User Manual

T65 Smart Soldering Iron User Manual

Pocket Size Soldering Iron

ALIENTEK

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Contents

Thank you for purchasing this product. We recommend that you spend some time reading this user manual in order that you fully understand all the operational features it offers.

Cautions

1， The temperature of the soldering iron can reach 100~420℃ when it is working. Do not touch the tip of the soldering iron!
2， Please keep out of reach of children!
3， Do not get the machine wet or use it in a humid environment!
4， Please disconnect the power when not in use for a long time!
5， Please use a power adapter of 20V or below, otherwise the device will not work properly or cause damage to the device!
6， When working, the handle temperature can reach about 40℃, which is normal, so don't worry!

1. Description

T65 smart soldering iron is a multi-functional soldering iron, it has the following characteristics:

- Use Type-C interface for power supply, support PD\QC fast charge protocol.
- Use OLED display, the effect is good.
- Support 9~20V working voltage range.
- Fast heating, can melt tin in 8 seconds (@20V).
- Fast temperature recovery, no fear of large solder joints.
- Temperature control stability is 2%.
- Hand-held induction, smart sleep.
- Small size, easy to carry.
- Ergonomically designed handle, good grip.

2. Specifications

T65 Smart Soldering Iron	
Max power	65W
Temperature Range	80~420℃
Power port	Type-C
Support fast charge protocol	PD/QC
Operating voltage range	DC 9~20V
Screen	0.87’OLED(128*32Pixel)
Handle size	114mm*16mm*15mm
Tip size	L 100mm,Ø5mm
Machine length (including soldering iron tip)	165mm
Overall weight	26g

3. Parts

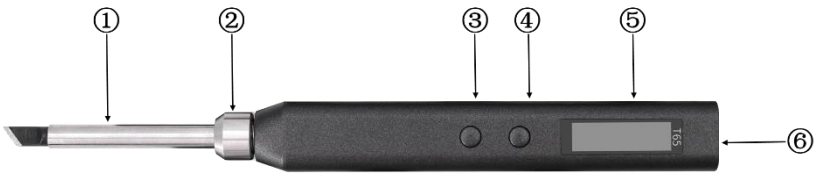
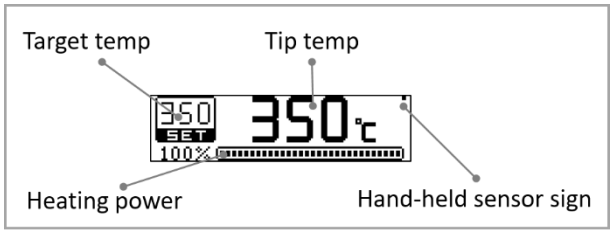


Figure 3-1 Parts

Part description:

① Soldering iron tip
② Lock nut
③ Button A
④ Button B
⑤ OLED screen
⑥ Type-C power supply interface

4. Interface



5. Working voltage

The host can be set to obtain any working voltage from the fast charging adapter, 9V\12V\15V\20V (the default setting is 20V). The higher the voltage, the higher the heating power. Under different working voltages, the working current, power and tin time reference table is as follows:

Voltage	Current	Power	Tin melting time
20V	>=3.25A	65W	8S
15V	>=2.5A	37.5W	12S
12V	>=2A	24W	17S
9V	1.5A	13.5W	30S

Notice:

1. **The T65 smart soldering iron defaults to obtain a working voltage of 20V. If the maximum output voltage of your adapter is less than 20V, the maximum output voltage is obtained. For example, if your adapter has a maximum output of 12V, then get 12V.**
2. **If your adapter outputs 20V, but the output current is less than 3.25A (that is, the output power is less than the power required by the soldering iron), and heating**

after entering the main UI, the adapter may be powered off and restarted, causing the screen to restart! (The same is true for other working voltages)

If it restarts when heating occurs, it indicates that the output power of your adapter's current voltage is not enough for normal operation. Please choose a lower working voltage according to the adapter's output power. For example, your adapter output: 12V/2.5A, 15V/2A, 20/1.5A, and the total output power is 30W. Then choose to set the working voltage to 12V.

Setting the working voltage method: press the A&B key at the same time to enter the working voltage setting in the menu. (**Note: When the screen keeps restarting, you should press the A&B key at the same time when the logo is displayed**).

6. Handheld Sensing

The machine has a built-in vibration sensor that can detect vibration and movement. However, if you hold the host against the table without moving, the vibration is very weak and may not be detected.

7. Instructions

5.1 Installation

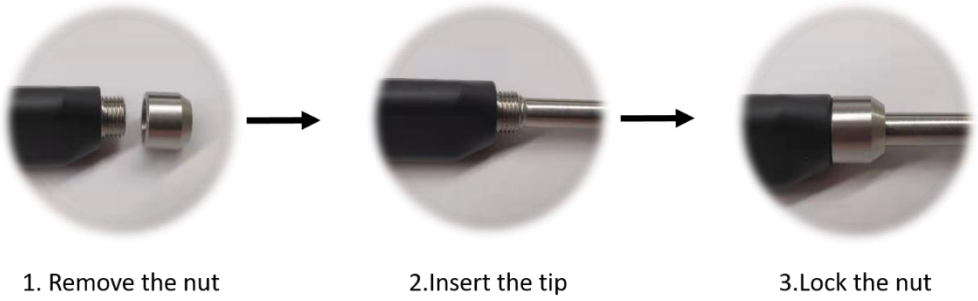


Figure 7-1 Installation

After unpacking, please install it according to the installation diagram.

Note: When inserting the tip of the soldering iron, it is found to be stuck, you can try to rotate it before inserting it.

5.2 Work flow description

5.2.1 Work flow

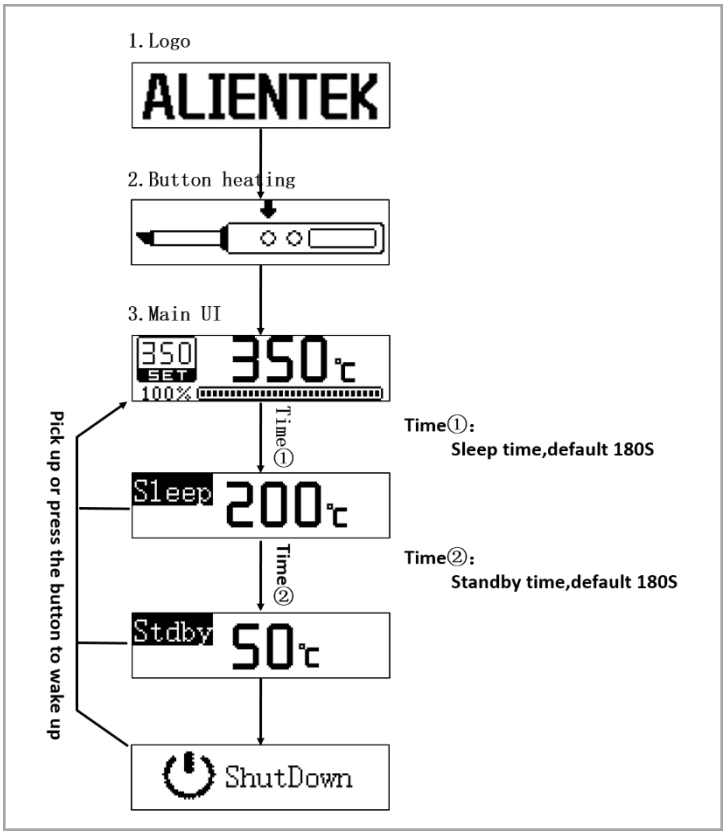


Figure 7-2 Work flow

After the T65 smart soldering iron is powered on, it displays the logo first, Then it is prompted to press the A button to enter the main UI (the button heating UI can be set to turn on or off in the menu. After turning on, the machine will directly enter the main UI). In the button heating UI, if the A button is not pressed within 10 seconds, it will automatically shut down. In main UI, which is in a normal working state. The running status can be divided into the following four types:

- **Working state (main UI):** The soldering iron is heated, and the temperature is constant at the user's set temperature. If the handle is not used for a period of time (timing 1: sleep time), it will enter the sleep state.
- **Sleep state:** The soldering iron is heated, and the temperature is constant at the sleep temperature (the default is 200°). It will exit the dormant state and return to the main UI when it senses the hand held or presses the button. Otherwise, after a period of time (timing 2: standby time), it will enter the standby state.
- **Standby state:** The soldering iron is not heated. In the same way, it will exit the dormant state and return to the main UI when it senses a hand held or presses a button. Otherwise, the temperature of the soldering iron tip will slowly drop, and when it drops to 50°C, it will enter the shutdown countdown state, and when the countdown ends, it will enter the screen off state.
- **Screen off state:** The soldering iron is not heating. In this state, the system is running with low energy consumption, and restarts when it senses a hand held or presses a button.

5.4 Operation

Figure 7-3 Button

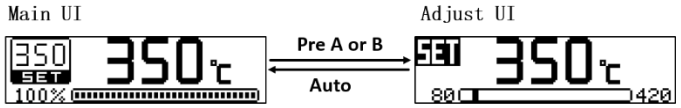


Figure 7-4 Temp adjustment

Temperature adjustment: In the main UI, press the A or B to enter the temperature adjustment UI. After entering, you need to release the button first, and then adjust the target temperature by clicking or long pressing the button. If you do not operate for a period of time, it will automatically return to the main UI.

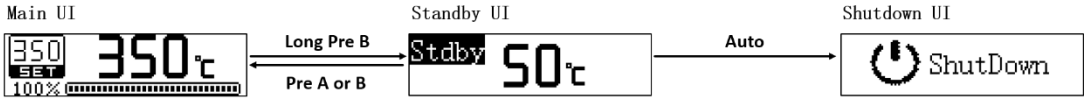


Figure 7-8 Manual shutdown

Manual shutdown: In the main UI, long press B to enter the standby interface, and the temperature will drop to 50 degrees, and then the machine will shut down. Press any button to return to the main UI. Note: The handheld sensor will not return to the main interface, which is different from the standby state of the appeal workflow.

Figure 7-9 Menu operation

Menu operation: In the main UI or other UI, press A and B at the same time to enter the menu UI. In the menu UI, click A and B to slide the menu up and down. Long press A to exit, long press B to enter the next menu (parameter setting or parameter selection), and it will exit automatically when overtime.

Figure 7-5 Parameter setting

Parameter setting: In the parameter setting UI (such as: temperature step, sleep temperature, sleep time, standby time, etc.), Click A and B to increase or decrease the parameter value, Long press B or A or timeout will both return, but long press B and timeout will save the parameters,

long press A will not save the parameters! Increase to the maximum value, the right arrow disappears, decrease to the minimum value, the left arrow disappears.

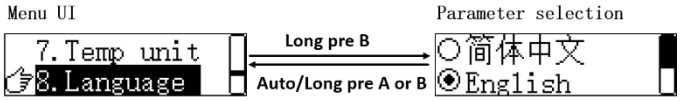


Figure 7-6 Parameter selection

Parameter selection: In the parameter selection UI (such as: working voltage, temperature unit, language, etc.), click A and B to slide up and down options, Long press B or A or timeout will both return, but long press B and timeout will save the parameters, long press A will not save the parameters!

5.5 Menu item description

There are 13 items in the menu. The definition, factory value and adjustable range of each item are shown in the table below:

Menu item	Definition	Factory default	Adjustable range
1.Vol Info	Display input voltage and current tip temperature		
2.Temp Step	Temperature adjustment step value	10	5-25
3.Sleep Temp	Target temperature after entering sleep state	200℃	80℃-300℃
4.Sleep Time	The time for the handle to stand still and enter the sleep state from the working state	180 秒	0 -1200S --:(No sleep) 0S:(Sleep immediately)
5.Stdby Time	The time for the handle to stand still and enter the standby state from the sleep state	180 秒	0-1200S --:(No standby) 0S:(Standby immediately)
6.Work Vol	Working voltage obtained from the power adapter	20V	● 20V ● 15V ● 12V ● 9V
7.Temp Unit	Display temperature unit	℃	● Celsius(℃) ● Fahrenheit(℉)
8.Language	Language selection	Simplified Chinese	● Simplified Chinese ● English ● Traditional Chinese
9.Rota 180	Rotate the display by 180 degrees, and the functions of buttons A and B are	Rota 0	● Rota 0 ● Rota 180

	reversed. Suitable for left-hand work mode		
10. Po_heat	Turn on and off heat immediately after power-on	Turn off	● Turn on ● Turn off
11.Temp Trim	Fine tune the error between the actual temperature and the displayed temperature	0	-50~50 ℃
12.Restore	Restore the parameters to the factory state		
13.Ver Info	Show version		

Note:

① **Temperature trim method: in working condition, set the target temperature to 350℃, use the soldering iron thermometer to measure the actual temperature after the temperature is stable, record the error between the target temperature and the actual temperature (the value can be positive or negative), and then enter the menu Fill in the error in temp trim value.**

② **The step of sleep temperature adjustment is fixed at 10℃**

③ **The step of temperature calibration adjustment is fixed at 1℃**

8. Firmware upgrade

8.1 Applicable before firmware V1.1.5（virtual serial port）

Step 1: Scan the QR code below to download the latest firmware (T65_APP. atk).

Download

Step 2: Power off the device, press and hold the B button, then use the USB Type-c cable to connect to the computer, power on the device, about 4 seconds, the screen displays "Upgrade...", then release the button. The operation is shown in Figure 6-1 below:

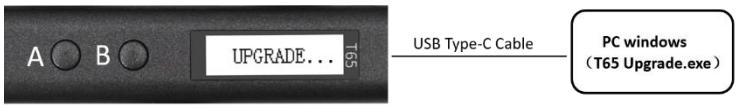


Figure 8-1 Connection

Step 3: When entering the upgrade mode, T65 will be virtualized as a USB serial device. The port number can be found in the computer device management section. The operation is shown in Figure 12 below:

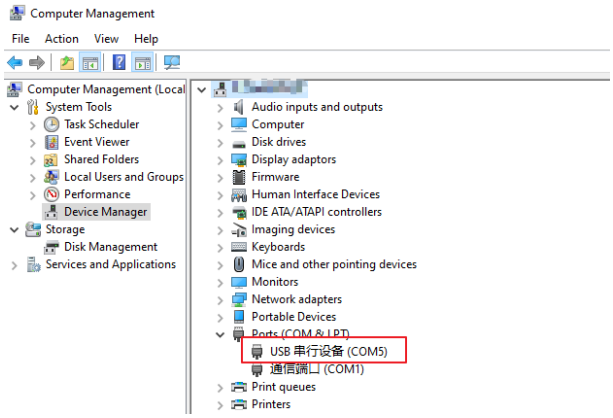


Figure 8-2 Port number

Step 4: Open the firmware upgrade software, select the port number, open the serial port, select the local upgrade mode, and load the T65_APP_Vx.x.atk file, click to start the upgrade and wait for the upgrade to complete. The operation is shown in Figure 6-4 below.

Figure 8-3 Firmware upgrade

8.2 Applicable after firmware V2.0.1（HID）

Step 1: Scan the QR code below to download the latest firmware (T65_APP. atk).

Download

Step 2: Power off the device, press and hold the B button, then use the USB Type-c cable to connect to the computer, power on the device, the screen displays "Upgrade...", then release the button. The operation is shown in Figure 6-5 below:

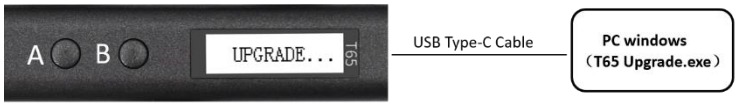


Figure 8-5 Connection

Step 3: Open the upgrade software (V2.0) and wait for the device to connect automatically or click reconnect. The connection is successful.The operation is shown in Figure 6-6 below:

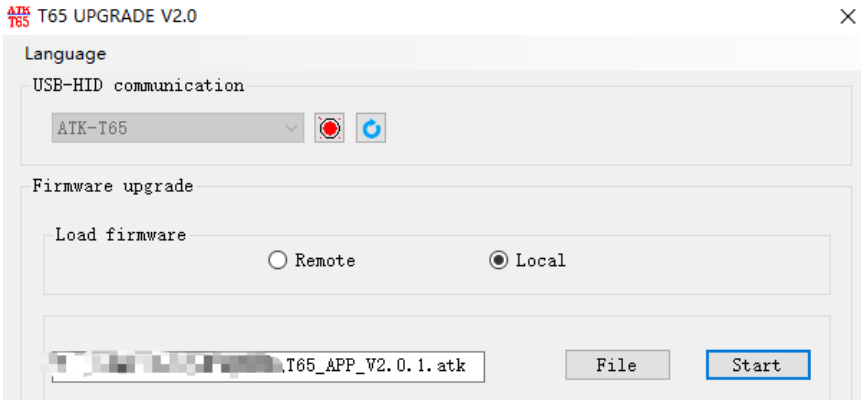


Figure 8-6 Connection

Step 4: Firmware select local load, open the downloaded firmware, click Start upgrade, wait for the upgrade to complete. The operation is shown in Figure 6-7 below:

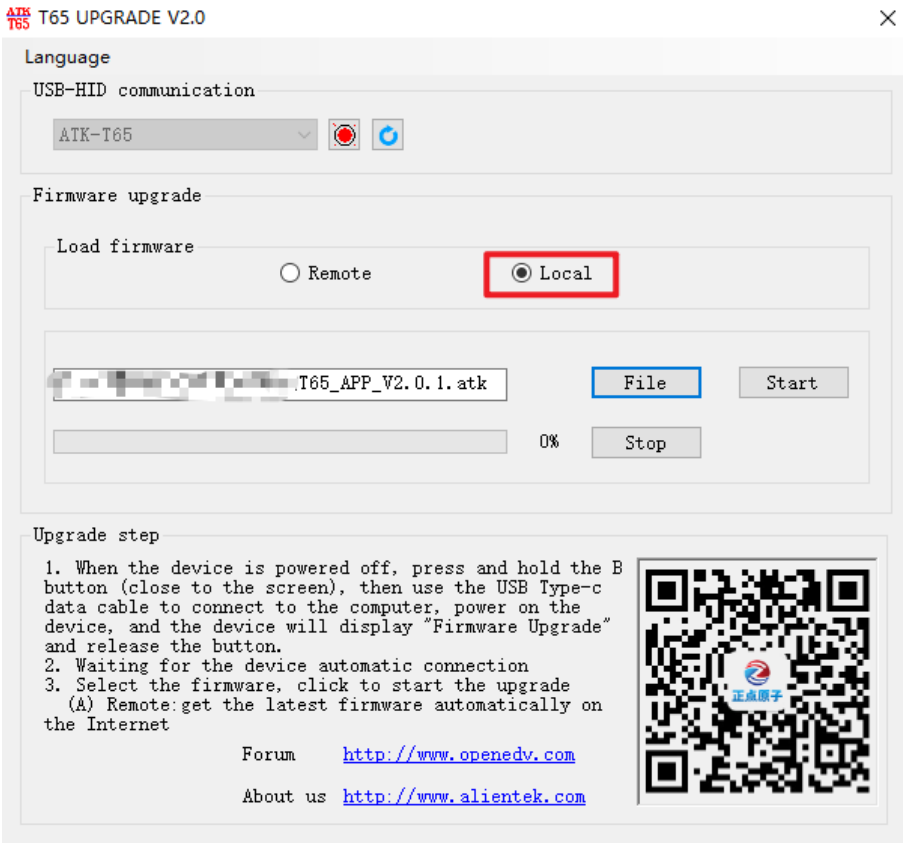


Figure 6-7 Connection

9. ESD SAFE

When using a fast charging adapter to power the soldering iron tip, there may be induced electricity. There will be no problem with soldering ordinary components, but some sensitive components may be damaged. When soldering sensitive components, there are two solutions to ensure ESD SAFE:

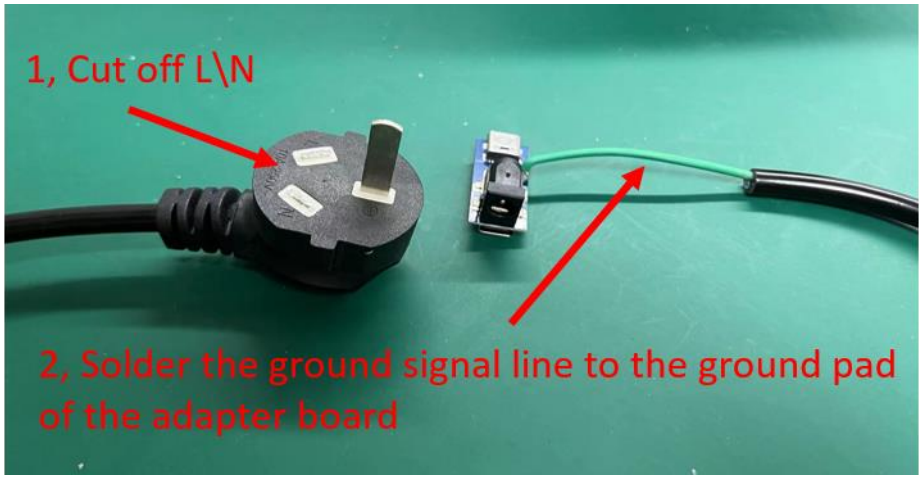
1. Use a fast charging power bank to power the device **(recommended)**.
2. Connect the device to the ground through an adapter board.

STEP:

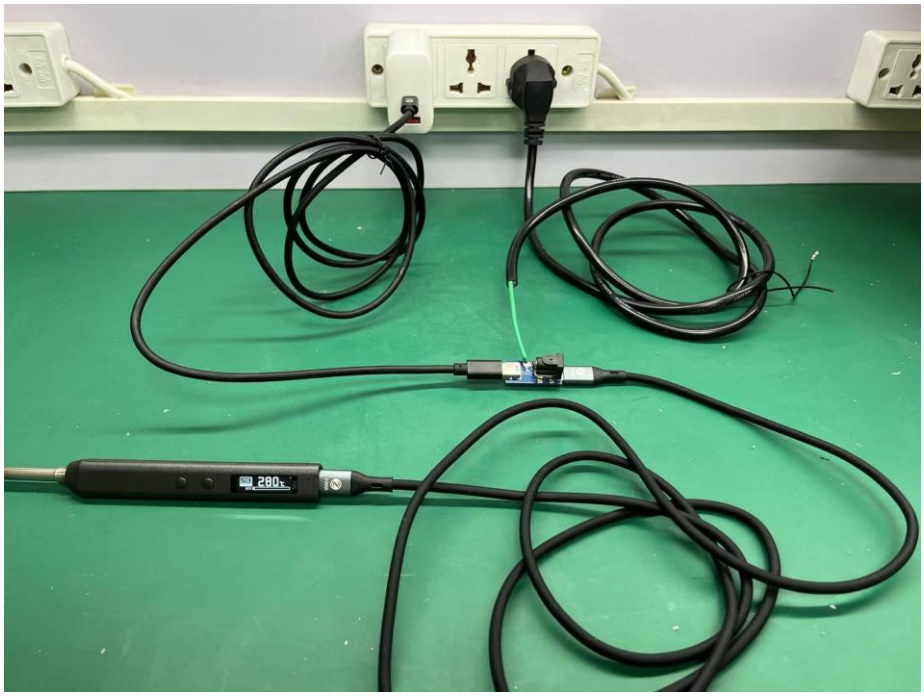
a) Required materials: 1 power cord, 1 adapter board, 2 C2C cables

b) Cut off the L\N of the power cord and solder the ground wire to the ground pad of the adapter board.

As shown below:



c) Connect to the power strip, as shown below:



10. Maintenance

- **When the new tip is used for the first time, it is necessary to heat the tin to 250 ° C first to prevent dry burning oxidation!**
- **When the new tip is used for the first time, there will be a temperature jump problem, which will stabilize after a few hours of use!**
- After the soldering iron is used, apply proper tin to the tip of the soldering iron to prevent oxidation before disconnecting the power supply.
- The tip of the soldering iron works normally at a temperature of about 300 to 380 ° C. Do not use it for a long time (more than 420 ° C) to avoid the effect of dry burning on the life of the tip.
- Do not force the tip when welding.

- If the surface of the tip is not oxidized, use a cloth or other tool to carefully wipe the surface layer, then heat it to 200 ° C and immediately apply tin to the surface to prevent re-oxidation.
- Do not use wet sponge with bright water, semi-dry state is best, otherwise the soldering iron tip is easy to oxidize.
- Do not use flux containing chlorine or excessive acid to avoid corrosion of the surface

11. FAQ

The summary of common problems is shown in Table 8.1:

Problems and phenomena	Solution
Restarts when heating occurs	Check if the output power of the adapter is sufficient
Working voltage setting 20V, screen only displays 12V	Check the maximum output voltage of the adapter
Handheld sensing failure	Contact after-sales service

Table 8.1 Summary of issues

12. Serivices

1. After – sales Service:

T65 host has a one-year free warranty service in the case of non-artificial damage. Please contact the dealer for warranty service. Soldering tips are consumables, if there is no quality problem, once used they will not be returned.

2. Website

Download : www.alientek.com/download
Company : www.alientek.com
Aliexpress : www.aliexpress.com/store/1102909571

3. Contact US

E-mail : fae-smt@alientek.com