Instruction Manual SUNJE

SVC-K24, SVP-K60   (Eng)

It is recommended that only persons who have sufficient knowledge and experience such as system designers and responsible persons deal with this product after carefully reading the product manual.

❶ The matters of safety

⚠ WARNING

* Do not fabricate or do maintenance by yourself. Malfunction, Electric shock, and fire danger are considered. Contact us directly if you need the item to be repaired.
  ⟨A/S is not possible in case of arbitrary disassembly⟩
* Do not let the water touch the product. It may cause electric shock or fire due to malfunction.
* When you check or maintain the product, make it sure you turn off the power.
  It may cause electric shock or fire due to malfunction.
* The item should be fixed to the target tightly. Electric discharging or breakage might happen.
* This device is made only for industrial uses. You need to ground the device beforehand.
  Otherwise, there are in case of malfunction, electric shock, or fire damage.

⚠ CAUTION

* Do not disconnect the output cable with power applied.
  There is a possibility of electric shock or malfunction.
* Connect wires referring to the product manual. Wrong connection can cause failures.
* For your proper cable connection, take a look at the manual 「Installation & Connection」for references. Any disordered connection is detected, the malfunction might arise.
* All cables should be connected all the time. Please careful of cable disconnections. If power or communication cables got damaged, replace them immediately.
  Malfunction and fire danger may happen.
* Do not install the device where the vibration can be detected. Any minor impact or vibration on the device, the malfunction or danger of accident might happen.
* Do not use the item off the range of usage(Electrostatic elimination).
  Malfunction or danger of accident may occur.

❷ Check the package contents

▶ Product compositions
The package includes the following products composition.

Controller
SVC-K24
1ea

RF Power Unit
SVP-K60
1~2ea

* Head Cable
SCC-SM-1-002
5m / 1 ~ 2ea

* RF Power Cable
SRC-VP-1-001
5m / 1 ~ 2ea

* D-Sub Cable
SDC-VC-2-001
25Pin- 9Pin, 5m / 1 ~ 2ea

* Terminal Block
STB-VC-1-001
1 ea

* Power Cable
SPC-MT-1-001
AC 100V, 50/60Hz, 1.8m / 1 ~ 2ea

or

* Power Cable
SPC-MT-2-001
AC 220V, 50/60Hz, 1.8m / 1 ~ 2ea

▶ Option
If you require extra functions with the basic accessories we provided, you need to purchase optional items in below for further assistant.

* Power Cable
SPC-MT-1-001
AC 100V, 50/60Hz, 1.8m / 1ea

* UTP Cable
SUC-B3-1-001
5m

or

* Power Cable
SPC-MT-2-001
AC 220V, 50/60Hz, 1.8m / 1ea

* Adapter
SAD-MT-3-003
DC 24V / 2.5A / 1ea

❸ Nomenclatures of parts

▶ SVC-K24

Front

● Set Button
This button is used for selecting menu and changing settings.

● Enter Button
This Button is used for implementing menu and saving settings.

● LCD Display
Hours of Head use and operation condition will be displayed.

● Run/Stop Button
It is a run/stop button in order to operate a VUV ionizer.

● Indicator Light

LAMP 1 - Green LED	Green LED will be turned on when LAMP 1 is operating.
- Orange LED	Orange LED will be turned on when Overtime Warning is occurred. (Over 1,800h)
- Red LED	Red LED will be turned on when Overtime Alarm is occurred. (Over 2,000h)
LAMP 2 - Green LED	Green LED will be turned on when LAMP 2 is operating.
- Orange LED	Orange LED will be turned on when Overtime Warning is occurred. (Over 1,800h)
- Red LED	Red LED will be turned on when Overtime Alarm is occurred. (Over 2,000h)
INTERLOCK - Green LED	Green LED will be turned on if Interlock is ON

Rear

● Communication Terminal
Use for data communication

● Power Input
Used to power supply.

● VUV Ionizer Connector
A connector to wire the VUV ionizer and controller.

● Signal Input / Output Connector
Use it when various signals (input/output) are necessary.

● Power Switch
The switch to turn on/off the power.

▶ SVP-K60

● D-Sub Connector
A connector to wire the VUV ionizer's(SVH-K60) D-Sub and RF Power Unit (SVP-K60)

● Power Input
Used to power supply.

● Controller Connector
A connector to wire the Controller(SVC-K24) and RF Power Unit(SVP-K60)

● VUV Ionizer Connector
A connector to wire the VUV ionizer(SVH-K60) and RF Power Unit(SVP-K60)

● Power Switch
The switch to turn on/off the power.

● Manual switch terminal
It is a terminal that manually checks for operation.

❹ Installation and connection

▶ How to connect

Connecting Controller and Head

Using the provided cable and Adapter(Option), connecting as below.

RF Power Cable
SRC-VP-1-001

RF Power Cable
SRC-VP-1-001

Head
SVH-K60

Head
SVH-K60

D-Sub Cable
SDC-VC-2-001

D-Sub Cable
SDC-VC-2-001

Power Cable
SPC-MT-1-001 or
SPC-MT-2-001

Power Cable
SPC-MT-1-001 or
SPC-MT-2-001

RF Power Unit
SVP-K60

RF Power Unit
SVP-K60

Head Cable
SCC-SM-1-002

Controller
SVC-K24

24V

Terminal Block
STB-VC-1-001

Adapter
SAD-MT-3-003
(Option)

DC 24V

Power Cable
SPC-MT-1-001 or
SPC-MT-2-001
(Option)

Connecting the Input & Output Signal

Please connect the controller and external machinery equipment with supported "D-Sub Cable".

④ RS-485 (-)
③ RS-485 (+)

UTP Cable (Option)
(SUC-B3-1-001)

⟨ Controller ⟩

Equipment
(PLC, etc.)

D-Sub Cable
(SDC-VC-1-001)
Length : 5m

▶ Connecting the Interface
Use the Signal Cable as chart below.

D-Sub 25PIN

Pin No.	Function	Input/Output	Action
1	#1 RUN Status	Output	When #1 is operating, 0V output(Input "Run" signal)
2	#1 LAMP Status	Output	When #1 is turned on, 0V output(When LAMP On)
3			Reserve
4			Reserve
5	#1 O/T Warning	Output	#1 Over 1,800h using time, 0V output
6	#1 O/T Alarm	Output	#1 Over 2,000h using time, 0V output
7	#2 RUN Status	Output	When #2 is operating, 0V output(Input "Run" signal)
8	#2 LAMP Status	Output	When #2 is turned on, 0V output(When LAMP On)
9			Reserve
10			Reserve
11	#2 O/T Warning	Output	#2 Over 1,800h using time, 0V output
12	#2 O/T Alarm	Output	#2 Over 2,000h using time, 0V output
13	Clock Out	Output	SVC-K24 Operates properly, Clock on (1Hz)
14	#1 Remote On	Input	#1 Remote On Input (0V)
15	#2 Remote On	Input	#2 Remote On Input (0V)
16	Interlock On	Input	Interlock Input (0V)
17	Interlock Status	Output	When Interlock 0V output
18	Power Status	Output	When SVC-K24 Power On,24V output
19	Sense #1	Input	Input 0V, #1,#2 On
20	#1_Power_Status	Output	#1 Head Power Output Monitoring
21	#2_Power_Status	Output	#2 Head Power Output Monitoring
22	EX_P24	Input	Out power (P24) Input
23	EX_P24	Input	Out power (P24) Input
24	EX_P24	Input	Out power (N24) Input
25	EX_P24	Input	Out power (N24) Input

※ External power connection is required when using the interface
Required
• No. 22, 23 : P24 input (24V)
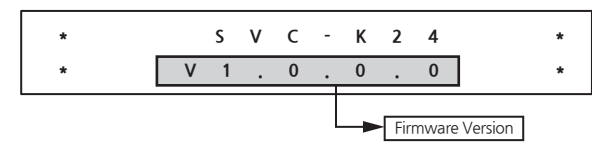• No. 24, 25 : N24 input (0V)

Configuration Example)

⟨ Interlock Off ⟩

16 ≪ P24 (24V)
22
23 P24 (24V)
24
25 N24 (0V)

⟨ Interlock On⟩

16 ≪ N24 (0V)
22
23 P24 (24V)
24
25 N24 (0V)

Output circuit diagram

Interface Output : 24V / 10mA

Vcc

RL

Input RD   Output

5 How to operate SVC-K24

▶ **Operates when power is on**
It switches to the default screen after displaying about 1 seconds.

```
*        S V C - K 2 4        *
*      V 1 . 0 . 0 . 0        *
```
Firmware Version

▶ **Main Screen**

Steady State

Lamp Run

```
L a m p 1 . 0 0 0 0      R U N
L a m p 2 . 0 0 0 0      R U N
```

- Display Lamp1, Lamp2 using time and indicates "RUN" if light the lamp.

Lamp Stop

```
L a m p 1 . 0 0 0 0     S T O P
L a m p 2 . 0 0 0 0     S T O P
```

- Display Lamp1, Lamp2 using time and indicates "STOP" if light no lamp.

Alarm State

Lamp Run

```
L a m p 1 .   A L        R U N
L a m p 2 . 0 0 0 0      R U N
```

Lamp Stop

```
L a m p 1 .   A L       S T O P
L a m p 2 . 0 0 0 0     S T O P
```

- During operating, indicates the Alarm information if Alarm occur.
 → The Head that Alarm occured will indicates Alarm information and using time every 5 sec.
- Indicates Alarm information.
 → Time Warning : "WA" → Time Alarm : "AL"

▶ **Menu**
Press Enter Switch for 2 sec, enter the Menu Page.

```
1 . S e n s e 1   S e t : [ 0 ]
2 . T i m e   R e s e t : [   ]
3 . C t r l   S e t     : [   ]
```

1. Select the Page
- Able to select the Page at Menu Page.
- Select menu sequentially by pressing the Select button. (Scroll up)

2. Change the Page
- Press Enter to enter the selected menu.
- Press Enter Switch for 2 sec, change the Main Page.

Sensor Control Setting

Sensor Control Delay / Run Time Setting

```
D e l a y   T i m e   :   0 0
R u n     T i m e   :   0 0
```

■ How to set
- Blinking will indicate the setting number.
- Setting (0~9) with Select button.
- Change to next digit with Enter button.

■ Setting 0 ~ 99 sec available

■ After the setting is completed, press Enter button over 2 sec.
 → If any setting changes, save the setting information and indicate Power Off.
 → If no setting changes, change to Menu page.

※ What is sensor mode?
This is a function that investigates VUV during the run time after the delay time set in the controller when a sensor signal is input. When using sensor mode, control commands other than sensors are ignored.

Sensor Mode	Remote	RS-485	Switch
On	X	X	X
Off	1	2	3

Initialize hours of use

Lamp1/Lamp2 Using time initialization

```
L a m p 1   R e s e t   :   O F
L a m p 2   R e s e t   :   O F
```
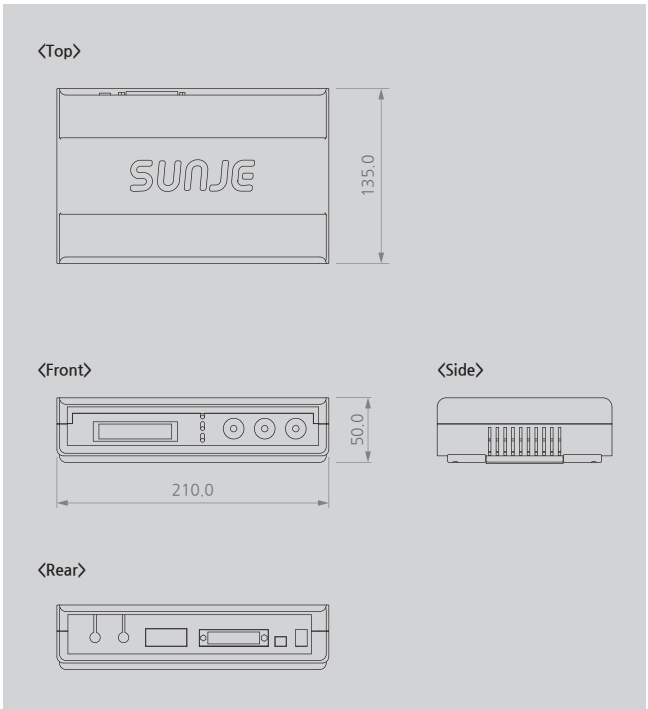
■ How to set
- Blinking will indicate the possible setting digit.
- Setting with Select button. (ON or OF)
- Change to next digit with Enter button.
- Only OF setting is available, if the status is not Overtime Warning or Alarm.

■ When setting is completed, press the Enter button over 2 sec.
 → ON : After Time Reset, Indicate Power Off.
  (Only time will be initialized for the Lamp which is set as Reset ON)
 → OF : Change Menu page (When the setting of Lamp1, Lamp2 is OF)

Operating mode Setting

Set the Controller operating mode

```
I o n   C o n t r o l   :   O F
C o m m   A d d r e s s :   0 1
```
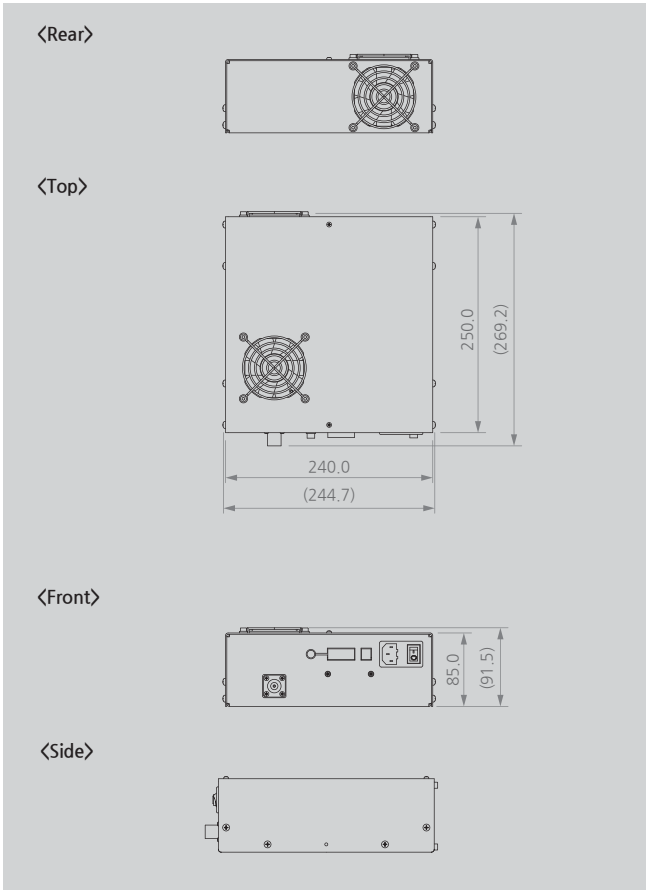
■ How to set
- Blinking will indicate the possible setting digit.
- Setting with Select button.
 → Ion Control (OF : Remote Control / ON : Sensor Control)
 → Comm Address : Setting communication sddress (1 ~ 16)
- Change to next digit with Enter button.

■ When setting is completed, press the Enter button over 2 sec.
 → If any setting changes, save the setting information and indicate Power Off.
 → If no setting changes, change to Menu page.

6 Dimensions

▶ **SVC-K24**

〈Top〉

135.0

〈Front〉   〈Side〉

50.0

210.0

〈Rear〉

▶ **SVP-K60**

〈Rear〉

〈Top〉

250.0
(269.2)

240.0
(244.7)

〈Front〉

85.0
(91.5)

〈Side〉

7 Specification

▶ **SVC-K24**

Parameter		Description / Value
Input Power		24V (± 5%)
Current		Max 1.5A （Lamp 2個連結基準）
Display Specification	LCD	16 X 2 CLCD
	LED	3ea (Lamp1, Lamp2, Interlock)
Local Control	Push Switch	3ea (Set, Enter, Run)
Interface	Input	5ea
		Lamp1/ Lamp2 Remote, Interlock, Sensor Control, Power Input
	Output	11ea
		Lamp1 : Run Status, Lamp Status, Overtime Warning, Overtime Alarm
		Lamp2 : Run Status, Lamp Status, Overtime Warning, Overtime Alarm, Interlock, Power, Clock Out
	Communication	Modbus_RTU支援(Address Map別途提供)
Connectable Lamp		SVH-K24 2ea
Weight		0.62 Kg
Warranty		1 year

※ デザイン及び製品仕様は品質向上のため予告なく変更される場合があります。

▶ **SVP-K60**

Parameter	Description / Value
Input Power	AC 100~240V, 50/60Hz
Power Consumption	Max. 120W
Power Fuse	250V, 3A, 5X20 Glass Type
RF Output Power	60W
Interface	Input : Remote On (Contact)
	Output : Lamp State
Connectable Lamp	SVH-K60 1ea
Cable	RF : N Type, Max 5m
	Power / Signal : D-Sub-9, Max 5m
Weight	2.76 Kg
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

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