

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.

1 The matters of safety

WARNING

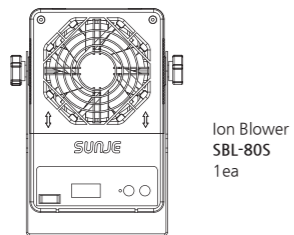
- * If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- * Do not let the water touch the product. It may cause electric shock or fire due to malfunction.
- * When you check or maintain the product, make it sure you turn off the power. It may cause electric shock or fire due to malfunction.
- * Secure the product firmly when you want to secure it. There is a possibility of accident due to fall-over or malfunction, etc.
- * Do not use the product at the place where dangerous material such as inflammable or ignitable material exists. This product is not the product of anti-explosive type.
- * 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 contact the discharge needle or terminal with power applied. There is a possibility of electric shock or malfunction.
- * Handle the discharge needle with care as its tip is very sharp.
- * Connect wires referring to the product manual. Wrong connection can cause failures.
- * Take precautions as cables of the adaptor, the power line and communication line of each product may disconnect. If the cable is damaged, replace it immediately.
- * 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 product for the purpose outside of the range of the product use. If the product is used for the purpose outside of the range of the use, it can result in the trouble or the shortened service life. Or an unexpected problem may occur.

2 Check the package contents

Product compositions
The package includes the following products composition.



- * Adapter (KS65DU-2400250)
SAD-MT-3-004
INPUT: AC100~240V, 50/60Hz
OUTPUT: DC24V, 2.5A
1.5m, 1ea
- * Power Cable
SPC-MT-1-001
AC 100V, 50/60Hz,
1.8m / 1ea
or
* Power Cable
SPC-MT-2-001
AC 220V, 50/60Hz,
1.8m / 1ea
- * Signal Cable
SUC-MT-2-005
1m / 1ea

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

Replacement Part



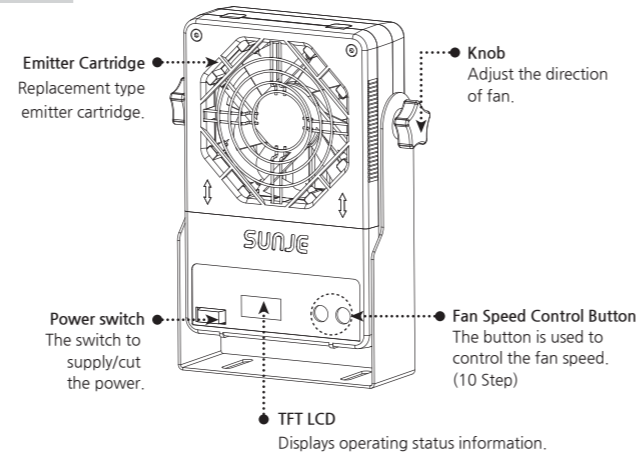
* Emitter Cartridge
SEC-80S-1-001
1ea



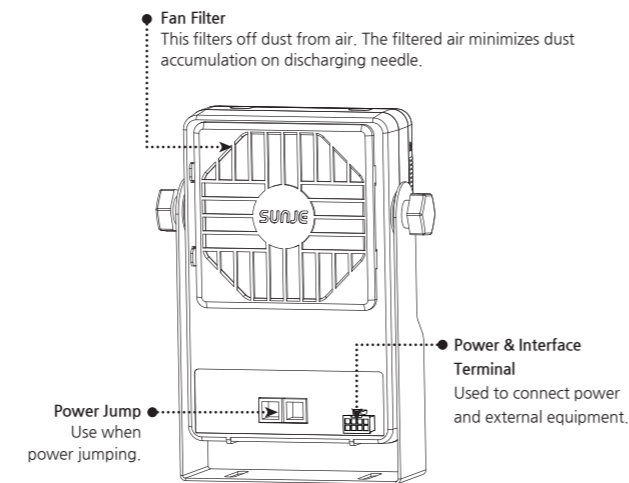
* Extension Cable
SEC-BL-1-001
RJ11-Jack, 1m / 1ea

3 Nomenclatures of parts

Front



Rear



4 Installation and connection

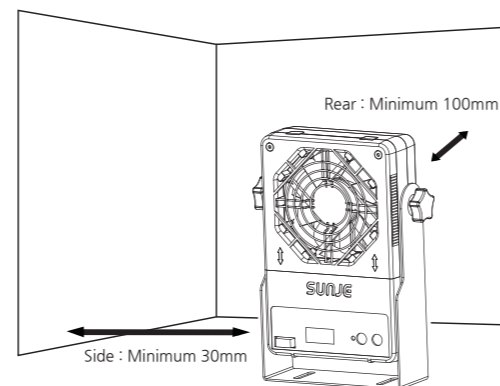
WARNING

- * Please adjust the device in the proper position upon the area you install. The item should be laid on the flat surface.
- * When installing the device, please be aware of high temperature/humidity.
- * If there are any random objects that are closely surrounded or touched the target object, the ionizing performance might decrease. Please consider the area where you install.
- * The performance of device will decrease if the ground is insecurely connected. The proper ground connection is always a first thing to consider.

Caution for installation

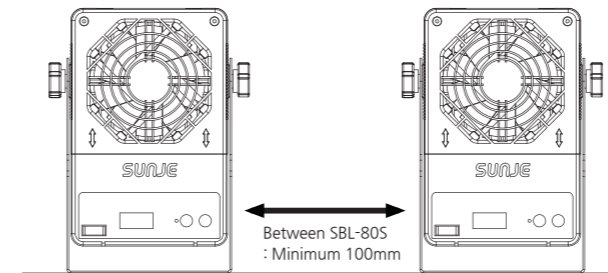
How to basic installation

When installing products, you should leave a space of minimum 30mm on both sides and minimum 100mm on the back.



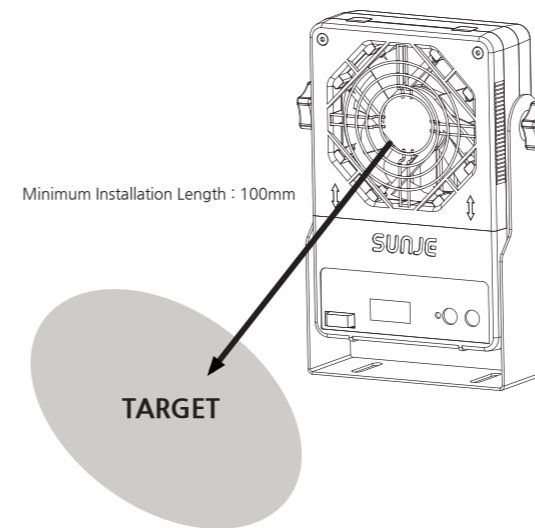
When installing more than two units

When installing more than two units of SBL-80S, leave a space of minimum 100mm between products.



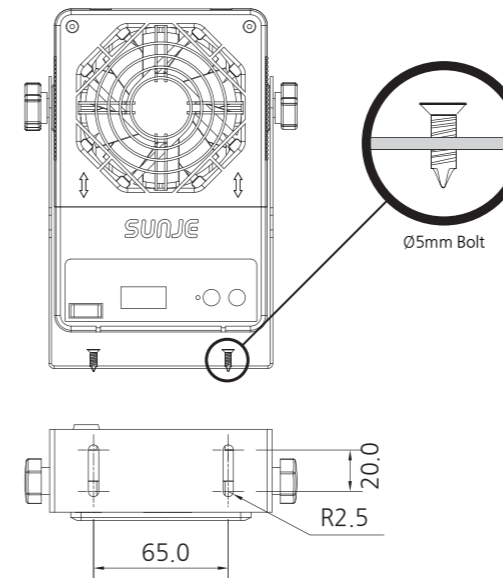
Installation against the target of de-electrification

Install the product with the distance of more than 100mm. When installed within 100mm, the phenomenon of reverse electrification can occur.



Mounting method

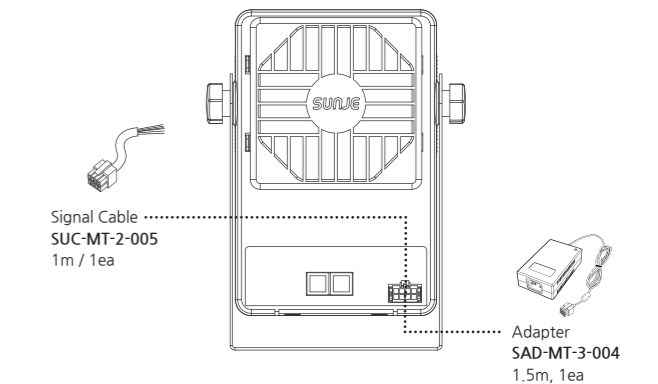
Fix the mount at the place where you want the SBL-80S to be fixed using Ø5mm bolt.



How to connect

How to connect the power and Interface

Refer to the figure below to connect the product.



Connect the Signal Cable (SUC-MT-2-005) when you want to control the SBL-80S from the outside or check its operational status.
No additional adapter is required for connection. (Connect pin 7 FG to 10Ω or less)
Input power for the Adapter is AC 100-240V, 50/60Hz.
The AC Adapter is non-insulated on the input (AC) and output (DC) sides.
Do not use DC power other than this product as it may cause electric shock or failure.

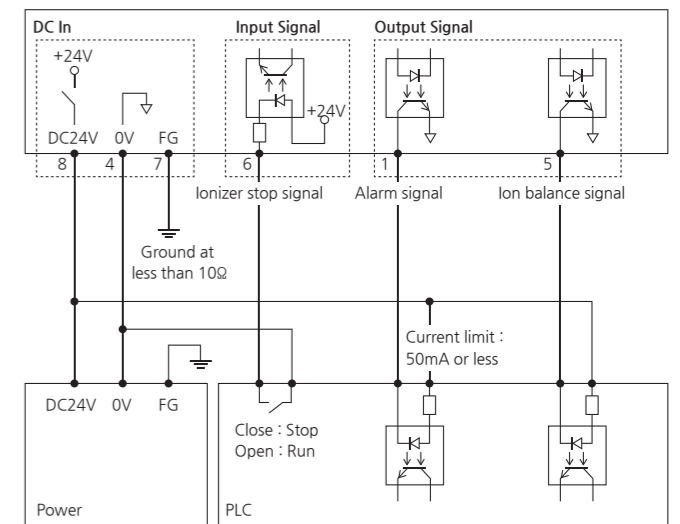
Interface(Signal Cable) Pin Description

For the specification of the signal cable(SUC-MT-2-005) to be used, refer to the table below.

No	Descriptions	Form	Remarks
8	DC 24V Input Power	IN	Connect with input power DC24V
7	FG Ground Cable	IN	Connect with FG of installed equipment (no more than 10Ω)
6	Remote On /Off Ionizer Stop	IN	Product Stop Status Notification when GND and Close are placed. (Stop display on LCD Display)
5	Ion Balance Signal Maintenance	OUT (Contact A)	Contact point is opened with GND to notify status when signal is generated. (LCD Display on MRO display)
4	GND Input Power	IN	Connect with input power 0V
3	NC	-	-
2	NC	-	-
1	Alarm Signal High Voltage, Fan, Emitter Cartridge	OUT (Contact B)	Contact point is opened with GND to notify status when signal is generated. (Indicated separately on the LCD display)

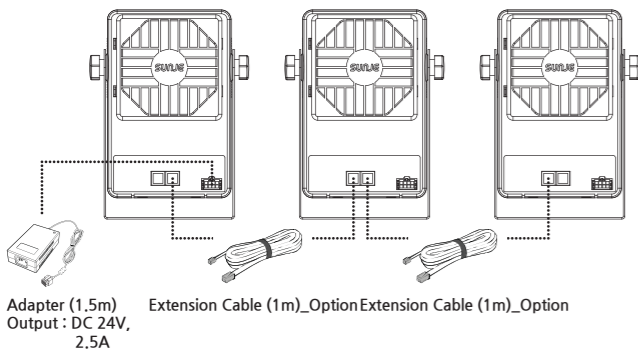
* Auto Balance will not operate when pin 7 is not grounded.

Interface connection diagram



How to connect the Extension Cable

Refer to the figure below to connect the product.



CAUTION

- * For smooth use of the product, the distance between the products should be within 10cm to 1m.
- * For stable product performance and prevention of electric shock accidents, make sure to connect the FG.
- * Use the Extension Cable only as provided and do not perform arbitrary repairs or connections. Failure to comply may result in failure, electric shock, or fire caused by abnormal behavior, and we are not responsible for the accident.
- * Up to three products can be connected.

5 How to set

When the power on

Switch to the main screen after displaying the version.



The main screen displays Fan Speed and Ion Balance.

Displaying Alarm Status and Working with it

State	LCD Display	Solution
High Voltage Abnormal	HVAL	- Cleaning the discharge needle - Power switch Off/On - Replace the emitter cartridge
Fan Abnormal	FANAL	- Power switch Off/On
No emitter cartridge	EMITT	- Check the emitter cartridge installed or not - Replace emitter cartridge if alarm occurs even if properly installed
Maintenance Warning (Ion balance Abnormal)	MRO	- Cleaning the discharge needle - Power switch Off/On - Replace the emitter cartridge

* Make sure to shut down the main power and fix the problem. If the power is on, there is a risk of electric shock and accidents.

Auto Ion Balance

This is a function to maintain Auto Balance with the set offset voltage. It takes up to 15 to 20 minutes to stabilize. (Auto Balance will not work normally if Sensor Cable is not connected)

* Caution

It takes up to 15 to 20 minutes from the completion of the adjustment to a steady state.

6 Maintenance

Maintenance is an essential item for maintaining its capacity. Please conduct a routine maintenance according to the below description. The life time of a discharge needle can be a difference depending on using circumstance. SBL-80S needs a routine maintenance and cleaning in case of bad circumstance. (high humidity or dust) Therefore, the discharge needle is recommended to be cleaned regularly. (At least once a month)

CAUTION

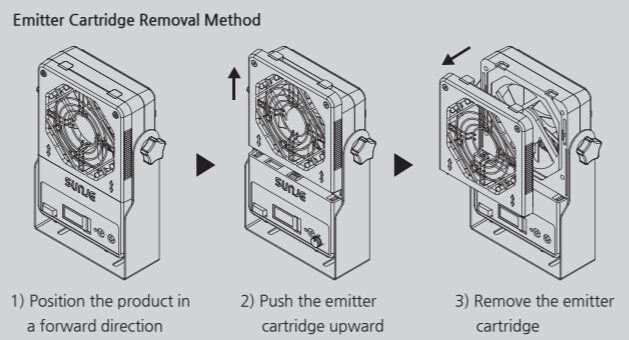
- * This device uses the high level of voltage. When operating maintenance, please power off and unplug the device. Otherwise, there might be in case of electric shock or fire damage.
- * The discharge needle is very sharp at the edge. Do not physically (directly) touch the discharge needle.
- * Do not remove the emitter cartridge when the product is operating. There is a risk of electric shock and accident.

Discharge needle cleaning

- Be sure to power off before cleaning the ionizer.
- Please separating emitter cartridge of a SBL-80S front side.
- Soak the cotton swab with alcohol. (do not use acetone)
- Put the swab on the discharge needle and wipe it turning the swab right and left. (take precautions not to apply severe force to the discharge needle.)
- Replace the damaged discharge needle.
- After the cleaning, let the alcohol applied to the discharge needle surface evaporate completely and then combine the emitter cartridge.
- Please record the cleaning process as a reference in the file.

Replacing the emitter cartridge

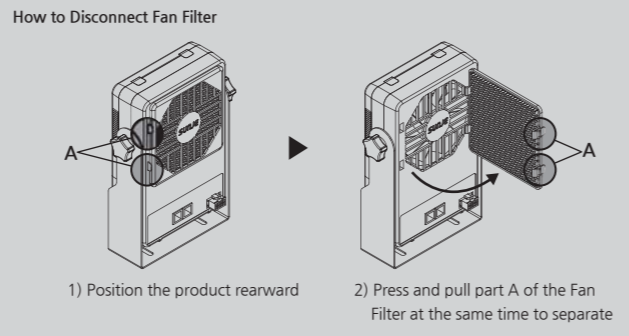
- Replace the broken or severely damaged discharge needle.
- Remove the emitter cartridge by pushing it upward on the product.
- Combine the new emitter cartridges until they click in reverse order to "b". When replacing, please be careful not to touch edge of the needle it might break easily.
- The discharge needle is very sharp at the edge. Do not physically (directly) touch the discharge needle.
- The general cycle of needle replacement is one year, however, it can vary depending on the environment of use.



* You can assemble the emitter cartridge engagement in the reverse order of the separation method.

Fan Filter cleaning

- Be sure to power off before cleaning the ionizer.
 - Please remove the filter from the fan filter case of SBL-80S back side.
 - Wash the filter in the running water.
 - Completely dry the filter and insert it into the fan filter case.
 - In case the fan filter is severely damaged, replace it.
- * We recommend you to clean it once a week.



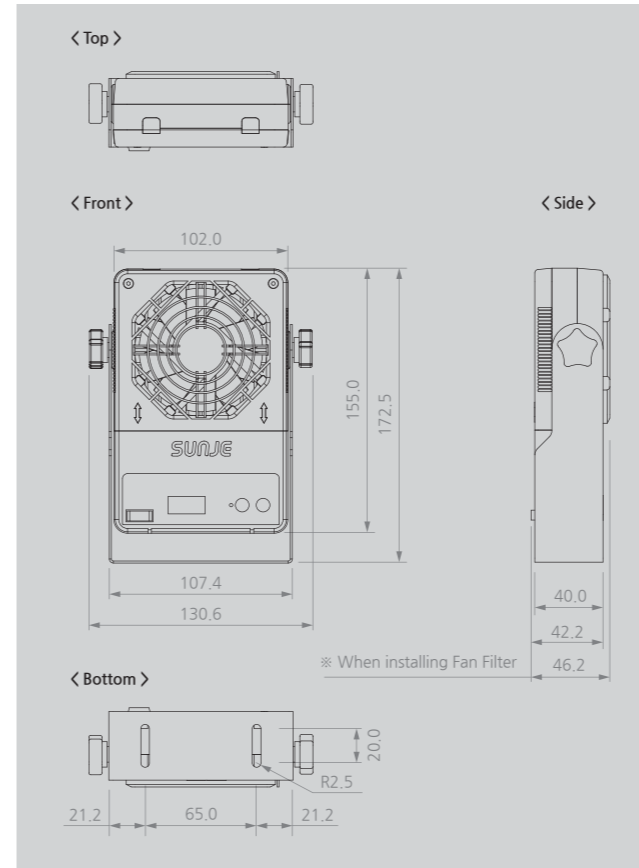
* You can assemble the Fan Filter coupling in the reverse order of the separation method.

7 Problem solving

Checklist before called

Problem	Identifying Problem	Solution
The product does not work.	Is your power cable still plugged in?	Please re-plug the power cable and then turn the device on again.
	Was the proper voltage level applied for this set-up?	Please use the proper level of power input for the device. (AC 100~240V, 50/60Hz)
	Is the switch off at back of the device?	Turn on the power switch.
There is no ionization.	Is there any conductive material around the device?	Please refer to 'Installation & Connection' for setting the proper target distance from the device.
	Does the installed environment have too high/low level of humidity or temperature?	Please install the device upon the proper working specification.
The ionizing performance has been decreased.	Can't possibly ground the device?	Please refer to 'Installation & Connection' for (proper) grounding the device.
	Any damages or cut on the cables?	You need to replace the cables if it gets cut or damaged.
	Any contamination on the discharge needle?	Please refer to 'Maintenance' for cleaning the discharge needle.

8 Dimensions



9 Specification

Parameter	Description / Value	Remarks
Input Power	DC 24V ±5%	Adaptor (AC 110~240V, 1.5A, 50/60Hz, DC 24V, 2.5A)
Current Consumption	0.7A or less	Fan Speed Max
Power Consumption	17W	DC24V
Ion-Generation Method	Steady-State DC	
Air Flow	2.2m ³ /min	
Noise Level	65dB	Distance 1M (Max Fan Speed)
Ion Balance(Offset Level)	±5V	Auto Balance, Valum Offset Level Control
Operation Circumstance	0°C~+50°C, 35%~80%	Need to be no dew condensation
Main Body Material	ABS	
Electrode Material	Tungsten	
Funtion	Up/Down Switch FanSpeed	
Weight	0.58kg	With Bracket
Display	TFT LCD	Ion Balance, Fan Speed, Alarm
Alarm Funtion	Emitter Cartridge, Fan, Ion Balance, High Voltage	
Interface	Alarm, Power On/Off, FG	
Warranty	1Year	

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

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