

Smart Control Box User's Manual



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Safety Precautions



- If the product is damaged or missing parts, please do not install to run. Otherwise, it may cause damage to the equipment or personal injury.
- Be aware that the control box can only be connected to the voltage indicated on the label.
- Non-professionals are not allowed to disassemble this product to prevent electric hazards.

1、 Introduction

SAJ smart office controllers include SC series control box and SH series handset. The smart control box is a kind of electric control system which combines with handset together designed for a variety of Height Adjustable Desk (HAD). It enjoys many advantages such as low energy consumption, smart control, and etc. It achieves the soft start and soft stop of the connected columns to ensure the smooth running of the HAD. It is compact, simple and intuitive. The control box is interface with connector for power, motor and handset. The unique cable slots design at bottom casing of control box is for cable management purpose.

2、 Function Overview

2.1 Common Functions

Function	<ol style="list-style-type: none">1.3 Memory positions2.Current Anti-collision function3.Reset function4.Display the Lifting Height with White LED5.Children lock6.Height display unit can be switched7.Position power-off memory8.Soft start, Soft stop9.Base height setting10.Setting lifting height11.The screen turn off automatically after stop working for 30S12. G-sensor Anti-collision function
Optional function	<ol style="list-style-type: none">1.Build-in Bluetooth2.Wireless remote control
Protection function	Over-current Protection、 Overheating Protection、 Anti-tilt protection Anti-collision protection
Lower energy consumption	0.4 W in standby mode

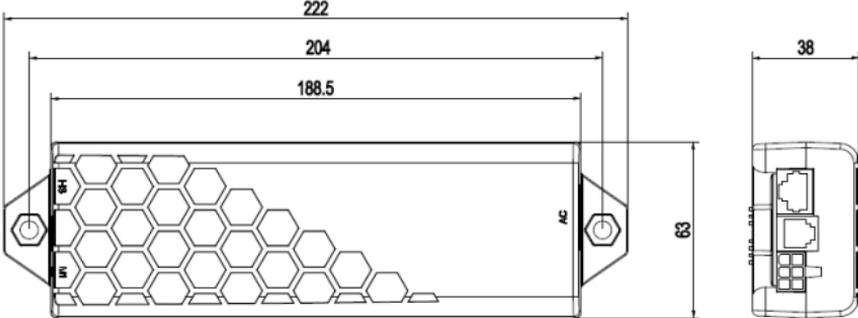
2.2 Technical Parameters

Input	100 – 240 VAC, 50/60Hz, Max 3A (Single motor: Max 2A)
Output	Single motor,: Max 32 VDC, Max 3A Dual motor,: Max 32 VDC, Max 7A Triple motor: Max 32 VDC, Max 10A UL series: Max 32 VDC, Max 4A
Number of Actuators	1~3
Duty Cycle	Max 10%, 2 min on, 18 min off
Overload Protection	Quick-break
Standby Power	0.4 W
Certification	CE, ROHS
Operating Ambient Temperature	-20° C ~50° C
Color	Black

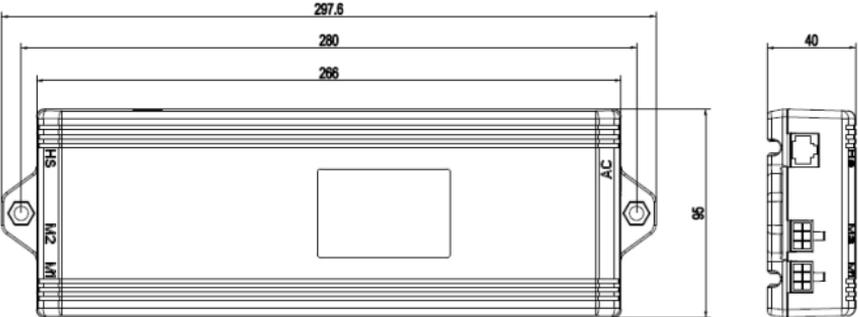
3、Dimensions (mm)

Control Box:

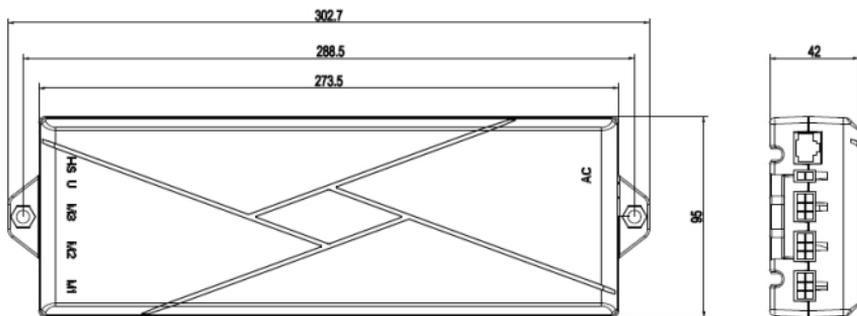
1、Single motor



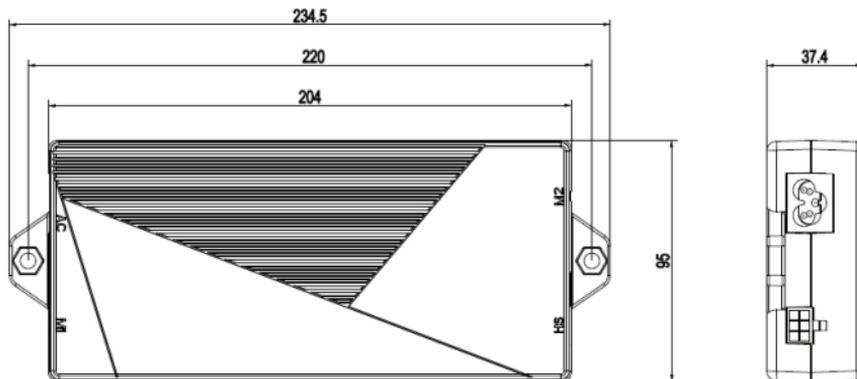
2、Dual motor



3、 Triple motor

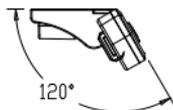
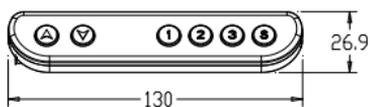
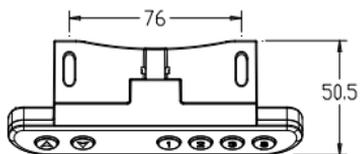


4、 UL series

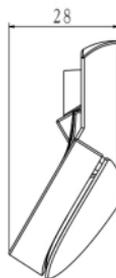
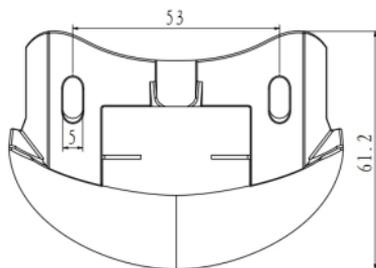
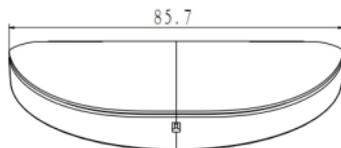


Handset:

Handset 1 :



Handset 2 :

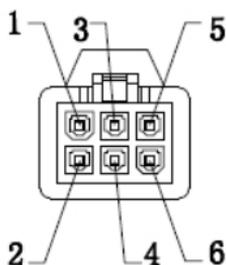


4、 Connection Diagram

The motor cable is optional, and the definition of motor cable port as follow:

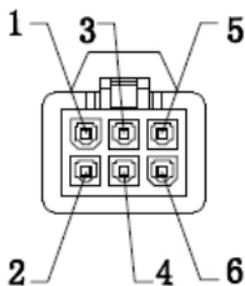
SAJ Line

1、 The motor wire port is defined as bellow :



- 1. Motor +
 - 3. Motor -
 - 5. The power of Hall sensor +5V
 - 4. The power of Hall sensor -
 - 6. The output of Hall sensor 1
 - 2. The output of Hall sensor 2
1. Motor +
3. Motor -
- Screw retraction

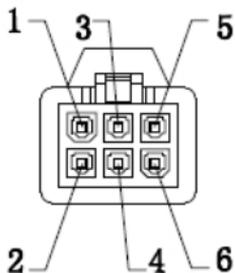
2、 The control box wire port is defined as bellow :



- 5. Motor +
- 3. Motor -
- 1. The power of Hall sensor +5V
- 4. The power of Hall sensor -
- 2. The output of Hall sensor 1
- 6. The power of Hall sensor 2

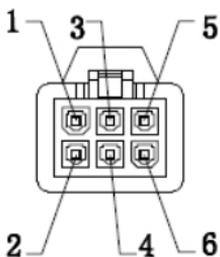
JC Line

1、 The motor wire port is defined as bellow :

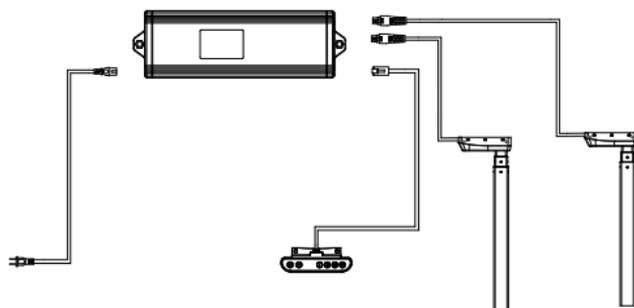


- 1. Motor +
 - 3. Motor -
 - 6. The power of Hall sensor +5V
 - 4. The power of the Hall sensor -
 - 2. The output of Hall sensor 1
 - 5. The output of Hall sensor 2
- Screw retraction

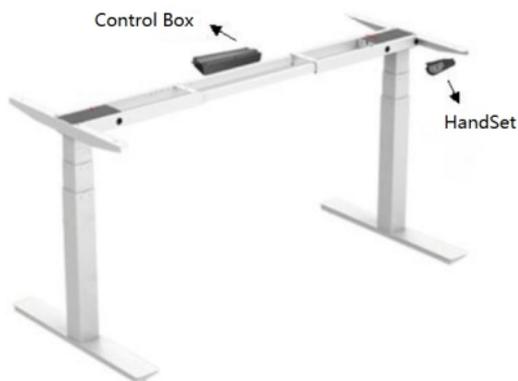
2、 The control box wire port is defined as bellow:



- 5. Motor +
- 3. Motor -
- 2. The power of Hall sensor +5V
- 4. The power of Hall sensor -
- 6. The output of Hall sensor 1
- 1. The output of Hall sensor 2



Control box connection diagram 1

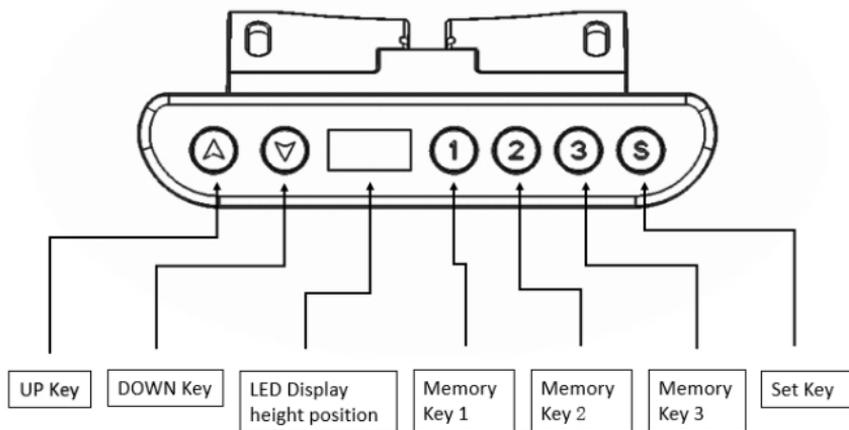


Installation Diagram

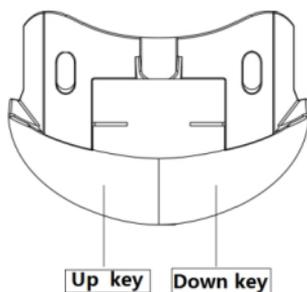
Remarks: The above is the connection diagram and installation diagram of the control box with double motors (double columns). There will be differences between single and triple motors. The connection/installation principle remains the same. Please refer to the actual product.

5、Handset introduce and operation

Handset 1 :



Handset 2 :



Operation

1. Running UP

Keep pressing the UP key, then the desk runs up; after releasing the UP key, the desk stops running.

2. Running DOWN

Keep pressing the DOWN key, then the desk runs down; after releasing the DOWN key, the desk stops moving.

3. Reset

It needs to be reset when the first time use or the desk is unbalanced or the LED displaying the wrong value, press the UP & DOWN key at the same time for 5 seconds, until displaying the RST on the screen it begins to reset, after the desk stops running with buzzer sounds (di) then releasing the key at same time, it resets successfully. (do not release the up & down key during operation).

4. Wake Up

when the motor stops work for 30 seconds, the screen turn off automatically, the desk will enter the standby mode, then press any key(except S key) to wake up.

5. Memory position setting

Press S key , then the screen flashes for 5 seconds; Before the end of the 5 second countdown, please choose and press one of the number key (1,2,3 key), and the can memory the Real-time height.

6. Minimum limit height setting

Press and hold 1&S key for 3 seconds, then the screen flashes and displays real-time height; at this time please press UP or DOWN key to the required minimum height , then press 1&S key for 3 seconds, the setting is completed when the screen no longer flashing

7. Maximum limit height setting

Press and hold 2&S key for 3 seconds, then the screen flashes and displays real-time height; at this time please press UP or DOWN key to the maximum height you need, then press 2&S key for 3 seconds, the setting is completed when the screen no longer flashing

8. Base height setting

Run the desk to the minimum height, then press the DOWN key for 10 seconds and enter the mode of base height setting (a number flashing on the screen); long press the UP or DOWN key, run to the required height(press the 3 key to shift), after setting it

please press and hold the 1&2 key when the real-time height displays on the screen is ok.

9. Unit display switch

Press and hold the 3&S key at the same time, and then can change the unit (cm & inch)

10. Children lock

Press and hold the UP key and the S key at the same time for 3 seconds , then LOC displaying on the screen, button can not work

11. Position power-off memory

When the HAD is running, cut off the input power and then power on again, the screen will display the height of the position before the power was cut off

12. Current Anti-collision function

Once the desk hits an obstacle during running up, the desk bounces back 3-5cm;

Once the desk approaches an obstacle during running down, the desk bounces back 3-5cm

13. Sensitivity adjustment of current Anti-collision function

Press and hold 2&3 key for 3 seconds, the real-time height flashes on the screen, then can change the sensitivity of the Anti-collision, choose 1 or 2 or 3 key is represented sensitivity high or middle or low.

14. G-sensor Anti-collision function

Once the desk hits an obstacle or happens to a shaken during running up , the desk bounces back 3-5cm; Once the desk hits an obstacle or happens to a shaken during running down , the desk bounces back 3-5cm

15. Sensitivity adjustment of G-sensor Anti-collision function

Press and hold 1&3 key for 3 seconds, the real-time height flashes on the screen, then can change the sensitivity of the Anti-collision, choose 1 or 2 or 3 key is represented sensitivity high or middle or low.

6、 Error display and Solution

Error	Description	Solution
Digit	The current height of the adjustable desk (unit: inch/cm)	—— ———
E01	The fault of motor 1 Cause: The cable of motor 1 is not connected	1. Check whether the cable of motor 1 is properly connected to the control box. 2. Check whether the cable of motor 1 is intact. 3. After troubleshooting, press any key to clear the error code to resume running (except S key)
E02	The fault of motor 2 Cause: The cable of motor 2 is not connected	1. Check whether the cable of motor 2 is properly connected to the control box. 2. Check whether the cable of motor 2 is intact. 3. After troubleshooting, press any key to clear the error code to resume running (except S key)

E03	<p>The fault of motor 3</p> <p>Cause: The cable of motor 3 is not connected</p>	<ol style="list-style-type: none"> 1. Check whether the cable of motor 3 is properly connected to the control box. 2. Check whether the cable of motor 3 is intact. 3. After troubleshooting, press any key to clear the error code to resume running (except S key)
E04	<p>Missing Hall signal of motor 1</p> <p>Cause: The Hall cord of motor 1 is not connected</p>	<ol style="list-style-type: none"> 1).Check whether the motor 1 cable plug is correctly inserted into the control box interface; 2)Check whether the Hall circuit of motor 1 is intact; 3).After troubleshooting, press any key to cancel the error-code to resume operation (except the S key)

E05	<p>Missing Hall signal of motor 2 Cause: The Hall cord of motor 2 is not connected</p>	<p>1).Check whether the motor 3 cable plug is correctly inserted into the control box interface; 2).Check whether the Hall circuit of motor 2 is intact; 3).After troubleshooting, press any key to cancel the error code to resume operation (except the S key)</p>
E06	<p>Missing Hall signal of motor 3 Cause: The Hall cord of motor 3 is not connected</p>	<p>1).Check whether the motor 3 cable plug is correctly inserted into the control box interface; 2).Check whether the Hall circuit of motor 3 is intact; 3).After troubleshooting, press any key to cancel the error code to resume operation (except the S key)</p>
E07	<p>motor 1 occurs an over-current error Cause :Overload, Mechanical fault</p>	<p>Reduce the load to no more than the maximum load(MAX 120KG), or troubleshooting the mechanical fault. After 8 seconds, press any key to cancel the error code to resume operation(except the S key)</p>

E08	<p>motor 2 occurs an over-current Cause :error Overload , Mechanical fault</p>	<p>Reduce the load to no more than the maximum load(MAX 120KG), or troubleshooting the mechanical fault. After 8 seconds, press any key to cancel the error code to resume operation(except the S key)</p>
E09	<p>motor 3 occurs an over-current Cause :error Overload , Mechanical fault</p>	<p>Reduce the load to no more than the maximum load(MAX 120KG), or troubleshooting the mechanical fault. After 8 seconds, press any key to cancel the error code to resume operation(except the S key)</p>
E10	<p>The desk is unbalanced Cause: The two motors are out of sync during operation</p>	<p>Operate a downward Reset operation on the table, the error code will disappear after the Reset is completed</p>
Hot	<p>Motors Overheating Cause: The control box detects that the temperature of the motor is too high, forcing the motor to stop running</p>	<p>Pressing any key at this time is invalid. The error is released after 11 minutes of stopping operation, and the handset will display the current altitude.</p>

E14	<p>Current Anti-collision function</p> <p>Cause: The desk hits an obstacle during running</p>	<ol style="list-style-type: none"> 1. Check the table for obstacles around the table and remove obstacles 2. After troubleshooting, press any key to clear the error code to resume running (except S key)
E15	<p>G-sensor Anti-collision function</p> <p>Cause: The desk hits an obstacle or happens to a shaken during running</p>	<p>Check whether the table shakes or whether there are faulty objects around, eliminate the shaking or remove the faulty object and press any key to eliminate the error code to resume operation (except the S key)</p>
E16	<p>Motor 1 Reverse</p> <p>Cause: The direction of motor rotation is inconsistent with the direction of Hall counting</p>	<ol style="list-style-type: none"> 1. Check whether the direction of rotation of the motor is forward 2. If it is forward: Check whether the Hall wire connection is correct 3. If it is reverse: Check whether the motor drive line is connected correctly 4. After troubleshooting, press any key to eliminate the fault code to resume operation (except the S key)

E17	<p>Motor 2 Reverse Cause: The direction of motor rotation is inconsistent with the direction of Hall counting</p>	<p>1.Check whether the direction of rotation of the motor is forward 2.If it is forward: Check whether the Hall wire connection is correct 3.If it is reverse: Check whether the motor drive line is connected correctly 4.After troubleshooting, press any key to eliminate the fault code to resume operation (except the S key)</p>
E18	<p>Motor 3 Reverse Cause: The direction of motor rotation is inconsistent with the direction of Hall counting</p>	<p>1.Check whether the direction of rotation of the motor is forward 2.If it is forward: Check whether the Hall wire connection is correct 3.If it is reverse: Check whether the motor drive line is connected correctly 4.After troubleshooting, press any key to eliminate the fault code to resume operation (except the S key)</p>

7、 Precautions for Use

■This product only apply to the adjustable desk, do not use for other purposes.

■Make sure that the control box, handset, and power cord are intact before use. If there is any quality problem, please contact the manufacturer or agents to replace.

■Be aware that the control box can only be connected to the voltage indicated on the label.

■Do not use in places that are susceptible to corrosion or oxidation.

■Do not expose to sunlight or use in high temperature environment, for indoor use only.

■Non-professionals are not allowed to disassemble this product to prevent electric hazards.

■Any after-sales service required, please refer to our authorized dealer or representative.

8、 Product Warranty

The product come with five years warranty under manufacturing defect if the damage of this product is caused by non-human factors in the normal use within five years from the manufacturing.

■The following conditions are not covered by the warranty:

①Exceed warranty period.

②Damage caused by the operating not followed the instruction.

③Damage caused by human factors, such as falling, flooding and crashing.

④Damage caused by unauthorized dis-assembly and repair.

⑤Damage caused by natural disasters such as force majeure.

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