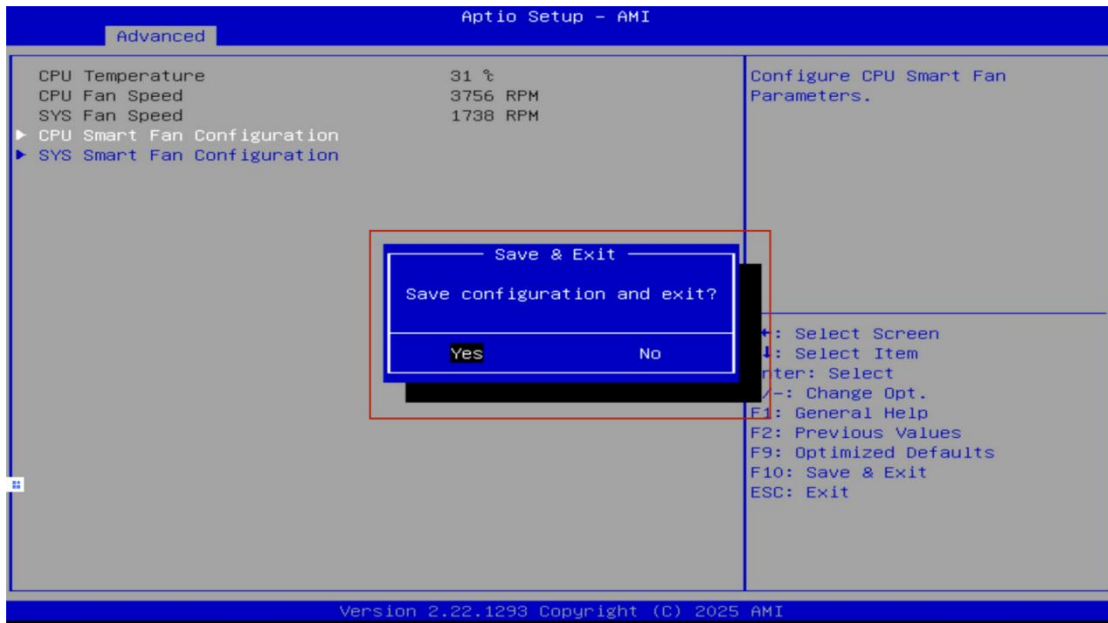


4. Modify **Fan Start PWM** - Initial Duty Cycle (Set Value * 100%); Item Value (Not Recommended)

You can manually enter to adjust the **Fan Start PWM** item. The value set for **Fan Start PWM** is a percentage of the fan's RPM, calculated as the maximum fan RPM multiplied by (the set value * 100%).

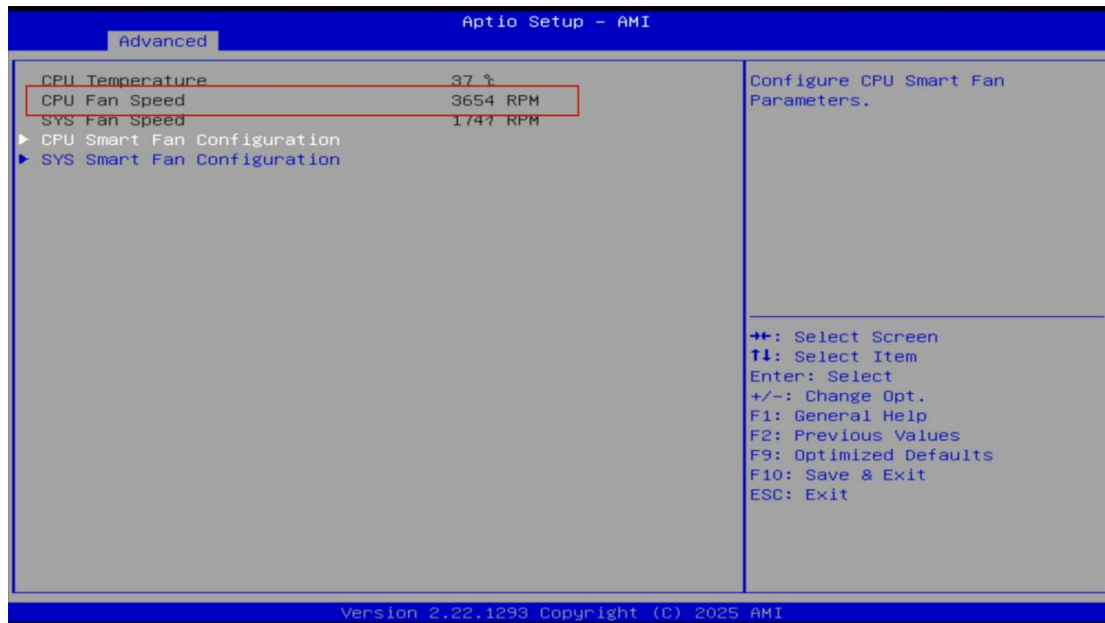
4. Save the modifications,

Press F10 and click 'Enter' or use the direction key '→' on the keyboard to switch to the Save & Exit page. Select Save & Reset, then click the Enter key to save and exit the BIOS interface. As shown in the following figure:



5. Check if the fixed fan speed setting is normal.

Use the keyboard key 'ESC' to return to the Hardware Monitor page and check if the RPM of CPU Fan1 & CPU Fan has been modified successfully, as shown in the following figure:



After completing the above operation, the fan speed has been modified successfully.