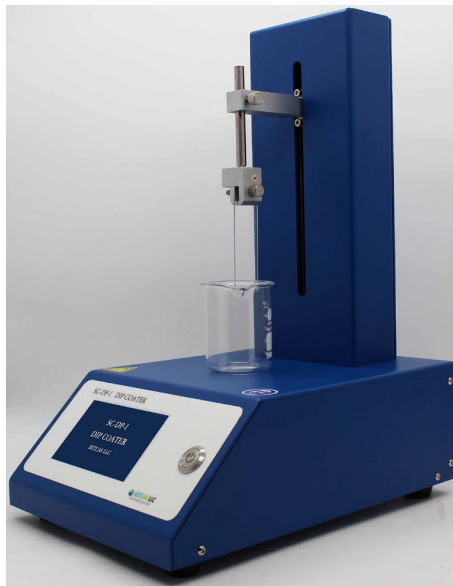


SC-DP-I Dip Coater Manual



Mission

Create high-end equipment Provide satisfied services

CLTURE

Respect Create Contibute Share

Company profile:

SETCAS LLC is a new high-tech enterprise, mainly engaged in the research and development of semiconductor devices and electronic products. The company specializes in mechanical design, software development, automatic control, and industrial design technologies.

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Packing List

Packing Boxes				
No.	Name	Packing List		
		No.	Name	Quantity
1	SC-DP-I Dip Coater	1	Host Device	1
		2	Power Cord	1
		3	User Manual	1
		4	Qualification Certificate	1
		5	Warranty Card	1
		6	Company Product Brochure	1

Attentions

- The product is intended for use in a clean and low- humidity room environment. temperature: 0-40°C; humidity: <85%;
- Always wear the proper personal protective equipment (PPE) for the job, including safety glasses, gloves, and other equipment as needed to protect from mechanical and chemical hazards;
- High voltage is present in the machine. Disconnect the power before servicing.

Service & Maintenance

- Provide product operation guidance;
- 1-year full warranty on parts and labor;
- Free remote technical support (phone, email, fax);
- Maintain on-site or in the factory.

Feedback

If you have any comments and suggestions, please let us know.

- Tel : +010 89732010;
- Web : www.setcas.com;
- Email : support@setcas.com.

Product Feature

- Apply imported high- precision motor to control the dip-coating process.
- The device is stable enough to ensure the uniformity of substrate film.
- Self-developed program control system, concise and easy to operate
- The software operation interface is simple and easy to operate.
- The program recipe that has been run will be automatically saved.
- Special design substrate clamp, more secure and firm.

Performance Parameters

- Maximum Travel Distance: 150mm
- Speed Range: 1~20000 μ m/s, resolution: 1 μ m/s, stability: \pm 0.1%;
- Dipping time : 1~9999s, resolution: 1s;
- Interval Time: 1~9999s, resolution: 1s;
- Max number of cycles: 9999 cycles;
- Voltage: 220V AC , single phase;
- Max film thickness: 10mm;
- Dimensions : 210mm (W) \times 300mm (D) \times 410mm (H) ;
- Product Weight: 7.5 kg.

Product Layout

1、 Introduction of the front view

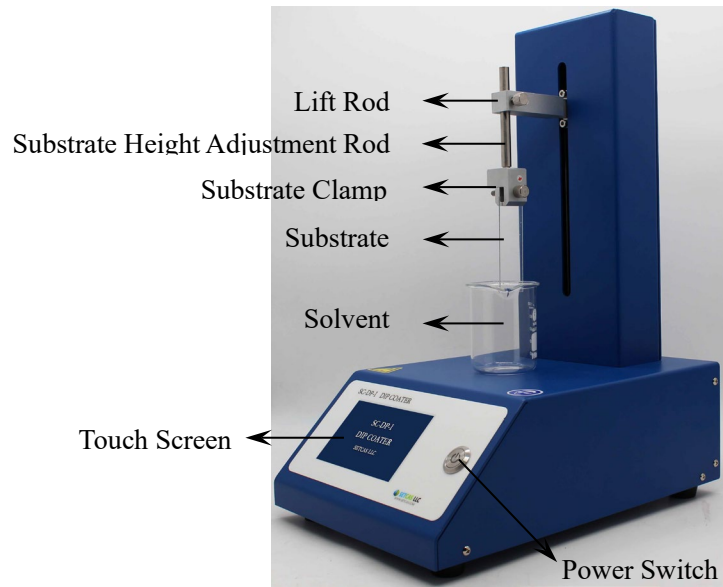


Fig 1 Introduction of the front view

2、 Introduction of the rear view



Fig 2 Introduction of the rear view

Software

Turn on the “Power Switch”, the device enters the “Start-up interface”, shown as fig3.



Fig 3 Start-up Interface

Waiting for 2~5s, the device switches to the "Homing Interface", shown as Fig 4.



Fig 4 Homing Interface

Press the "Homing" button in the “Homing Interface”, the device will automatically return to the zero position, that is, the highest position where the “Lift Rod” can be raised. At the same time, the "Prompt Interface" will pop up, shown as Fig 5.

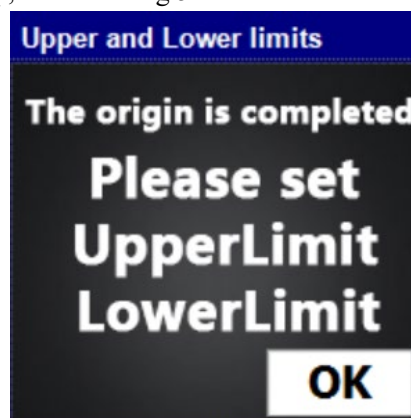


Fig 5 Prompt Interface

Press the "OK" button in the “Prompt Interface”, the device will enter the “Manual setting interface”, shown as Fig 6.

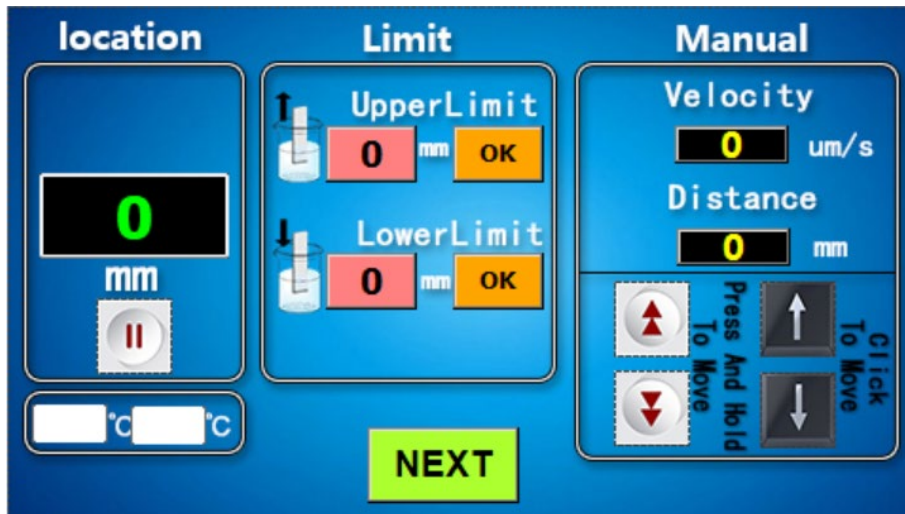














Fig 6 Manual Setting Interface










➤ **Location**

Display the current position of the “Lift Rod” in real time. The highest position where the “Lift Rod” can be raised is the zero position, it increases as the “Lift Rod” moves downward.

➤ **Limit:** used for manual setting and displaying the upper and lower limit positions of the dip-coating.

- **Upper Limit :** move the “Lifting Rod” by using    , observe the current position of the “Lift Rod” that  displayed in real time, press  to set the upper limit when the “Lift Rod” arrives your expected position.
- **Lower Limit:** move the “Lifting Rod” by using    , observe the current position of the “Lift Rod” that  displayed in real time, press  to set the lower limit when the “Lift Rod” arrives your expected position.

➤ **Manual:** used for setting the velocity and distance of the manual moving of the “Lift Rod”.

- **Velocity:** used for setting the velocity of the manual moving of the “Lift Rod”;
- **Distance:** used for setting the moving distance when  or  is clicked once;
- **Press And Hold To Move:** Press and hold  or  to move the “Lift Rod”, that will be stopped after releasing the button.
- **Click To Move:** click  or  to move the “Lift Rod”. The “Lift Rod” will move a setting “Distance” when  or  is clicked once;
- **Next:** after completing the manual setting of the upper and lower limits, click  to enter the “Auto Setting Interface”, shown as Fig 7.

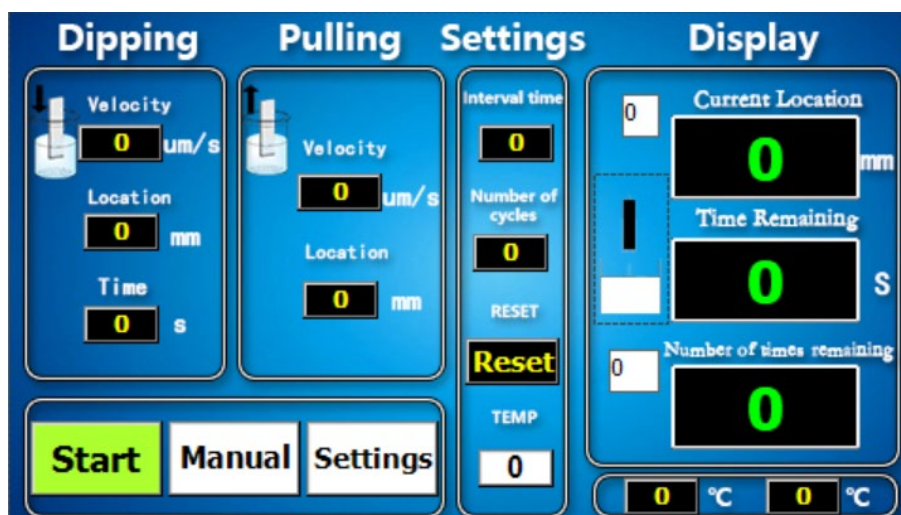


Fig 7 Auto Setup Interface

- **Dipping:** used for setting the dipping parameters of the “Lift Rod” in the auto dip-coating process.
 - **Velocity(μ m/s):** click the text box of “Velocity” to set the dipping velocity of the “Lift Rod” in the auto dip-coating process.
the default velocity is 50000μm/s, and the velocity range is 1μm/s~55000μm/s.
 - **Location(mm):** click the text box of “Location” to set the lower limit of the “Lift Rod” in the auto dip-coating process. The value of “Location” cannot be greater than the value setting in “Manual Setting Interface>>Limit>>lower Limit”.
 - **Time(s):** click the text box of “Time” to set the dipping time that the substrate staying in the solvent. The default time is 5S.

- **Pulling:** used for setting the pulling parameters of the “Lift Rod” in the auto dip-coating process.
 - **Velocity(μ m/s):** click the text box of “Velocity” to set the pulling velocity of the “Lift Rod” in the auto dip-coating process. The default velocity is 50000μm/s, and the velocity range is 1μm/s~55000μm/s.
 - **Location(mm):** click the text box of “Location” to set the upper limit of the “Lift Rod” in the auto dipping process. The value of “Location” cannot be greater than the value setting in “Manual Setting Interface>>Limit>>Upper Limit”.

➤ **Settings**

- **Intervals time:** click the text box of "Interval Time" to set the interval time between two dipping & pulling movements in a dip-coating process. I.e., the dwell time of the “Lift Rod” at the upper limit after a pulling & dipping movement in a dip-coating process.
- **Number of cycles:** click the text box of “Number of Cycles" to set the number of dipping & pulling times in a dip-coating process.
- **Reset:** **Reset** is used for resetting the zero position of the “Lift Rob”. Press **Reset**, the current position of the “Lift Rod” is set as the new zero position (the highest position where the “Lift Rod” can be raised).

➤ **Display**

- **Current Location(mm):** display the current position of the “Lift Rod” in real time. The highest position where the “Lift Rod” can be raised is the zero position, it increases as the “Lift Rod” moves downward.
- **Time Remaining(s):** real-time display the remaining dwell time when the “Lift Rod” stays at the upper limit position or the lower limit position.
- **Number of times remaining:** shows the remaining number of times of the cycles in a dip-coating process.

➤ **“Button” Introduction**

- **Start/Stop/Reset:** the “Start” button is used for starting the auto dip-coating process. The “Stop” button is used for stopping the auto dip-coating process. The “Reset” button is used for zeroing the “Lift Rod”.
- **Manual:** press the "Manual" button to re-enter the "Manual setting interface".

Dip-Coating Procedure

Open the box, take out the device and accessories, and put them on a level surface, then operate as the following steps:

1、 Power Cord Connection

Connect the “Power Inlet” (shown as fig 2) of the device to the power outlet (220VAC 50Hz) with a power cord.

2、 Power on

Press the “power switch” (shown as fig1), the device is powered on and the touch screen lights up at the same time.

3、 Position zero

Click the "Homing" button in the " Homing Interface " to return the “Lift Rod” the zero position (the highest position where the “Lift Rod” can be raised), shown as fig 4.

4、 Substrate placement

Fix the substrate on the “Substrate Clamp”. You can adjust the position of the “Substrate Height Adjustment Rod” according to the size of the substrate, shown as fig 1.

5、 Solvent placement

Place the solvent container in the proper place of the device.

6、 limits setting

Set the upper limit and lower limit in the "Manual Setting Interface", operate following fig 6 and its description.

7、 Parameter setting

Set the parameters in the "Auto Setup Interface", operate following fig 7 and its description.

8、 Start Dip-coating

Click " Auto Setup Interface >>Start", and the device will start to coat according to the parameters setting in step 7.

9、 Take & Place substrates

- Take and place during a dip-coating process
Press the "Stop" button to stop the “Lift Rod”, and the "Stop" button switches into the "Reset" button at the same time. Then press the “Reset” button to return the “Lift Rod” to the zero position to take or place the substrate.
- Take and place after a dip-coating process
After a dip-coating process finished, the “Stop” button switches into the “Start” button again and the “Lift Rod” return to the zero position automatically, then you can take or place the substrate.

10、 End

Power off the device after completing the experiment.

Date	Version	Update Information
04-29-2021	V1.0	