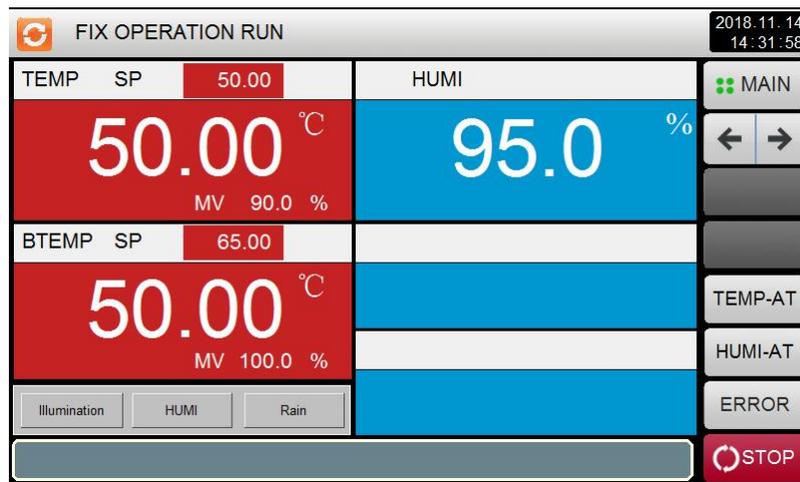


UV-Light Programmable Controller Operation Manual



- Before installing and using the controller, please read the operation manual in detail.
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1. Preface

Thank you very much for purchasing our company's " UV-Light Programmable Controller". This operation instruction is for the daily operation parameters.

Safety precautions record important contents related to safety. Please abide by them.

1、 This controller can work normally in general occasions. If you are worried that the failure or abnormality of this controller will cause serious accidents or damage other equipment, please set up emergency stop circuit and protection circuit to avoid accidents, so as to prevent accidents.

2、 To avoid failure of the controller, please provide the power supply within the rated voltage range.

3、 In order to prevent electric shock or malfunction, please do not turn on the power supply until the installation and connection are finished.

4、 This product is a non-explosion proof product. Please do not use it in a combustible or explosive gas environment.

5、 Never disassemble, process, alter or repair this controller without authorization, otherwise it will cause abnormal action, electric shock or fire hazard.

6、 After switching on the power, please do not touch the power terminals, otherwise there will be electric shock or misaction.

7、 After the power is switched off, the wiring can be removed, otherwise there will be electric shock or misoperation.

8、 When connecting the input of the temperature measuring resistor (PT100), three conductors with equal resistance and less than 10_Ω should be used, otherwise the display error or abnormal action will be caused.

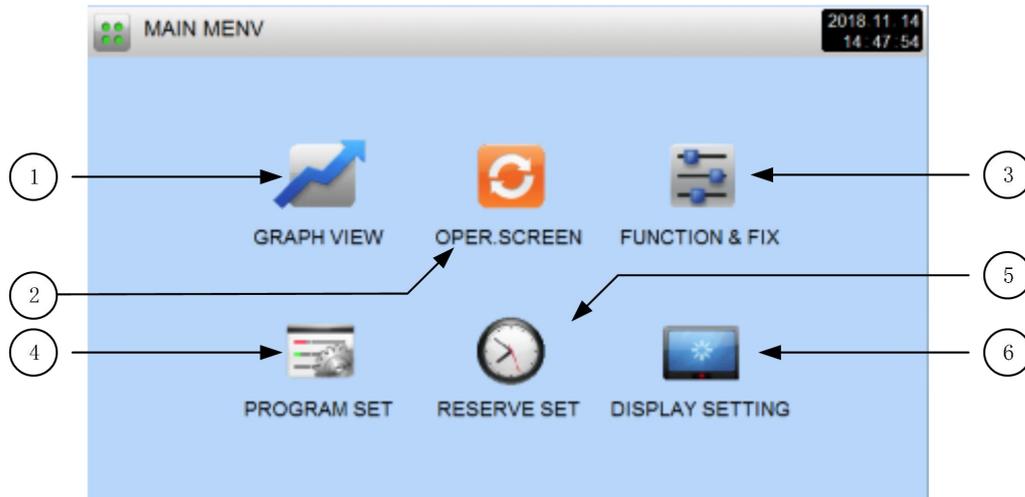
9、 In the operation of the controller, safety should be fully considered before the modification of setting, signal output, start-up, stop and other operations. The wrong operation will cause damage or malfunction of the working equipment.

10、 Please use dry cloth test controller, do not use alcohol, gasoline or other organic solvents, do not dip water on the controller, if the controller is immersed in water, please stop using immediately, otherwise there is a risk of leakage, electric shock or fire.

11、 When discarding this product, please treat it according to industrial waste.

3. MAIN MENU

3.1 OPER.SCREEN



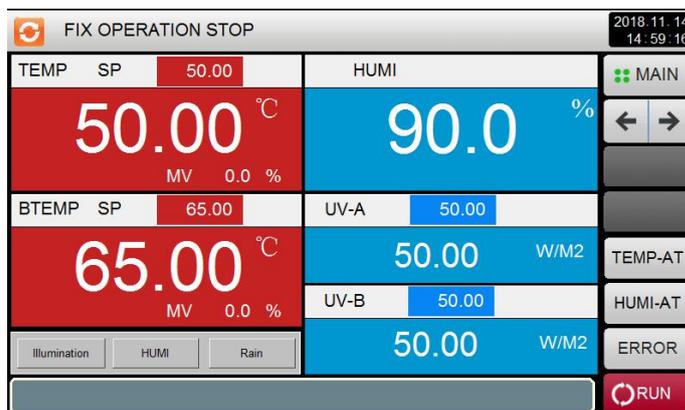
[Figure 3-1] OPER.SCREEN

NO.	Indicative content	Content description
①	curve&save	Switch to curve display and curve storage, and use the SD card to store the Settings Screen.
②	Monitor Screen	Switch to the Run Screen.
③	Operation setting	Set screen to switch function and operation mode.
④	Program group setting	Switch to Program Setting Main screen.
⑤	Reserve set	Switch to the current time and reservation time set.
⑥	Display screen setting	Switch to screen protection time setting and Version screen.

3.2 FIX Operation

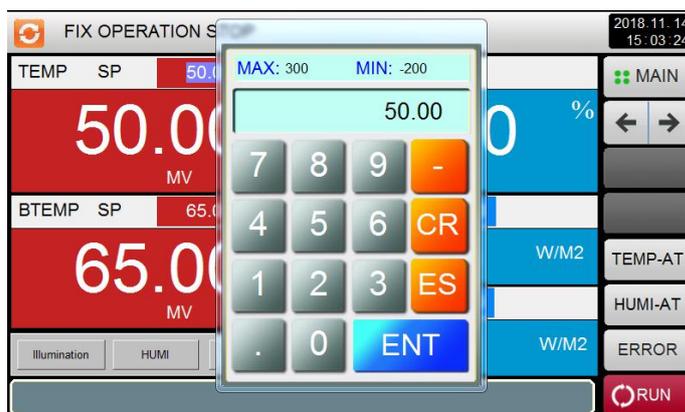
3.2.1 FIX STOP--First Stop Screen

- ▶ [3.1 Main Screen] Select the "monitor screen", You can switch to the " FIX Operation First Running screen".
- ▶ [4. Running operation setting] choose the running mode with "FIX".



[Figure3-2] FIX Stop--First Stop Screen

- ▶ The input and operation of temperature setting are as follows.



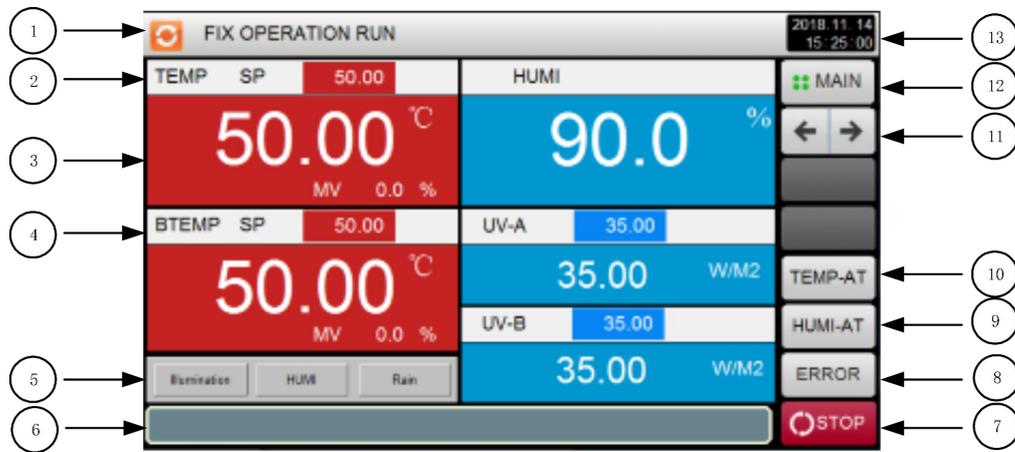
[Figure 3-3] Temperature setting value input box

- ▶ When entering the temperature setting value, click the yellow key on the upper left to activate the temperature setting input box in the Temperature Setting Value Input Box of [Figure 3-3].
- ▶ After entering the temperature setting value, select the "RUN" key on the lower right side and execute the fixed value operation.

Table 3-1. Temperature SP Parameters

Parameter	Range	Unit	Initial Value
Temperature SP	0.00~100.00	°C	25.00
Blackboard temperature SP	0.00~100.00	°C	50.00

3.2.2 FIX Operation--The 1st FIX RUN screen

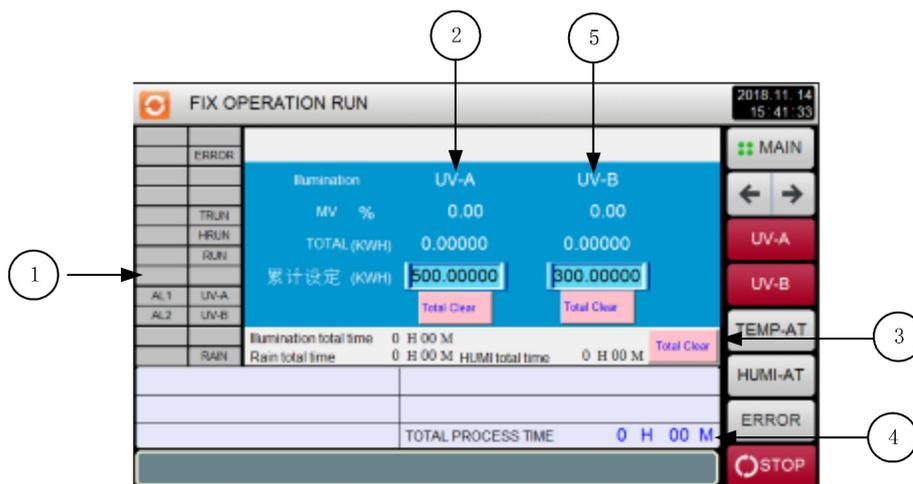


[Figure 3-4] FIX Operation--The 1st FIX RUN screen

- ① The current running state.
 - ② The current temperature setting value.
 - ③ The current temperature and humidity.
 - ④ The current blackboard temperature setting and display values and UV-A, UV-B current value and setting value.
 - ⑤ Indicates the current control type display, red is the controlled object, gray is the uncontrolled object, and blackboard temperature display.
 - ⑥ The real-time fault information display.
 - ⑦ The keys to stop the run of the fixed value.
 - ☞ Display (run) key under a fixed stop screen.
 - ⑧ Switch to the fault query screen.
 - ⑨ 【HUMI-AT】 Humidity self-adjusting button.
 - ⑩ 【TEMP-AT】 Temperature self-adjusting button.
 - ⑪ Switch to the “FIX Operation--The 2nd FIX RUN screen” .
 - ⑫ Switch to the main screen.
 - ⑬ Show the current time / date.
- ※ The ⑨ and ⑩ keys are inactive under the stop operation of the fixed value operation.

3.2.3 FIX Operation--The 2nd FIX RUN screen

- ▶ The display screen of command value, setting value, control output value and lamp action state.



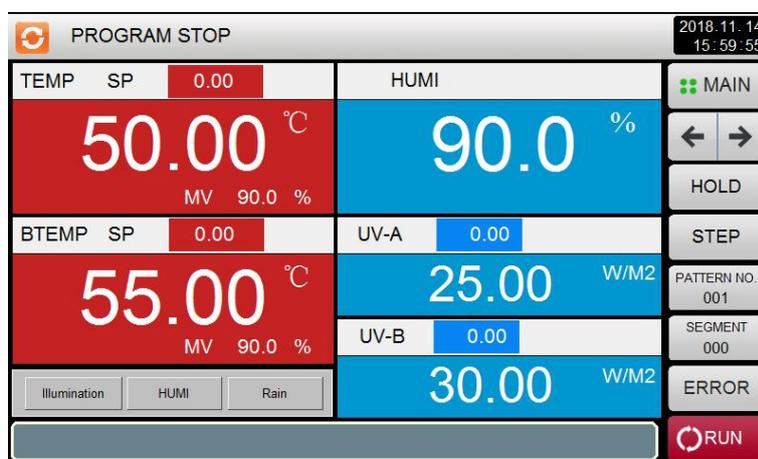
[Figure 3-5] FIX Operation--The 2nd FIX RUN screen

- ① The ON state is expressed in red, and the OFF state is expressed in gray.
- ② The current UV-A control output, accumulative setting and cumulative energy, and the cumulative zero button (long press effective).
- ③ The accumulated time of illumination, cumulative time of condensation, cumulative time of rain and clearing time.
- ④ The total running time.
- ⑤ The current UV-B control output, accumulative setting and cumulative energy, and the cumulative zero button (long press effective).

3.3 PROGRAM Operation

3.3.1 PROGRAM STOP--The 1st Stop Screen

- ▶ [3.1 Main Screen] Select the "Monitor Screen", You can switch to the " Program Operation First running screen".
- ▶ [4. Running operation setting] choose the running mode with "Program".
- ▶ Refer to the [3.1 program group mode] to set mode.
- ▶ [Figure 3-6 PROGRAM STOP--The 1st Stop Screen] Click on the lower right side of the run button to switch to [Figure 3-7 PROGRAM First Running Screen].



[Figure 3-6] PROGRAM STOP--The 1st Stop Screen

3.3.2 PROGRAM Operation--The 1st RUN screen

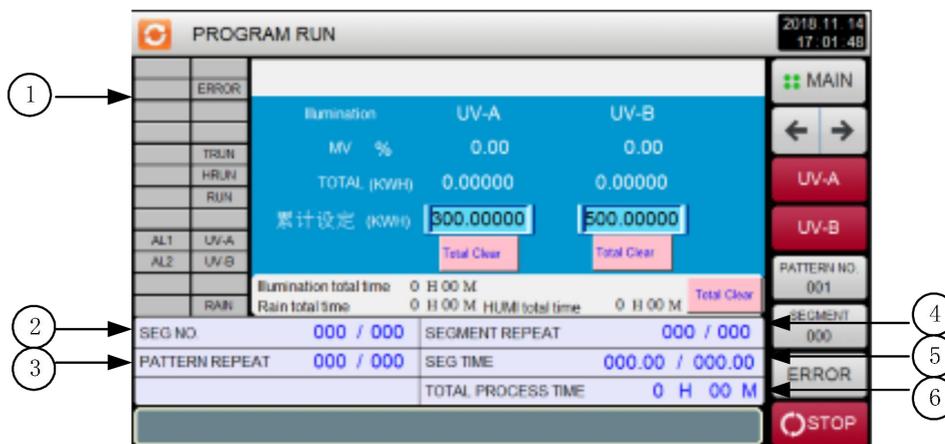


[Figure 3-7] PROGRAM Operation--The 1st RUN screen

- ① The current running state.
- ② The current segment temperature.
- ③ The current temperature and humidity.
- ④ Indicates the current blackboard temperature setting value and current value, UV-A, UV-AD current setting value and display value.
- ⑤ Indicates the current control type display, red is the controlled object, gray is the uncontrolled object and blackboard temperature display.
- ⑥ The real-time fault information display
- ⑦ The keys to stop the run of the fixed value.
- ☞ Display (run) key under a fixed stop screen
- ⑧ Switch to the fault query screen.
- ⑨ The current segment number.
- ⑩ The current pattern number.
- ⑪ Terminates the current active segment and forces it to the next segment.
- ⑫ HOLD ON or HOLD OFF the current temperature set value.
- ⑬ Switch from the current screen to the next screen.
- ⑭ Switch to the “Main Screen” .
- ⑮ Show the current time / date.

3.3.3 PROGRAM Operation--The 2nd RUN screen

► The display screen of command value, setting value, control output value and lamp action state.

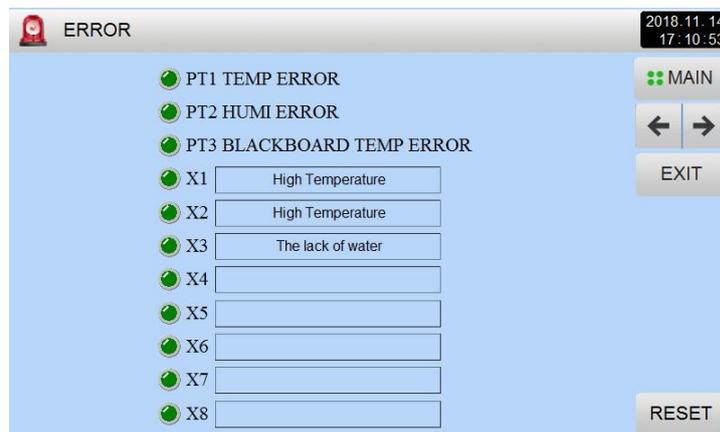


[Figure 3-8] PROGRAM Operation--The 2nd RUN screen

- ① The ON state is expressed in red, and the OFF state is expressed in gray.
- ② The currently running Number of program segments.
 - ☞ [SEG NO.: 000/000] The preceding number indicates the segment that has been executed, and the latter number indicates the setting times.
- ③ The pattern repeated state.
 - ☞ [Pattern repeat : 000/000] The numbers in front represents the number of repetitions that have been executed, and the numbers in the back indicates the number of repetitions.
- ④ Displays segment repeat status.
 - ☞ [Segment Repeat : 000/000] The front number indicates total number for repeat process and the back number indicates completed repeat process number.
- ⑤ Displays the running process time / total process time.
- ⑥ The total time of the current program.

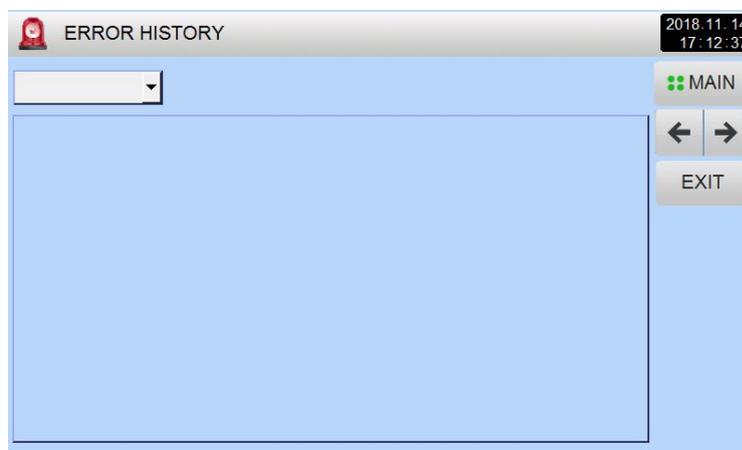
3.4 Fault Display Screen

3.4.1 The Real-Time Fault Display Screen



[Figure 3-9] The real-time fault display screen

3.4.2 The History of the Fault Screen



[Figure 3-10] The History of the Fault Screen

- ① Historical date selection can be used to query past historical failures.

4. Run - Related Operation Settings

► This screen is to set parameters concerned additional function for general operation and FIX operation.



[Figure 4-1] Operation Settings Screen

- ① Setup box to set Operation Mode. (PROGRAM / FIX Operation).
- ② Setting of fixed value type(Light, Dew, Rain).
- ③ Illumination setting.
- ④ Fixed setting time.
- ⑤ Setting rain time, setting rain interval.
- ⑥ Setup box to set Power Stop Mode.

Power Stop Mode is the function to set how to operate after power recovery from failure.

☞ STOP : Operation will stay STOP state after power recovery, and 'OPERATION STOP' will display.

☞ COLD : Same operation before power failure will re-start after recovery power recovery.

☞ HOT : Operation will resume from the running state right before power failure.

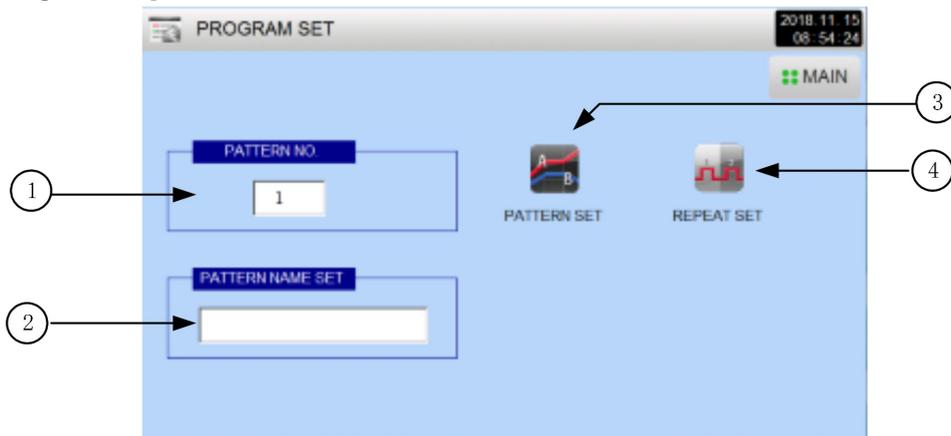
TABLE 4-1. PROGRAM STOP Screen Parameters

Parameters	Range	Unit	Initial Value	Description
OPERATION MODE	FIX ,PROG	--	FIX	☞ Cannot change in operation
Fix Type	TEMP、HUMI、ILLU、RAIN、TURN		HUMI	The five types can be controlled by any combination.
Power Stop Mode	STOP、COLD、HOT		STOP	
Fixed value timing	0.00 ~ 500.00	HH.MM	0.00	When set to 0.00, the fixed time is invalid, and the stop button can stop the unit.
Rain Time	0 ~ 1000	MIN	5	When it is raining, it runs in the rain and

Rain Interval	0 ~ 1000	MIN	5	
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5. PROGRAM SETTING

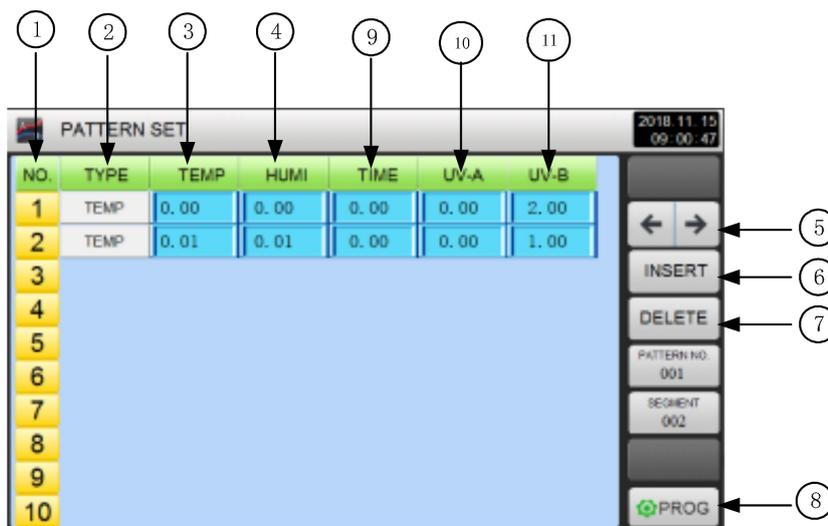
► [5.1 Main Screen] Click the program group to set the key, then switch to the [Figure 3-1 Group Setting Screen].



[Figure 5-1] Program Setting Screen

NO.	Indicative content	Content Description
①	Program group	You can set up 100 groups of programs (1~100)
②	Test name	You can set 30 words
③	Program group editor	Switch to program edit screen
④	Cycle setting	Switch to the cycle setting screen

5.1 Program PATTERN setting



[Figure 5-2] Program PATTERN setting

- ① The segment number.
- ② Set the control type of the segment to be run.
- ③ Set the temperature of the segment to be run.
- ④ Set the condensation temperature of the running segment.
- ⑤ Switch to next group edit screen.
- ⑥ Segment insert button. Press the (INSERT) button, and one segment will be inserted into the pattern.
- ⑦ Segment delete button. Press the (DELETE) button, and one segment will be deleted.
- ⑧ Button to move back to PRORAM SET screen, [Figure 5-1 PROGRAM SET screen].
- ⑨ Setup box to input process time for each segment.
- ⑩ Setup box to input Target Set Point for each segment of UV-A Light intensity value.
- ⑪ Setup box to input Target Set Point for each segment of UV-B Light intensity value.

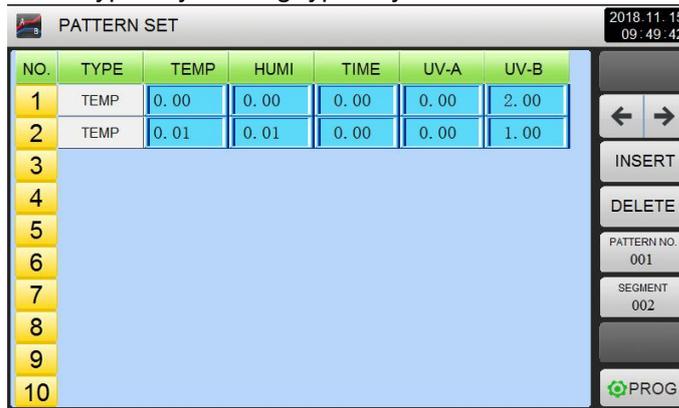
▶ Click the[Program Group] key to display the input box that can set the program number.



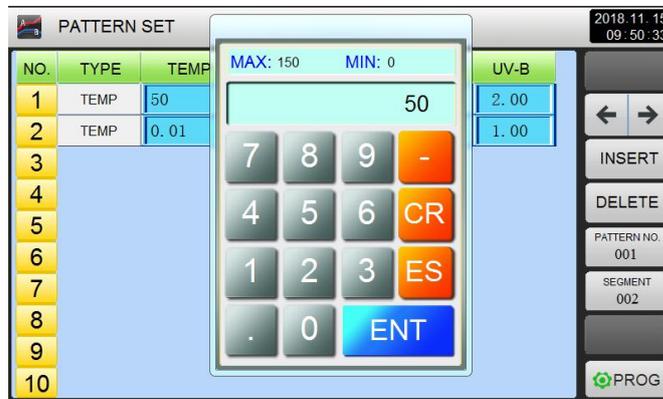
▶ Click the [Test Name] setting key to display the test name setting input box.



► You can switch control types by clicking type keys.



► Click the [Temperature] button to enter the temperature setting input box of the test program.



► Click the [Time] button to enter the test setting input box of the procedure time.

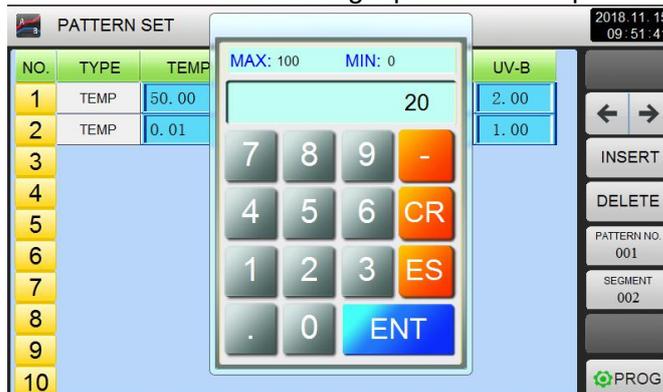
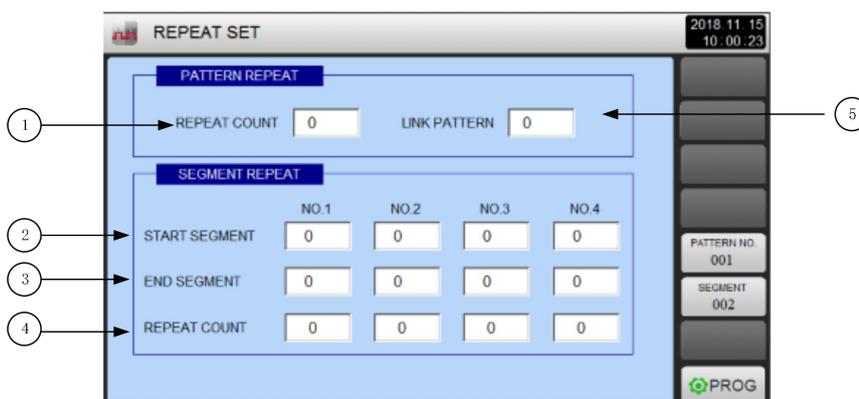


TABLE 5-1. PATTERN SET Parameters

Parameter	Set Range	Unit	Initial Value	Description
PATTERN NUMBER	1 ~ 100	--	1	Set the number of program
Program type	Light、Condensation、Rain、Light+Rain		Light	The four type can be chosen arbitrarily.
TEMP SP of Segment	0.00 ~ 100.00	°C	0.00	
TIME of Segment	0.00 ~ 100.00	Hour.MIN	0.00	
UV-A.B	0.00 ~ 100.00(Can be changed)	W/M2	0.00	

5.2 REPEAT Function

► This screen is to set repeat operation of entire current pattern and partial segment operation after complete of current operation.



[Figure 5-3] REPEAT SET Screen

- ① Setup box to input count number for current entire pattern repeat.
- ② Setup box to input start segment number for partial repeat operation.
- ③ Setup box to input end segment number for partial repeat operation.
- ④ Setup box to input count number for partial repeat operation.
- ⑤ Setup box to input next pattern number to run continually after complete of current operation.

Table 5-2 REPEAT SET Parameters

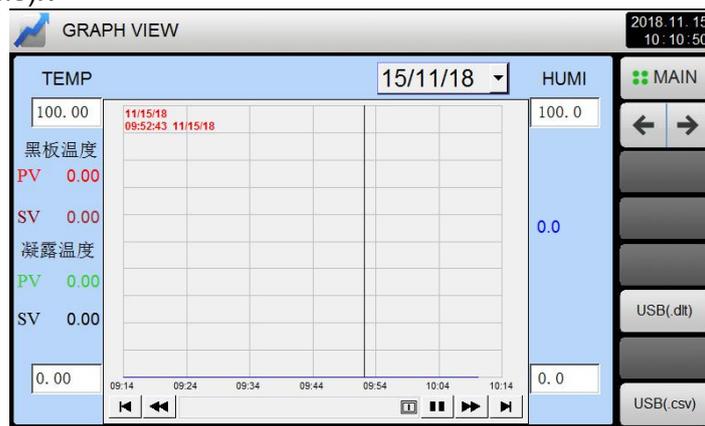
Parameter	Set Range	Initial value	Description	Parameter
REPEAT COUNT	0 (infinite) ~ 999	1	Enter the number of repetitions of the set number of programs that have been set. 🖱️ If you enter "0", you will repeat it indefinitely.	REPEAT COUNT

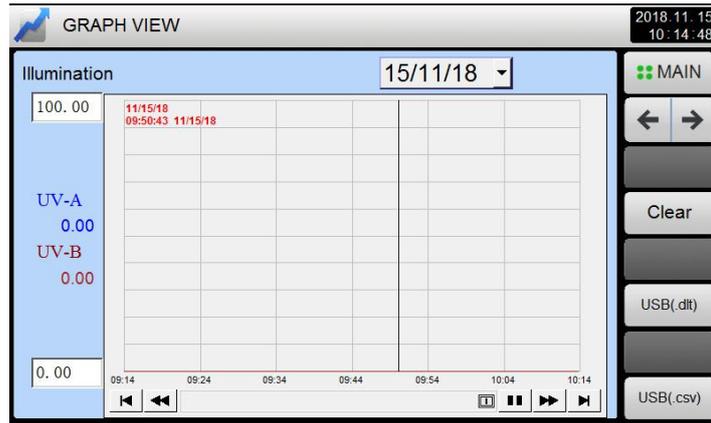
LINK PATTERN	0 ~ 100	0	The number of programs that continue to run at the end of the current group number.	LINK PATTERN
START SEGMENT	0 ~ 100	0	In the set of program group number, part of the program segment that runs repeatedly is set up.	START SEGMENT
END SEGMENT	0 ~ 100	0	In the set of program numbers, part of the program that runs repeatedly is finished.	END SEGMENT
REPEAT COUNT	0 ~ 99	0	The number of repetitions in the set of program groups is set.	REPEAT COUNT

6. Curve Display

▶ [Figure 3-1 Main Screen] Select the [Curve Display] on the upper left side and switch to [Figure 6-1 Curve Display].

▶ During the curve display process, click the curve, (display time , the display and setting of the state at that time).。

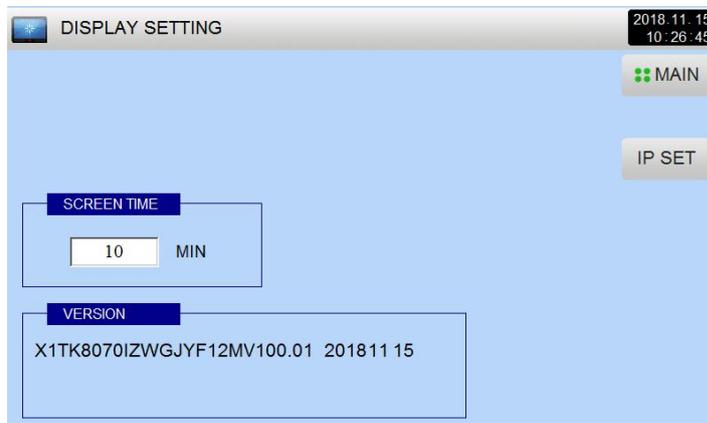




[Figure 6-1]Temp & Light Curve display

- ① The upper limit of the temperature curve.
- ② Current temperature display and setting temperature display.
- ③ The lower limit of the temperature curve.
- ④ Blackboard temperature display.
- ⑤ Light intensity curve display.
- ⑥ Download curve historical data to U disk.
- ⑦ The upper limit of the Light curve.
- ⑧ Current Light display and setting light display.
- ⑨ The lower limit of the Light curve.

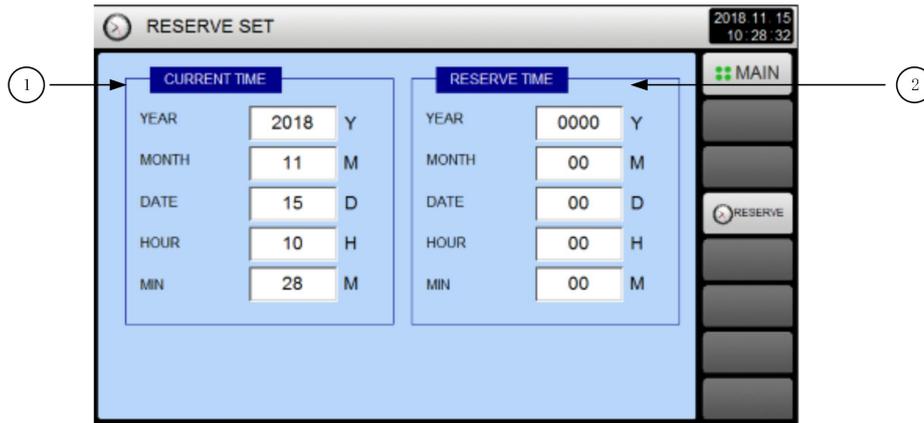
7. Screen Display Setting



- ① Screen protection time set (initial value :10 minutes).
- ② Controller version number.

8. Reserve Setting

- ▶ Set screen of the current time and the appointment time.

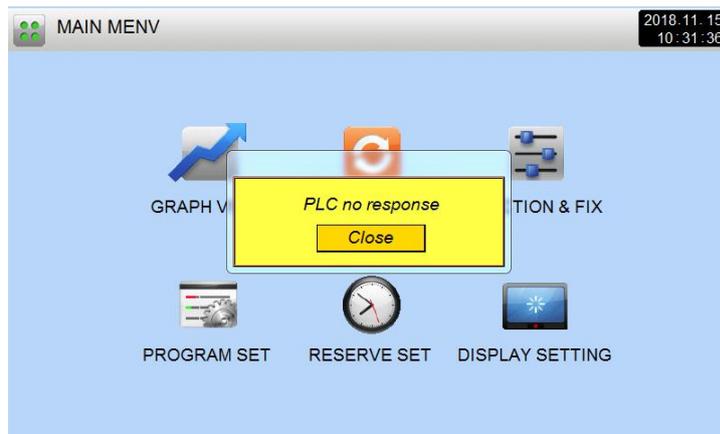


[Figure 8-1] Reserve Setting Screen

- ① Set the current year, month, day and time.
- ② Set the appointment year, month, day and time, click the [appointment] button, and it run at a set time.

9. Communication Fault

- ▶ When the communication fails, the screen will appear the word "PLC no response".



[Figure 9-1] Communication Fault Screen

- ※ Cause of communication interruption
 - ① Poor communication line.
 - ② Poor connection state of communication connection.