PD Protocol Soldering Iron

Model: ZD-450

Copyright Statement

General Notes

- It is not permitted to change the manual in any way or add additional content, without given permission in written form by the distributor.
- The operator of this device is obliged to ensure that every other person using this device has read and understood the manual, especially the safety instructions.
- The operator is obliged to ensure proper usage, a functioning device prior usage, the provision of the manual, and that only qualified users operate the device.
- Any change related to the design or construction of the device is not permitted.
- Warranty and any liability in regards to material damage or personal injury are suspended in the following cases:
    - Improper usage and operation of the device
    - Not following the instructions and safety regulations provided by the manual
    - Operation and usage without wearing proper personal protection equipment
    - Usage and installation of non-approved spare parts
    - Improper maintenance and changes related to the design or construction of the device; removal of the type plate

Before use

Read these instructions carefully before installing and using this product. The manufacturer is not responsible for injuries or damages caused by incorrect installation and improper use of the item. Keep this manual in a safe place so that you can refer to it at any time during use of it.

Warning

The item needs to be tested before leaving the factory. So the front of the heater will have a small amount of tin and the heater is slightly yellowish, which is normal. After the power is turned on, the heater will reach a very high temperature of 230℃ in a few seconds. Caution and correct use is strongly advised to prevent burns.

Users are required to have basic common sense and knowledge of electrical operations before using the item. For children, be sure to use the item under the guidance of a professional or a guardian.

- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision. Children should be supervised to ensure that they do not play with the appliance.
- No children under the age of 8 should be allowed to get near the item unless they are being supervised at all times.
- Keep the item or its packaging materials out of children's reach.
- Do not keep using the item after the item or its power cord has been damaged.
- Do not let the power cord to touch any sharp edges or hot surfaces.
- Do not touch any hot surfaces. The temperature of the soldering iron tip can be very high during use.
- Use extreme caution when using the soldering iron near flammable materials.
- Harmful fumes may be generated during soldering. Work only in a well-ventilated space or in a place with an exhaust system.
- Turn off and unplug the item when not it is in use or before cleaning.
- Allow the item to cool down before cleaning or storing it.
- Do not immerse the item in any liquid or use it to heat plastics or liquids.
- Do not disassemble the item or repair it by yourself.

Product overview

• ZD-450 is a heating tool powered by PD power supply with an LED display. It heats up fast and is simple, quick and easy to operate with buttons.

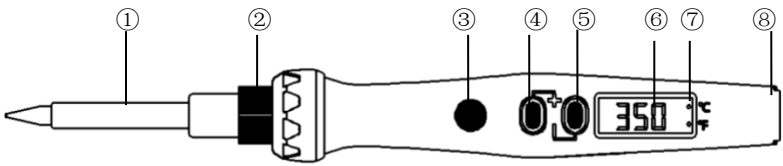
• Its structure consists of PD socket, handle, control part and one-piece heater.

• Can be widely used in electronic research and production, especially suitable for home appliance repair and communication equipment maintenance.

Specifications

Model	ZD-450
Power socket	TYPE-C
Protocol supported	PD/QC
Input	5-20V
Temperature	160-480℃
Display	LED
Power	60W max
Parts list	Soldering iron stand, cleaning ball, PD cable, one-piece tip&heater
Certification	CE\ EMC\ROHS\REACH

Product instructions



Parts：

1	One-piece tip&heater	5	- button
2	Nut	6	Display
3	Function button	7	℃/℉ indicator
4	+ button	8	Power socket

Functions

1. LED display

Screen display	Function	Details
SLP	Sleep function	Sleep time available: 20,15,10,05,02,01,00. Numbers represent minutes, example: 05 means 5 minutes. 00 means sleep function off.
-U-	Input voltage	Input voltage available: U05,U09,U12,U19,U20. Example: U20 means 20V. Note: when U05 is displayed (i.e., input voltage is 5V), the item heats up slower and cannot reach the max temperature.
C-F	Temperature unit	Select the Temperature unit between ℃ and ℉
AdJ	Temperature calibration	Setting: -9-0-9；Example: if the temperature is higher, then reduce the number.
ŁPO	Sleep temperature	Set the sleep temperature between 160℃ and 320℃

2. Operation

When the item is switched on, it detects power supply voltage with the display of "---". Then it will show the voltage detected and automatically match the maximum power of the adapter and select the maximum output power of the PD plug. The display will show the voltage after detection and the soldering iron will immediately heat up. When using adapters without protocol, the output can only be 5V, which will lower the heating speed. In this case, the temperature can only reach about 200℃.

Start-up screen

Input voltage

Temperature

Short press the function button to choose between ℃ and ℉. Long press the function button for 3 seconds to enter or exit the menu, then press "+" "-" to select the menu.

First time it will display “SLP” and blink, meaning you can set the sleep time. Then press the function button again and numbers will display. Press “+” “-” to select the sleep time and press the function button to confirm.

Sleep function setting

Sleep time

Select “-U-” in the menu and it blinks to enter the voltage setting. Press the function button again and numbers will display. Press “+” “-” to select the input voltage and press the function button to confirm.

Input voltage setting

Input voltage

Select “C-F” in the menu and it blinks to enter the temperature unit setting. Press the function button again and C(℃) will display. Press “+” “-” to select between ℃ and ℉ and press the function button to confirm.

Temperature unit setting

℃

℉

Select “AdJ” in the menu and it blinks to enter the temperature calibration setting. Press the function button again and numbers will display. Press “+” “-” to adjust the numbers. If the actual temperature is too high, reduce the number. If the actual temperature is too low, increase the number. Press the function button to confirm.

Temperature calibration setting

negative deviation

positive deviation

Select “ ᵾPO” in the menu and it blinks to enter the sleep temperature setting. Press the function button again and numbers will display. Press “+” “-” to adjust the temperature between 160℃-320℃. Press the function button to confirm.

Sleep temperature setting *200℃*

Other instructions

Soldering iron tip&heater replacement

Note: it must be carried out after the power is switched off and the tip has completed cooled off.

1.Loosen the nut. 2.Pull out the one-piece tip&heater. 3.Insert a new tip&heater(align the groove with its counterpart in the handle) and tighten the nut.

Maintenance and use of the soldering iron tip

1. Soldering iron tip temperature
Excessively high temperatures will shorten the life of the soldering iron tips. So you need to choose the appropriate working temperature. The temperature of the soldering iron tip recovers quickly and relatively lower temperature can also be used for soldering to protect the temperature-sensitive components.
2. Cleaning of soldering iron tip
a. Regularly clean the iron tip with a cleaning sponge to prevent damage to the iron tip by reducing the temperature and the efficiency of heat conduction. Because after soldering, the residual flux and oxide will damage the iron tip.
b. When the soldering iron is not in use, do not leave it under a high temperature for a long time. It will cause the flux on the tip to turn into oxides, resulting in a significant reduction in the heat conduction efficiency. Note: When the iron is not in use, please put it in the stand.
c. Clean the soldering iron tip after use and re-tin it to prevent the oxidization of it.

Heater maintenance

1. Set the temperature to 250°C (480°F).
2. After the temperature has stabilized, use a cleaning sponge to wipe the iron tip part and check the condition of it. If the tip is deformed or worn out, replace it with a new one.
3. If the tin-plated part of the iron tip is covered in black oxides, put new tin on it and wipe it with a cleaning sponge. Repeat this process until the oxides are completely removed, then apply new tin.
4. Turn off the power and remove the heater with a heat insulating pad. Let it cool down.
5. Do not use files or other sharp objects to remove the oxide.

Information regarding waste disposal

You are not permitted to dispose of this device in household garbage. This device corresponds to the EU-directive concerning the “Waste of Electrical and Electronic Equipment”. Please dispose of the device in your local collection point.

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