# Users Manual for Permanent Magnet Motor for Swimming Pool Pump

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Table of Contents

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# Users Manual for Permanent Magnet Motor for Swimming Pool Pump

**Section 1. Introduction**

Series permanent magnet motor for swimming pool pump is specially customized by Advantage Manufacturing Inc for swimming pool applications. This series motor has the characteristics of high efficiency, high power density, adjustable speed and high intelligence. At the same time, a complete control function is developed for the application of pool pump. The pool pump can realize manual mode operation, automatic operation according to plan, automatic exhaust to power off self-start and other functions.

At the same time, a complete control function is developed for the application of pool pump. The pool pump can realize manual mode operation, automatic operation according to plan, automatic exhaust to power off self-start and other functions. At the same time, it is equipped with WIFI / Bluetooth + APP intelligent mode, which can realize remote monitoring and mobile phone configuration parameters and other functions.

This document provides the function introduction, panel and wiring operation instructions, Intelligent control APP operation manual and other information of the series of permanent magnet motors. The instructions have been written with safety as the priority, and must be followed exactly. Read through the instructions completely before starting the procedure.

**Schedule Function**

Schedule function is an automatic operation function, the user can preset the motor running time and speed. When the motor is powered on, it will run automatically according to the Internal clock and operation plan.

**Note:** Only Speed1/Speed2/Speed3 can be selected for the running speed in schedule mode the values of the three speeds can be changed in the manual settings.

**Note:** The schedule function supports three running periods a day. Run the same plan everyday through panel settings. However, different running plans can be set from Monday to Sunday through the APP.

# Users Manual for Permanent Magnet Motor for Swimming Pool Pump

Parameters that maybe modified and set in the schedule mode, including:
-set speed and the timeclock to desired on/off times of "set1" (Plan1)
-set speed and the timeclock to desired on/off times of "set2" (Plan2)
-set speed and the timeclock to desired on/off times of "set3" (Plan3)

## Manual Function

Manual function is a manual operation function, the user can manually start or shut down the motor at any time. Manual mode can also count down. When the running time is 0, the motor continues to run until manual shut down. When the running time is not 0, it indicates the count down operation. For example if the time is set to 30, the system will automatically shut down after 30 minutes.

**Note:** Select the desired value of Speed1/Speed2/Speed3 in manual mode using the add and minus keys, the adjusted speed is automatically saved as the default speed. Three different speeds and running times can be set in manual mode,

**including:**
-Set speed and running time of Set1/speed1
-Set speed and running time of Set2/speed2
-Set speed and running time of Set3/speed3

## Priming Function

Priming function is pump self -priming and exhaust function. When the pump is powered on for the first time after a power failure, the pump will start self-priming operation according to the preset parameters, After the auto priming is complete, the manual/schedule function can be executed normally.

Parameters that maybe modified and set in the pre-setup menu, including:
-Priming time, in seconds, for example, 30 means 30 seconds
-Priming speed

**Note:** When priming time is 0, priming function is not enabled.

# Users Manual for Permanent Magnet Motor for Swimming Pool Pump

**Self-Start Function**

The self-start function includes the following two situations:
-When a voltage or temperature fault occurs, the motor automatically shuts down
  and displays a fault icon. When the voltage or temperature returns to normal
  the motor will automatically resume operation
-When a power failure or circuit interruption occurs, the motor automatically returns
  to its original state when the power supply is restored.

**Note:** Auto start is enabled by default

**Time Setup**
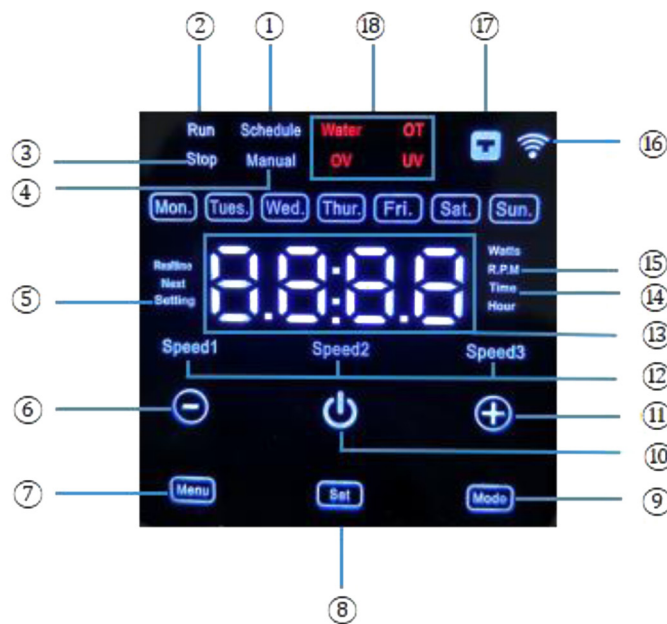
Set the related time in time setting menu include:
-Set the year
-The day set
 -Set the time

**Note:** When the motor is controlled through APP, the program will automatically
synchronize the mobile phone time to the internal clock of the motor.

# Users Manual for Permanent Magnet Motor for Swimming Pool Pump

## Section 2. The panel setup

## 2.1 Panel Display



1. Schedule mode running or schedule setting instructions
2. The device is running
3. The device is stopped
4. Manual mode running or manual setting instructions
5. The device is in the setting state
6. Decrease Speed (decrease by step of 50 rpm)

Time decrease (In schedule settings, decrease by step of 1Hour or 15 minutes. In manual settings, decrease by step of 30 minutes. In time settings, decrease by step of 1 year/month/day/hour/minute. In pre settings, decrease by step of 30 seconds.)

**7. Hold Menu for 2 seconds to enter the setting state when stop running.**

Press Menu to view motor parameters during operation

**8. Setting mode auxiliary button. For details, see the setting process**

**9. Setting mode auxiliary button. For details see the setting process**

**10. Power Key**

**11. Increase speed (increase by step of 50 rpm)**

Time increase (in schedule settings, increase by step of 1Hour or 15 minutes. In manual settings, increase by step of 30 minutes. In the time settings, increase by step of 1 year/ month/ day/ hour/ minute. In pre settings, increase by step of 30 seconds.)

12. Display of different operating speeds.
13. Led display
14. Time setting prompt
15. Running speed setting prompt
16. Wireless connection: Bluetooth connection is currently supported, " Wifi" way is only test versions.
17. The cable connection
18. Fault warning: water shortage/ over current/ over voltage/ under voltage

**2.2 Panel Startup Display**

**Display 1. Manual operating state (After power-on, execute the last unfinished operating parameters and the motor enters the operating state, as shown in Figure 1)**

Figure 1



Figure 2

**Display 2: Manual stop state (after power-on, parameters set last time have been executed and the motor enters the stop state, as shown in Figure 2)**

## 2.3 Function Setup

### 2.3.1 How to access the setting page?

If you need to modify parameters, press the power button to enter the manual stop state, then hold the Menu for 2 seconds to enter the setting interface. At this time "Setting" keeps flashing. If the startup state is manual stop, hold the Menu for 2 Seconds to enter the setting interface. In this case, "Setting" and "Schedule" keep blinking.

**Note:** The factory default is scheduling setting interface
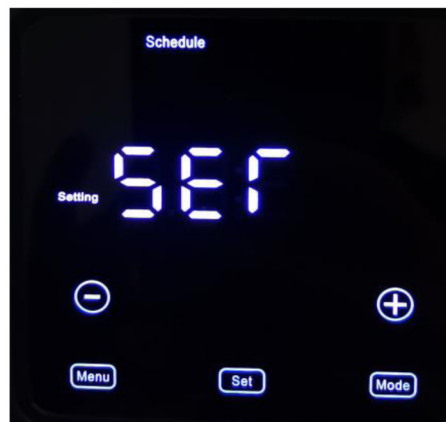


Figure 3

### 2.3.2 Four settings of the Panel
The Schedule Mode

**Please operate as following:**

1.) Enter the setting interface (as shown in Figure 3) press Mode to set the start and end time of Set1 operation. Press the plus/minus key to increase and decrease time. Set can switch clock and minute. Then press the plus/minus key to switch
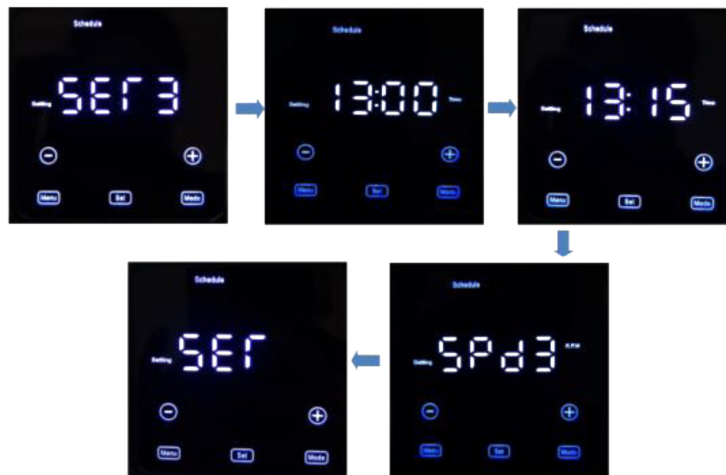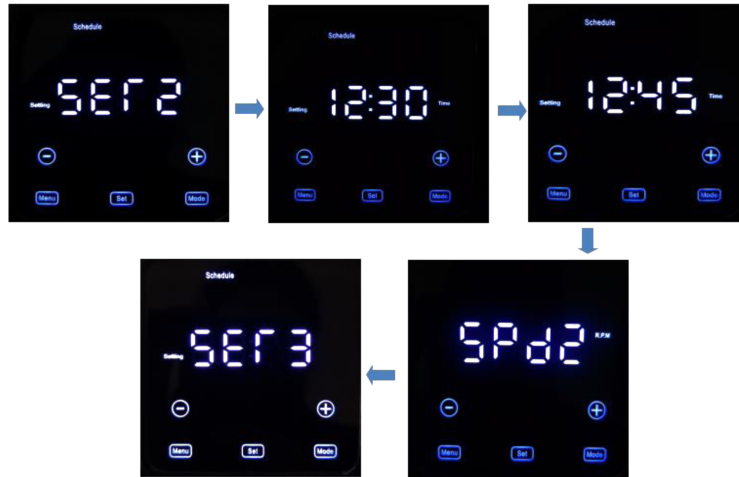
**Speed1/Speed2/Speed3**, and continue to press the mode to enter the setting of

Set 2
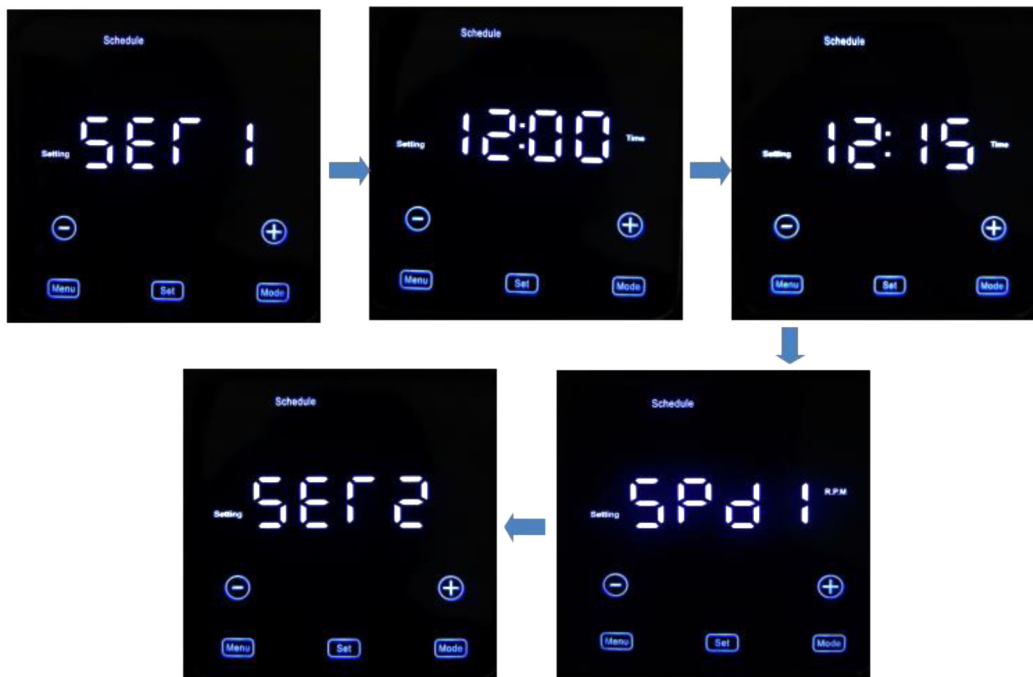


2.)  Press the plus/minus key to increase and decrease time. The Set can switch between clock and minute.  Press the Mode to confirm. Then press the plus/minus key to switch Speed1/Speed2/Speed3, continue to press the MODE to enter Set3 settings.

3.) Press the plus/minus key to increase and decrease time. The set can switch between clock and minute. Press the mode to confirm. Then press the plus/minus key to switch speed1/speed2/speed3, continue to press the MODE to return to the schedule setting interface.

# Users Manual for Permanent Magnet Motor for Swimming Pool Pump

**Manual Mode**

Please operate as following:

1.) Turn on to enter the setting interface, or press MENU to return to the upper setting interface **(refer to figure3).**

2.) Press the plus/minus key to enter the manual setting interface. At this time, "Setting" and "Manual" lights keep flashing, as shown in **Figure 4.**



**Figure 4**

**3.)  Press the Mode to enter Set1 setting, then press the Mode to set the running speed, press plus/minus key to increase or decrease the speed, then press the MODE to confirm; Continue to press the plus/minus key to set the running time, then press the Mode to enter Set2 setting.**
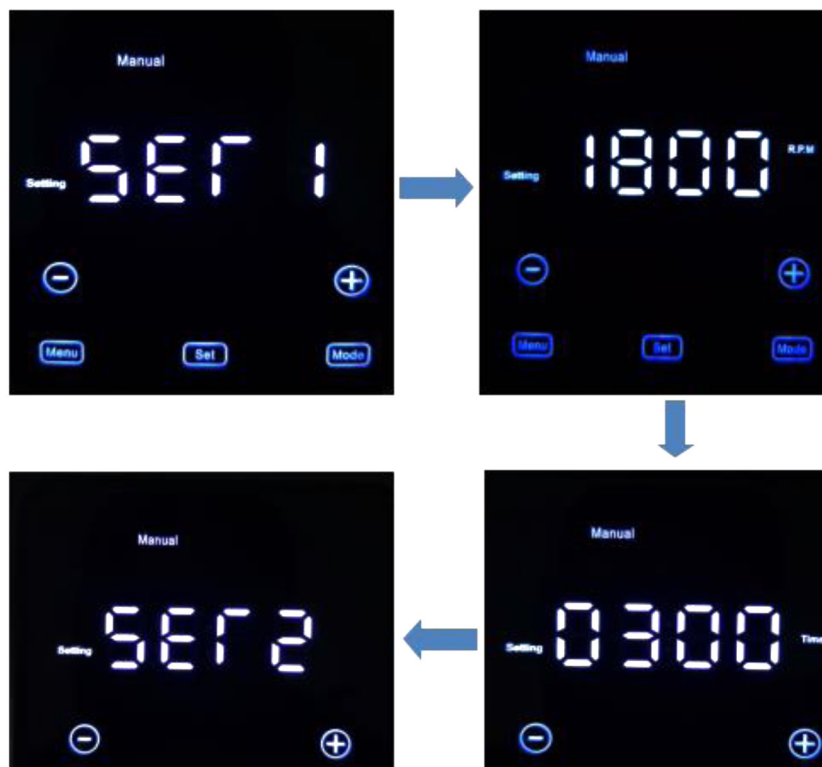
4.) Press the Mode to set the running speed, press plus/minus key to increase or decrease the speed, then press the Mode to confirm; Continue to press the plus/minus key to set the running time, then press the Mode to enter Set3 setting.

5.) Press the Mode to set the running speed, press plus/minus key to increase or decrease the speed, then press the Mode to confirm; Continue to press the plus/minus key to set the running time, then press the Mode to return to the manual setting interface.

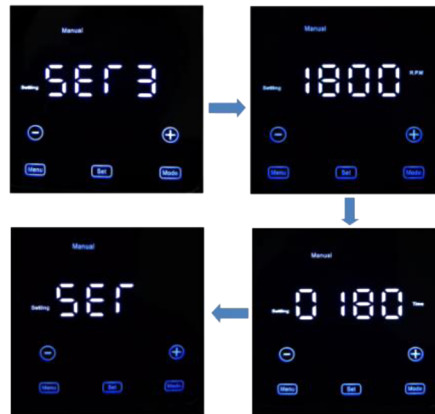# Users Manual for Permanent Magnet Motor for Swimming Pool Pump





Figure 5

1

Time Setup

Please operate as following:

1.)    Turn on to enter the setting interface, or press MENU to return to the upper setting interface (refer to figure 3)

2.)    Press the plus/minus key to enter the time setting interface. At this time, "Setting" and the "Time" lights keep flashing as shown in Figure 5.

3.) Press Mode to set the year.

4.) Press Mode to set the date, plus/minus key to increase or decrease time, press set to switch month and date.

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5. Press Mode to set the time, plus/minus key to increase or decrease time, press set can switch clock and minute; Press Mode again to return to the Time setting Interface.

1

# Users Manual for Permanent Magnet Motor for Swimming Pool Pump

**Pre-Setup**
Please operate as following:

1.) Turn onto to enter the setting interface, or press Menu to return to the upper setting interface (refer to figure3)
2.) Press the plus/minus key to enter the presetting interface. At this time, "Setting" light keep flashing, as shown in Figure 6
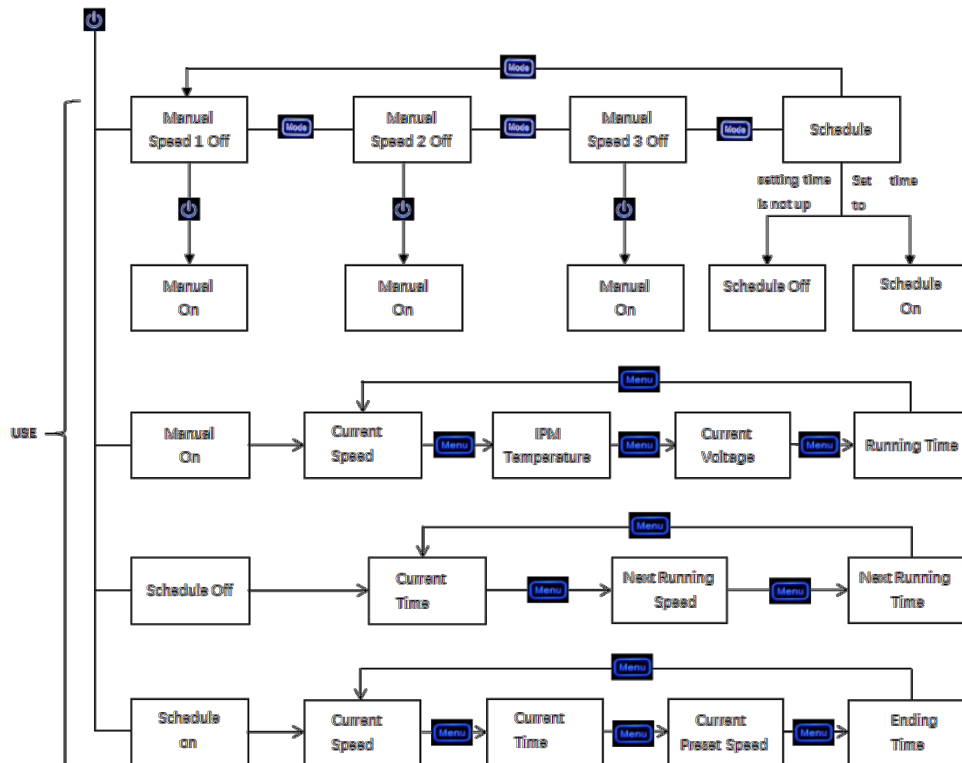


Figure 6



3.)  Press the Mode to set the priming time, press plus/minus key to increase or decrease the time.
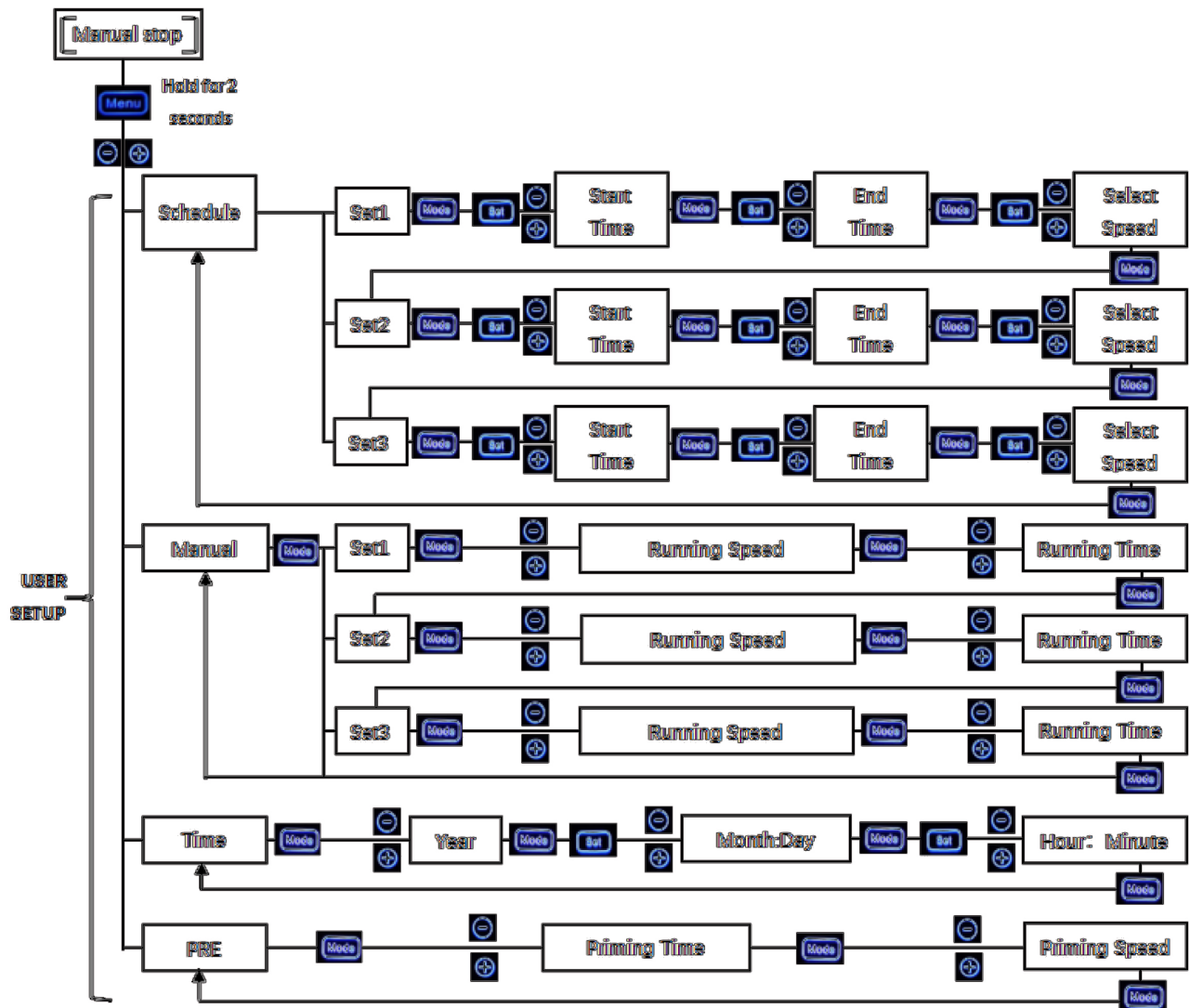
4) Press **Mode** to set priming speed, press plus/minus key to increase or decrease the speed. Press Mode again to return to the presetting interface.



## Section 3. Menu Flow Chart
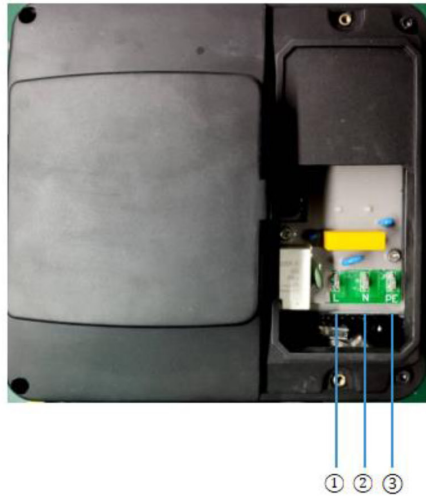


**16**

**NOTE:** Press MENU key to return back.

## Section 4. Cable connection

**NOTE: Please follow the instructions for correct operation!**

# Users Manual for Permanent Magnet Motor for Swimming Pool Pump

①. The black line : L
②. The white line: N
③. The green line: PE

④. Earthing terminal

Attachment: App Instruction Manual

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