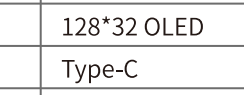


S20/S60/S60P/S99 Soldering Iron



1. English instruction manual 01 - 05



1. Product Overview

S20/S60/S60P/S99 precision smart soldering iron adopts OLED display, supports multiple power supplies, and Celsius & Fahrenheit units conversion. It could compensate & self-calibrate the temperature, reprogram internal parameters, and upgrade firmware. Intelligent temperature control, the temperature stability is $\pm 1\%$. The soldering iron tip, adopts high quality heating element that could melt tin quickly. Meeting welding and repair needs in different scenarios.

2. Product Parameters

Model	S20	S60	S60P	S99
Maximum Voltage	9V	12V	21V	21V
Maximum Power	20W	60W	60W	150W (2.5Ω), 75W (5.5Ω)
Fastest Melting Tin	3s	2s	2s	2s (2.5Ω), 5s (5.5Ω)
Working temperature	50-500°C	50-500°C	50-500°C	50-500°C
Screen Size	128*32 OLED	128*32 OLED	128*32 OLED	128*32 OLED
Interface Type	Type-C	Type-C	Type-C	Type-C
Power Supply	PD, QC, DC	PD, QC, DC	PD, QC, DC, PPS	PD, QC, DC, PPS
Protocol Selection	Not support	Not support	Support	Support
Size of Host	116*13*15mm	118*13*15mm	118*13*15mm	124*13*15mm
Weight of Host	22g	22g	22g	22g
Length of Soldering Iron Tip	45mm	80mm	80mm	99mm
Weight of Soldering Iron Tip	1g	2g	2g	5g
Size of Host + Soldering Iron Tip	135*13*15mm	145*13*15mm	145*13*15mm	165*13*15mm
Weight of Host + Soldering Iron Tip	23g	24g	24g	28g
Application Scenario	Welding of Nano Parts, Chip Fly Lines	Maintenance of Mobile Phone & Computer	Maintenance of Mobile Phone & Computer	Welding of Drones, and RC Models

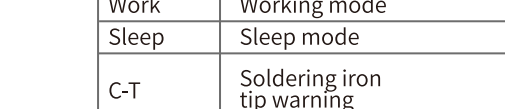
3. Menu Introduction



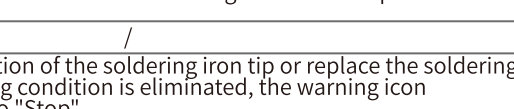
S20 main interface



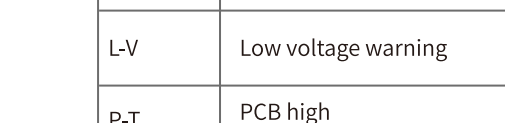
S60 main interface



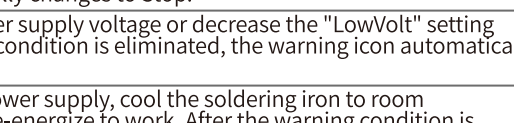
S60P main interface



S99 main interface



Level 1 menu



Level 2 menu

(1) Main Interface

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Main Interface	Icon Display	Icon Description	Method Of Operation
1	Stop	Stop mode	Long press the A key to switch between working mode and stop mode.
	Work	Working mode	
	Sleep	Sleep mode	/
	C-T	Soldering iron tip warning	Please readjust the position of the soldering iron tip or replace the soldering iron tip. After the warning condition is eliminated, the warning icon automatically changes to "Stop".
	S-O	Soldering iron tip warning	Please readjust the position of the soldering iron tip or replace the soldering iron tip. After the warning condition is eliminated, the warning icon automatically changes to "Stop".
	H-V	High voltage warning	Please Lower the Supply Voltage. After the warning condition is removed, the warning icon automatically changes to "Stop".
2	L-V	Low voltage warning	Please increase the power supply voltage or decrease the "LowVolt" setting value. After the warning condition is eliminated, the warning icon automatically changes to "Stop".
	P-T	PCB high temperature warning	Please disconnect the power supply, cool the soldering iron to room temperature, and then re-energize to work. After the warning condition is eliminated, the warning icon automatically changes to "Stop".
3	12.0V	Power supply voltage	/
	300°C	Soldering iron tip temperature	/
	Check Tip	Soldering iron tip warning	Please readjust the position of the soldering iron tip or replace the soldering iron tip.
	Short Out	Soldering iron tip warning	Please readjust the position of the soldering iron tip or replace the soldering iron tip.
	High-V	High voltage warning	Please Lower the Supply Voltage.
	Low-V	Low voltage warning	Please increase the supply voltage or decrease the "LowVolt" setting value.
4	Pcb-T	PCB high temperature warning	Please disconnect the power supply, cool the soldering iron to room temperature, and then re-energize to work.
	300°C	Working temperature setting value	Short press A key or B key to set the working temperature value.
5	Progress Bar	Power progress bar	/
6	A	Power Output Percentage	/
	S	PPS Protocol	/
7	P	PD Protocol	/
	C	QC/DC Protocol	/

(2) Level 1 Menu & Level 2 Menu

Level 1 Menu	Level 2 Menu	Description	Default Value	Setting Range
Iron	1.WorkTemp	Working temperature	300°C	50°C-500°C
	2.TempStep	Set the step value for the working temperature shown on the main interface	50	1-50
	3.TempComp	Temperature compensation	0°C	-20°C-20°C
	4.TempUnit	Temperature unit	°C	°C/°F
	5.TempShield	Stable temperature display	ON	OFF/ON
	6.Buzzer	Buzzer	ON	OFF/ON
	7.StartHeat	Automatic heating at startup	OFF	OFF/ON
	8.FactorySet	Restore factory settings	OFF	OFF/ON
Idle	1.SleepTime	Sleep time	60s	5-360s
	2.SleepTemp	Sleep temperature	50°C	50°C-500°C
	3.IdleTime	Standby time	360s	30-990s
	4.Sensitive	Wake-up sensitivity	5	1-30
	5.ScreenOpen	Standby screen display	ON	OFF/ON
Oled	1.Brightness	Display Brightness	50	5-255
	2.Direction	Display Direction	0°	0°/180°
	3.KeyAction	Button direction	A-B+	A-B+/A-B-
	4.Language	Language	EN	EN/中
Volt	S20 1.LowVolt	Low voltage protection	OFF	OFF/5.0-9.0V
	S20 2.Power	Supply voltage compensation	0.00V	-5.00-5.00V
	S60 2.Voltage of PD	Percentage of power output	AUTO	AUTO/20-100%
	S60P 2.Select the Protocol	Select the Voltage of PD	20V	5V/9V/12V/20V (S60)
S99 3.LowVolt	Select the Protocol of Power Supply	AUTO	AUTO/PPS/QC/PD20/PD12/PD9	
S99 4.Power	Low voltage protection	OFF	OFF/5.0-19.0V	
S99 4.Voltage	Supply voltage compensation	0.00V	-5.00-5.00V	
Calib	/	Temperature calibration	/	T1-T4
About	/	Information about the soldering iron	/	/

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(3) Menu Operation Guide

- ★ Main Interface:
 - Long press A key to switch between "Stop" mode and "Work" mode.
 - Short press A key or B key to adjust the working temperature setting value.
 - Long press B key, enter level 1 menu.
 - A warning icon is displayed, after the warning condition is eliminated, the warning icon automatically changes to "Stop".
- ★ Level 1 Menu:
 - Short press A key or B key, loop to select the level 1 menu function box.
 - Long press A key or B key, enter level 2 menu.
 - Long press AB key at the same time or no button operation for 5 seconds, it will return to the main interface.
- ★ Level 2 Menu:
 - Short press A key or B key, loop to select the level 2 menu setting box.
 - Long press the A/B button to enter the secondary menu setting interface, parameter setting box appears. Short press the A/B button to set the parameter. After setting, long press A&B buttons simultaneously to exit parameter setting box and return to secondary menu. Or it will automatically exit setting box and return to secondary menu when no button operation for 5s.
 - Long press AB key at the same time or no button operation for 5 seconds, it will return to level 1 menu.

(4) Calib Temperature Calibration

Calib	ADC1	Reference Value
	ADC	Actual Value
	T1	Thermometer Temperature
	Next	Next Step
	Save	Save

In the process of temperature calibration, add tin to clean the soldering iron tip first, then use a thermometer to measure temperature. During calibration, the soldering iron tip is in a high-temperature state, please be careful to avoid scalding.

Temperature calibration is divided into four parameters: T1, T2, T3, T4. After entering the calibration interface, the T1 parameter defaults to the parameter in the selection box [X.X]. Long press A key or B key, T1 temperature parameter changes to the setting box [X.X], waiting for the value of "ADC" to steadily fluctuate within value range of "ADC1". After the thermometer measures the actual temperature of the soldering iron tip, short press A key or B key to write thermometer data to T1. After setting T1 calibration temperature, long press AB key at the same time to exit the setting box. Then short press B key to enter "Next" and T2 in turn, continue to complete temperature calibration of T2, T3, T4. Finally, enter "Save", long press A key or B key until "Save Succeed" appear, the calibration is completed.

During the calibration process, long press AB key at the same time to exit the calibration interface, the parameters are not saved.

4. Eliminate Warning

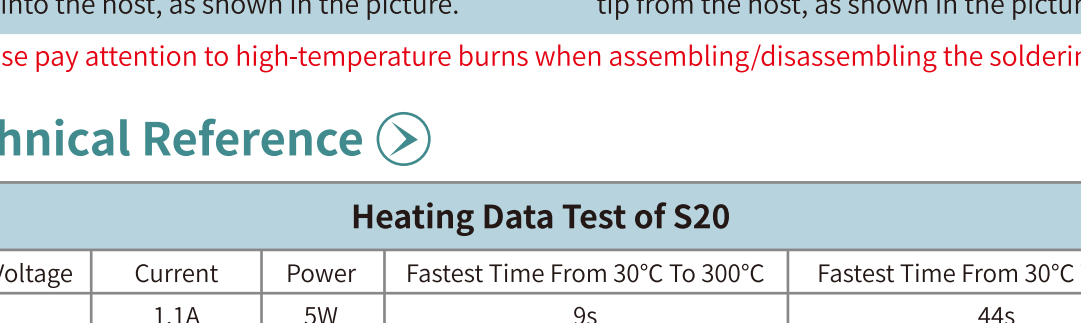
When there is a warning on the soldering iron, the screen will prompt a warning icon (if the buzzer is on, there will be a warning sound), step by step to eliminate the warning icon, the warning icon (main interface 1) automatically changes to "Stop".

5. Sleep & Wake-up

- "Work" mode: The soldering iron is in a static state without any operation for 180 seconds, it will automatically enter the "Sleep" mode, and the temperature will be automatically set to the "SleepTemp".
- "Sleep" mode: When there is a key operation or vibration of the soldering iron, it will be woken up and automatically restore the original setting "WorkTemp". If the soldering iron is not woken up and reaches the "IdleTime", it enters the "Stop" mode and stops working.
- "Stop" mode: The soldering iron is in a static state without any operation for 180 seconds, it enters "ScreenOpen". Exit the "ScreenOpen" by pressing the button or shaking the soldering iron.

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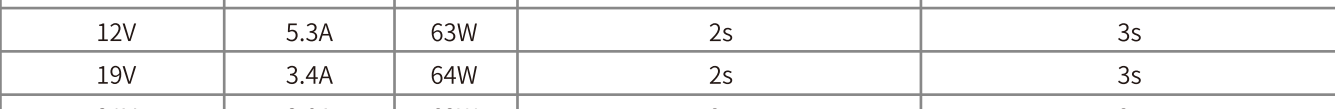
6. Component Structure



- Real-time Temperature
- Protocol Status
- Target Temperature
- Power Status
- Power Progress Bar
- Soldering Iron Mode
- Supply Voltage

Note: The S60P is an example, for reference of other models.

7. Installation Steps



(1) Assemble the soldering iron tip: Plug the tip into the host, as shown in the picture.
 (2) Disassemble the soldering iron tip: Take the tip from the host, as shown in the picture.

Note: Please pay attention to high-temperature burns when assembling/disassembling the soldering tip.

8. Technical Reference

Heating Data Test of S20

Working Voltage	Current	Power	Fastest Time From 30°C To 300°C	Fastest Time From 30°C To 500°C
5V	1.1A	5W	9s	44s
9V	2.3A	20W	3s	5s

Heating Data Test of S60

Working Voltage	Current	Power	Fastest Time From 30°C To 300°C	Fastest Time From 30°C To 500°C
5V	2.3A	11W	7s	15s
9V	4.0A	36W	3s	4s
12V	5.0A	63W	2s	3s
19V	3.4A	64W	2s	3s
21V	3.0A	63W	2s	3s

Heating Data Test of S60P

Working Voltage	Current	Power	Fastest Time From 30°C To 300°C	Fastest Time From 30°C To 500°C
5V	2.3A	11W	7s	15s
9V	4.0A	36W	3s	4s
11V	5.0A	55W	2s	4s
12V	5.3A	63W	2s	3s
19V	3.4A	64W	2s	3s
21V	3.0A	63W	2s	3s

Heating Data Test of S99

Resistance Value of Soldering Iron Tip	Working Voltage	Current	Power	Fastest Time From 30°C To 300°C	Fastest Time From 30°C To 500°C
2.5Ω	9V	3.3A	30W	10s	25s
	11V	4.2A	47W	7s	16s
	12V	4.3A	51W	5s	12s
	19V	6.8A	129W	3s	5s
	20V	7.2A	144W	3s	5s
5.5Ω	11V	2.0A	23W	17s	47s
	12V	2.1A	25W	14s	35s
	19V	3.4A	64W	6s	11s
	20V	3.6A	72W	5s	10s
	21V	3.7A	77W	5s	9s

9. Firmware Update

Please visit www.sequiremall.com for firmware and upgrade steps, select other language menus and functions.

10. Warranty Terms

- For those performance faults caused by non-human factors within 3 months from the date of purchase, we provide repair & maintenance service for free. After 3 months, no labor fee will be charged for repairs. If you would like to replace parts, you must pay for the cost.
- All man-made damage, faults caused by self disassembly & improper use, and all consumables like soldering tips are not covered by the warranty.

11. Safety Precautions

- Use power supplies and accessories that meet safety standards. SEQUIRE accessories are recommended.
- It is necessary to ensure that power is off and soldering iron tip is at normal temperature before replacing soldering iron tip, so as not to scald or damage product.
- Soldering iron tip burns easily. Power off after rest or completion, store in place not easily accessible to children.

www.sequiremall.com

info@sequiremall.com

S20/S60/S60P/S99 English Instructions