



JOYONWAY

PB557

Simplified operation instruction





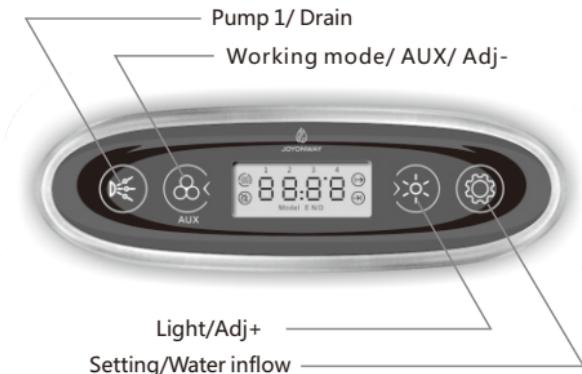
WARNING

1. Please connect power strictly according to the SPA power data plate.
2. Please do not turn the SPA power on until the water reaches water level line inside the tub.



WARNING

Please set time and date before using the SPA control system.



Main interface: the below two interfaces will be displayed in turn:



I. Functions

Pump 1

When the control system is powered on and not in sleeping mode, if pump 1 is set as single speed pump, then press the key to control the on /off of pump 1. If pump 1 is set as double speed pump, then press the key to control the low speed, high speed and turning off of pump 1.

Pump 1 will turn off automatically after running for a certain period of time.

Drain (when the control system is equipped with this function)

When the control system is powered on and not in sleeping mode, press the key for 2 seconds to control the on / off of drain solenoid. When the drain solenoid is on, " " will be displayed in the main interface.

Pump 2  (when the control system is equipped with this function)

When the control system is powered on and not in sleeping mode, or setting mode, press the key to control the on / off of pump 2

Pump 2 will turn off automatically after running for a certain period of time.

Blower  (when the control system is equipped with this function)

When the control system is powered on and not in sleeping mode, or setting mode, press the key to control the on / off of blower.

Blower will turn off automatically after running for 30 minutes.

Manual cycle pump  (when pump 1 is set as single speed pump and the system does not have pump 2 or blower function)

When the control system is powered on and not in sleeping mode, or setting mode, press the key to control manual cycle pump.

When heating cycle pump or timing water cycle or pump 1 is started, cycle pump can not be manually turned off.

Manual cycle pump will turn off automatically after running for a certain period of time.

Working mode 

When the system is powered on and not in setting mode, press the key for 2 seconds to switch the working mode.

The system has three working modes(the system being powered is considered as standard mode by default):

Standard mode (LCD displaying Model N): heating function will be valid in 24 hours. If system time falls in water cycle set time period, filtering water cycle function will be valid.

Economy mode (LCD displaying Model E): if system time falls in water cycle set time period, filtering water cycle function is valid; if system time falls in heating set time period, heating function will be valid. If system time is out of the set time period, freezing proof function will be started.

Sleeping mode (LCD displaying Model D): freezing proof will be started and other loads will be turned off and can not be controlled by keys.

Light 

When the control system is powered on and not in sleeping mode, or setting mode, press the key to control light. Press the key for 2 seconds to turn off the light in short time. Light will automatically turn off after working for 2 hours.

Light has two modes. In on/ off mode, light turning on and off are controlled. In RGB mode, the control regulation is as below:

state 1 auto color change (color changing among state 2 to state 8 in cycle)
 state 2 red
 state 3 green
 state 4 yellow
 state 5 blue
 state 6 purple
 state 7 cyan
 state 8 white
 state 9 turning off

Water inflow  (when the system is equipped with this function)

When the control system is powered on and not in sleeping mode, press the key for 2 seconds to control the water inflow solenoid. When the water inflow solenoid is on, “” will be displayed in the main interface.

When water is detected in the system, water inflow solenoid will be turned off automatically.

Freezing proof

When water temperature is lower than 6°C (43°F), heating will be started. When the temperature reaches 10°C (50°F), heating will be turned off.

Water level sensing (when the system is equipped with this function)

If the control system is equipped with water level sensing function, pump, cycle pump, and heating can only be started when there is water detected. If no water is detected in normal usage, the mentioned loads will be turned off.

Timing water cycle

When system works in standard and economy mode, timing water cycle is valid. In sleeping mode, timing water cycle is invalid.

The control system has two water cycle setting time periods. Before usage, please set the two time periods.

If the system time falls in either of the time periods, water cycle will be started. If the system time is in neither of the time periods, water cycle will be turned off.

Ozone

Ozone will be turned off when pump, blower, water inflow or draining is started.

When pump, blower, water inflow and draining are turned off and heating cycle pump or timing water cycle is started, ozone will be automatically started. When both heating cycle pump and timing water cycle are turned off, ozone will be turned off automatically.

Heating

Heating function will be started automatically in standard mode. In economy mode, it will start in set time periods. In sleeping mode, it will start when temperature is lower than 6°C.

When heating function is started, and water is detected(if system is equipped with water level sensing function), heating cycle pump will be started in ahead then heating will be started; if heating is turned off, heating cycle pump will be turned off after a while.

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II . Setting

Temperature unit

When the system is powered on and not in setting mode, press “” and “” at the same time for 2 seconds to change the temperature unit (°C or °F). And system will store the temperature unit.

Temperature setting

When the system is powered on, press “” till entering temperature setting interface. LCD will display with flash temperature unit. Press “” and “” to set the temperature value. And setting range is 10~40°C (50~104°F). And system will store the set temperature value.

24°C

Clock setting

When the system is powered on, press “” till entering clock hour setting. LCD will display the hour value with flash. Then press “” and “” to adjust the hour value.

17:30

When the system is powered on, press “” till entering clock minute setting. LCD will display minute value with flash. The press “” and “” to adjust the minute value.

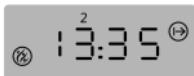
Timing heating time period setting



timing heating time period 1
starting time setting interface



timing heating time period 1
ending time setting interface



timing heating time period 2
starting time setting interface



timing heating time period 2
ending time setting interface

“1” and “2” in LCD stand for time period 1 and time period 2. “” and “” in LCD stand for the starting and ending time of time period.

When system is powered on, press “” till entering timing heating time period setting interface. The correspondent time value will flash. Press “” and “” to adjust the time.

The system will automatically store the value after timing heating time period setting.

Timing water cycle time period setting



timing water cycle time period 1
starting time setting interface



timing water cycle time period 1
ending time setting interface



timing water cycle time period 2
starting time setting interface



timing water cycle time period 2
ending time setting interface

"1" and "2" in LCD stand for time period 1 and time period 2. "⌚" and "⌚" in LCD stand for the starting and ending time of time period.

When system is powered on, press "⌚" till entering timing water cycle time period setting interface. The correspondent time value will flash. Press "⌚" and "⌚" to adjust the time.

The system will automatically store the value after timing water cycle time period setting.

III. System malfunction table

| malfunction code | malfunction description | Solution |
|------------------|---|---|
| E1 | temperature sensor malfunction | Please check temperature sensor and its connection. Replace it with a new one if necessary. |
| E2 | Temperature surpassing the normal range | The system detects an over high temperature on the temperature sensor. This will happen when there is no water or water flow is too small inside the heating pipe and the heating function is started. Please ensure there is water inside the SPA. If the error happens frequently in several days, please contact manufacture or distributor for technical help. If the temperature detected by temperature sensor is too low, please pay attention to freezing protection. |
| E4 | Thermostat disconnection | Thermostat disconnection indicates an over high temperature on the heating pipe. When heating is started, this error may happen when there is no water or water flow is too small inside the heating pipe. Please ensure there is water inside the SPA. If this error happens frequently in several days, please contact manufacture or distributor for technical help. |
| E5 | Control panel and box communication malfunction | Please check the connection between the control panel and control box. Replacing them with new ones if necessary. |



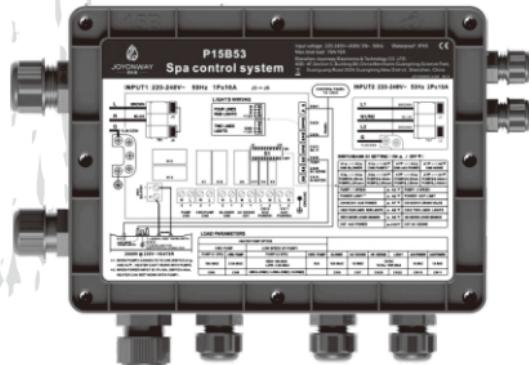
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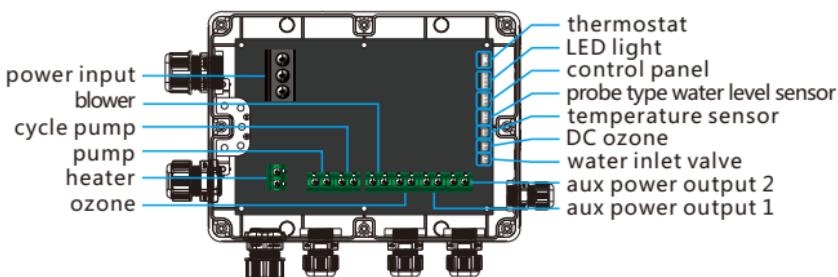


JOYONWAY

P15B53 control system

Quick installation guide

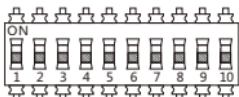
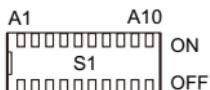




I

Configure and connect the loads, when the system is powered off

Configure dial switch position A1-A10 according to the dial switch S1 configuration table (figure on the right) on the control system PCB.



Configure the loads according to dial switch S1 configuration table on the wiring diagram.

SWITCHBANK S1 SETTING (ON ▲ / OFF ▼)

| A1▲ and A2▲ CN9 BLOWER | A1▲ and A2▼ CN9 PUMP2 | A1▼ and A2▲ CN9 AUX POWER | A1▼ and A2▼ CN9 NONE |
|--|--|---|---|
| A3▲ and A4▲ PUMP(H):20min PUMP(L):2hours | A3▲ and A4▼ PUMP(H):40min PUMP(L):2Hours | A3▼ and A4▲ PUMP(H):20min PUMP(L):20min | A3▼ and A4▼ PUMP(H):40min PUMP(L):40min |
| PUMP1 1 SPEED | | ▲ A5 ▼ | PUMP1 2 SPEED |
| POWER LIMIT | | ▲ A6 ▼ | POWER NOT LIMIT |
| CN10/CN11 AUX POWER | | ▲ A7 ▼ | CN10/CN11 DRAIN VALVE |
| CN22 FOUR LINES RGB LIGHTS | | ▲ A8 ▼ | CN22 TWO LINES LIGHTS |
| WITH WATER LEVER SENSOR | | ▲ A9 ▼ | NO WATER LEVER SENSOR |
| CN7 AUX POWER | | ▲ A10 ▼ | CN7 AC OZONE |

Load configuration

A1, A2: (CN9 output function setting)

If there is blower function in the control system, please pull A1 to ON▲, A2 to ON▲. Then CN9 will be the blower function output.

If there is pump 2 function in the control system, please pull A1 to ON▲, A2 to OFF▼. Then CN9 will be the pump 2 function output.

If there is no blower or pump 2 function in the control system but there is auxiliary power function, please pull A1 to OFF▼, A2 to ON▲. Then CN9 will be the auxiliary power function output.

If there is no blower, pump 2 function or auxiliary power function in the control system, please pull A1 to OFF▼, A2 to OFF▼. Then CN9 will be ineffective.

A3, A4: (pump working time setting. If the pump is single speed pump, then its working time will be according to PUMP (H) time.)

A5: (pump 1 single or double speed setting)

ON▲: Pump 1 will be single speed pump. Cycle pump will be a separate pump.

OFF▼: Pump1 will be double speed pump. Cycle pump will be the low speed pump of pump 1.

A6 : (power limit setting. If power input is 220VAC-240VAC 50HZ 1P*16A, then power limit must be effective; if power input is 240VAC 60Hz 32A, dial switch A6 is ineffective.)

ON▲: Power limit is effective. Heater and pump 1 (being on high speed of double speeds) can not work at the same time.

OFF▼: Power limit is ineffective.

A7: (CN10/CN11 output function setting)

ON▲: CN10/CN11 auxiliary power output

OFF▼:CN 10 is its power output when the drain motor is started; CN 11 is its power output when the drain motor is shut off.

A8: (RGB light function setting)

ON▲:Four wire RGB light

OFF▼:Two wire RGB light

A9: (water level sensing function setting)

ON▲: Water level sensing function is effective (pump and heater can only be started when there is water sensed). And water inlet function will be effective.

OFF▼:Water level sensing function is ineffective.

A10: (CN7 output function setting)

ON▲:Auxiliary power output

OFF▼:AC220V ozone output

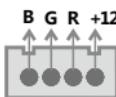
Connect the loads to be used according to load parameter table in the wiring diagram and light connecting diagram.

LOAD PARAMETERS

| HEATER PUMP OPTION | | | | | | | | | | |
|--------------------|-----------|--------------------------------------|--------------|--------|----------|----------|------------------------|---------------|---------------|--------|
| CIRC PUMP | | LOW SPEED OF PUMP1 | | | | | | | | |
| PUMP1 (1 SPD) | CIRC PUMP | PUMP1(2 SPD) | CIRC PUMP | BLOWER | AC OZONE | DC OZONE | LIGHT | AUX POWER1 | AUX POWER2 | |
| 10A MAX | 2.5A MAX | HIGH: 10A MAX LOW: 2.5A MAX | | N/A | 10A MAX | 1A MAX | 12VDC TOTAL 18W MAX | | 1A MAX | 1A MAX |
| CN6 | CN8 | HIGHL-CNB(1) / LOWL-CNB(1) / NCN6(2) | | CN9 | CN7 | CN29 | CN22 | CN10 | CN11 | |

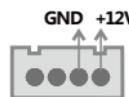
light cable
connection diagram

① 4 wire RGB light



light cable
connection diagram

② 2 wire light



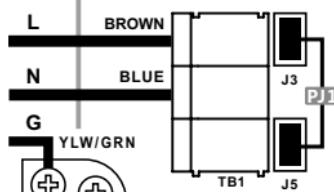


Connect the main power (when the control system is powered off)

Locate the jumper position

Voltage input : 220-240V~
50Hz 1P*16A

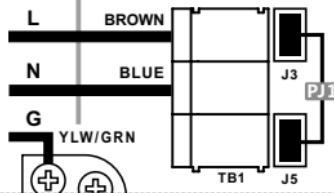
Jumper position
PJ1 J3-J5



Voltage input : 240V~ 60Hz 32A

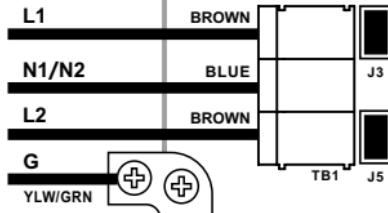
Jumper position

PJ1 J3-J5



Voltage input : 220-240V~
50Hz 2P*16A

Jumper position
N/A N/A



power input setting

When the control system is powered on, press “” and “” at the same time for 2 seconds, to enter power input setting interface. Within 2 seconds, press “” to change the power input.



Information displayed on the panel is as following:

220VAC~240VAC 50Hz 1P*16A (panel LCD displaying CE 1)

220VAC~240VAC 50Hz 2P*16A (panel LCD displaying CE 2)

240VAC 60Hz 32A (panel LCD displaying UL)





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