

Instruction Manual

SUNJE

SBP-2N

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.

1 The matters of safety

WARNING

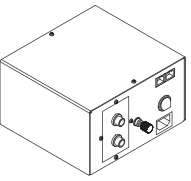
- * If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- * Do not let the water touch the product.
It may cause electric shock or fire due to malfunction.
- * When you check or maintain the product, make it sure you turn off the power.
It may cause electric shock or fire due to malfunction.
- * The item should be fixed to the target tightly.
Electric discharging or breakage might happen.
- * 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 disconnect the controller 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.

2 Check the package contents


- ▶ Product compositions
- The package includes the following products composition.



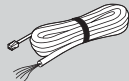
Controller
SBP-2N
1ea



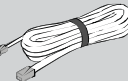
Power Cable
SPC-MT-1-001
AC 100V, 50/60Hz,
1.8m / 1ea




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



Signal Cable
SUC-MT-2-001
5m



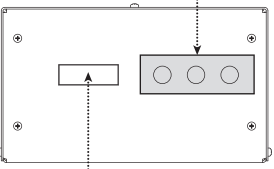
UTP Cable
SUC-B3-1-001
5m




Ground Cable
SGC-MT-6-001
1m / Ø4-Ø6[mm] /
1~2ea

3 Nomenclatures of parts

Front

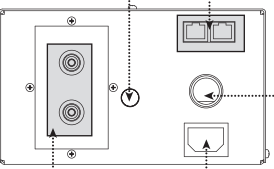


- Settings Buttons
Used to set the ionizer.
- Display
Can check the status of the controller & Ionizer's operation.



- 1. TX (Red) / RX (Green)
- 2. Tip Clean Alarm
- 3. HV Alarm
- 4. Pos. Freq
- 5. Neg. Freq
- 6. Show the menu and alarm.

Rear



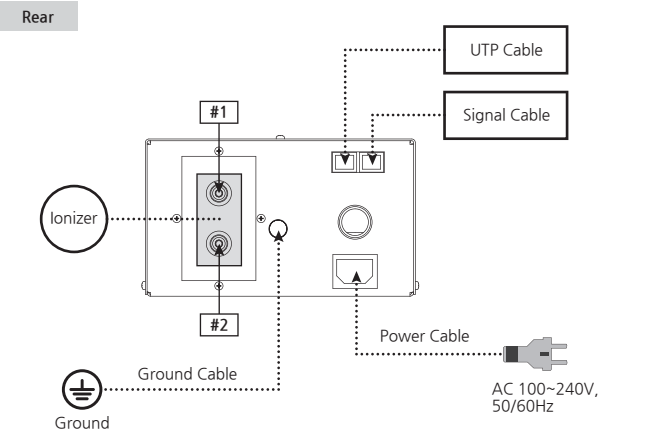
- Ground Terminal
Used to connect the ground cable.
- Interface Terminal
When user wants to control run/alarm output, remote(On/Off), or RS485 communication.
- Power Switch
The switch to turn on/off the power.
- Connector
A connector to wire the ionizer and controller.
- Power Connector (AC IN)
Used to power supply.

4 Installation and connection

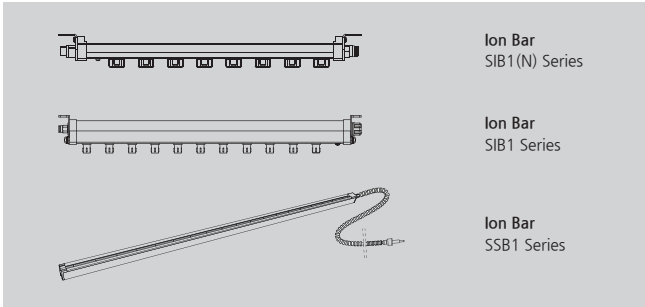
CAUTION

- * During installation, please try to avoid the area where the product might get(electrical) stress. There might be chances for cable breakage, electric shock, or fire explosion.
- * Please be sure to use a ground cable for safety purposes.

- ▶ How to connect
- Refer to the figure below to connect the product.



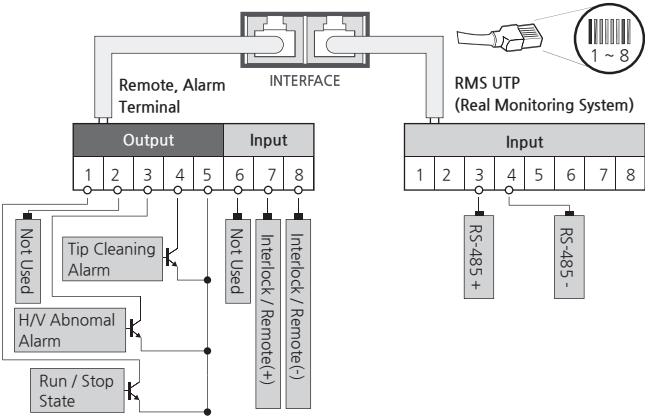
- ▶ Connectable products
- The SBP-2N Series can be connected to the (multiple) products as below.



- ▶ How to connect the interface (Signal Cable)
- For the specification of the signal cable to be used, refer to the table below.

RS-485 & Interface Terminal

This is a terminal for controlling RS-485 data communication, the status (operation/stop) of the Ion Bar, alarm output (Over current Alarm, Tip cleaning timer Alarm), and Remote On/Off.



No	Color	Descriptions
1	Brown	Not Used
2	White & Brown	
3	Orange	
4	White & Orange	RS-485+
5	Green	RS-485-
6	White & Green	Not Used
7	Blue	
8	White & Blue	

No	Color	Function	Output	Picture
1	Brown	Run / Stop State	Photo Relay Output (Run-Close, Stop-Open)	Run / Stop
2	White & Brown	-	-	-
3	Orange	High Voltage Abnormal	Photo Relay Output (Normal-Open, Alarm-Close)	Normal / Alarm
4	White & Orange	Tip Cleaning Alarm	Photo Relay Output (Normal- Open, Alarm-Close)	Normal / Alarm
5	Green	Common	-	-
6	White & Green	-	-	-
7	Blue	Remote(+)	DC 24V	-
8	White & Blue	Remote(-)	Ground	-

※ The remote stops when the input signal (DC24V) is received.

▶ Communication Protocol

1. DATA Request														
Byte	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Code	\$	B	C	,	R	E	Q	,	A	*	h	h	Wr	Wn

Byte	Information	Byte	Comment	Remarks
0	Start Code	1		
1	Product Type	1	B(Bar Type Ionizer)	A:Photo, B:Bar, C:Blower
2	Ionizer Model	1	C	SBP-N Series
4, 5, 6	Data Request	3	REQ	Command(REQ,RUN,STP)
8	Bar Address	1	1,2,3,4,5,6,7,8,9,A,B,C,D,E,F,G	1 ~ 16 : '1' ~ 'G'
9	End Code	1		
10, 11	Check Sum	2	Check Sum	
12, 13	Line Feed, New Line	2		

1. DATA Receive														
Byte	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Code	\$	B	C	,	A	,	1F	,	1D	,	1H	,	2F	,
Byte	14	15	16	17	18	19	20	21	22	23	24	25		
Code	2D	,	2H	,	A/S	,	R/S	*	h	h	Wr	Wn		

Byte	Information	Byte	Comment	Remarks
0	Start Code	1		
1	Product Type	1	B(Bar Type Ionizer)	A:Photo, B:Bar, C:Blower
2	Ionizer Model	1	C	SBP-N Series
4	Address	1	1,2,3,4,5,6,7,8,9,A,B,C,D,E,F,G	1 ~ 16 : '1' ~ 'G'
6	HV1 Frequency	1	0,1,2,3,4,5,6,7,8,9,A,B,C	0.1,0.3,1,3,5,8,10,20,30,35,40,50Hz : '0'~'9', 'A'~'C'
8	HV1 Duty	1	ASCII : 'c' [40] ~ 'd' [100]	40 ~ 70%
10	HV1 High Voltage	1	1 ~ 10	1 : 8.0 ~ 10 : 12.5
12	HV2 Frequency	1	0,1,2,3,4,5,6,7,8,9,A,B,C	0.1,0.3,1,3,5,8,10,20,30,35,40,50Hz : '0'~'9', 'A'~'C'
14	HV2 Duty	1	ASCII : 'c' [40] ~ 'd' [100]	40 ~ 70%
16	HV2 High Voltage	1	1 ~ 10	1 : 8.0 ~ 10 : 12.5
18	Alarm State	1	Normal : 0, HV1-AL : 1, HV2-AL : 2, HVALL-AL : 3, TipClean : 4	
20	Run/Stop State	1	Stop : 0, Run : 1, HV1-AL : 2, HV2-AL : 3	
21	End Code	1		
22, 23	Check Sum	2	Check Sum	
24, 25	Carriage Return, Line Feed	2		

※ 12, 14, 16 Byte '_' in 2-channel (HV2) mode

1. Comm Sample	
Request	\$BC, REQ, 9*0FWrWn
Receive	\$BC, 9, 6, <, 6, 6, <, 6, 0, 1*6CWrWn

- Addr : 9
- Bar 1 Freq : 6(10Hz) = Bar 2
- Bar 1 Duty : <(60%) = Bar 2
- Bar 1 HV : 6(10.5kvpv) = Bar 2
- Alarm : 0(Normal)
- Run/Stop : 1(Run)

