

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.

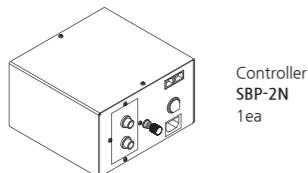
CAUTION

- * 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

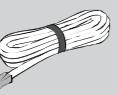
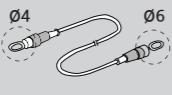
Product compositions

The package includes the following products composition.

Controller
SBP-2N
1ea

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

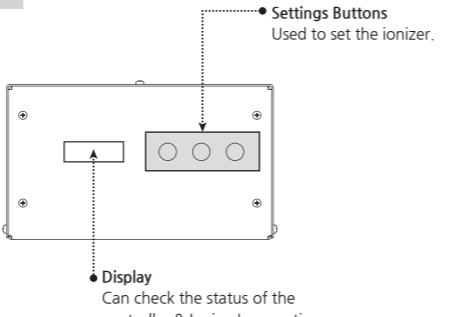
Power Cable
SPC-MT-2-001
AC 220V, 50/60Hz,
1.8m / 1ea

Signal Cable
SUC-MT-2-001
5mUTP Cable
SUC-B3-1-001
5m

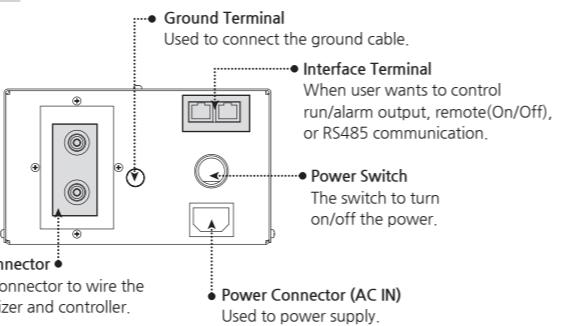
Ground Cable
SGC-MT-6-001
1m / Ø4-Ø6[mm] /
1~2ea

3 Nomenclature of parts

Front



Rear



4 Installation and connection

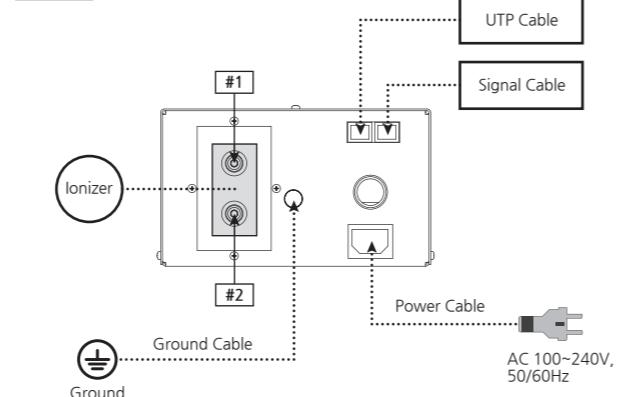
CAUTION

- * 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

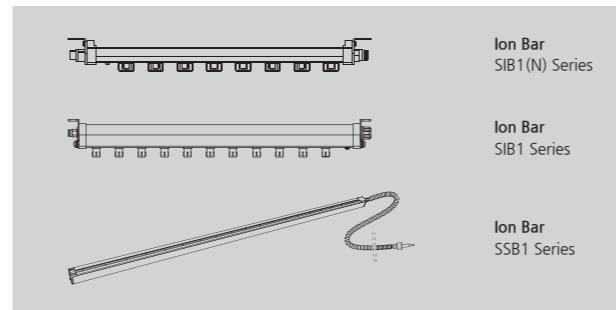
Refer to the figure below to connect the product.

Rear



Connectable products

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

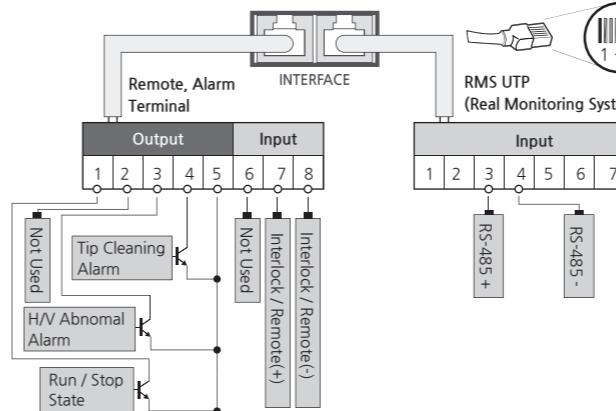


How to connect the interface (Signal Cable)

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.



RMS UTP (Real Monitoring System)

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

Remote, Alarm Terminal

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,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		

No	Color	Function	Output	Picture
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,A,B,C	1 ~ 16 : '1' ~ 'G'
6	HV1 Frequency	1	0,1,2,3,4,5,6,7,8,9,A,B,C	0,1,0,3,1,3,5,6,7,8,9,10,20,30,35,40,50Hz : '0'~'9', 'A'~'C'
8	HV1 Duty	1	ASCII : '0' [40] ~ 'd' [100]	40 ~ 70%
10	HV2 Frequency	1	1 ~ 10	1 : 8.0 ~ 10 : 12.5
12	HV2 Frequency	1	0,1,2,3,4,5,6,7,8,A,B,C	0,1,0,3,1,3,5,6,7,8,9,A,B,C,40,50Hz : '0'~'9', 'A'~'C'
14	HV2 Duty	1	ASCII : '0' [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(10.5kvpp) = Bar 2
- Alarm : 0(Nominal)
- Run/Stop : 1(Run)

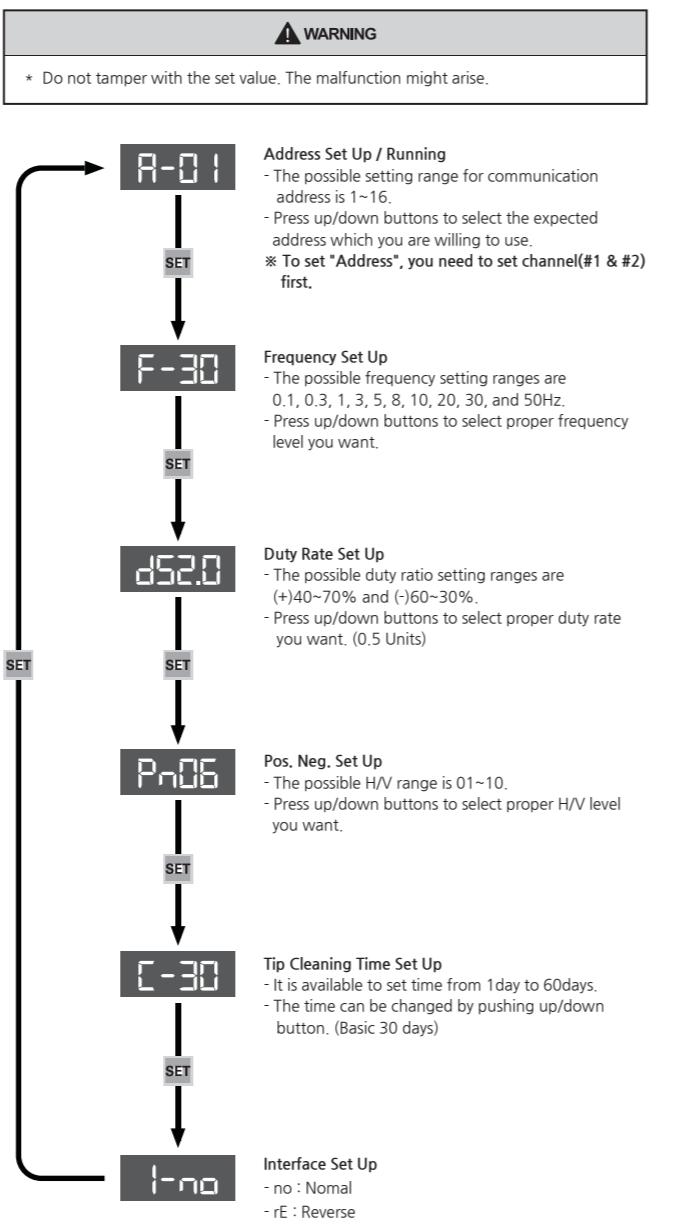
2. Control [Run]														
Byte	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Code	\$	B	C	,	R	U	N	,	A	*	h	h	Wr	Wn

2. No Receive													
---------------	--	--	--	--	--	--	--	--	--	--	--	--	--

3. Control [Stop]														
Byte	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Code	\$	B	C	,	S	T	P	,	A	*	h	h	Wr	Wn

3. No Receive													
---------------	--	--	--	--	--	--	--	--	--	--	--	--	--

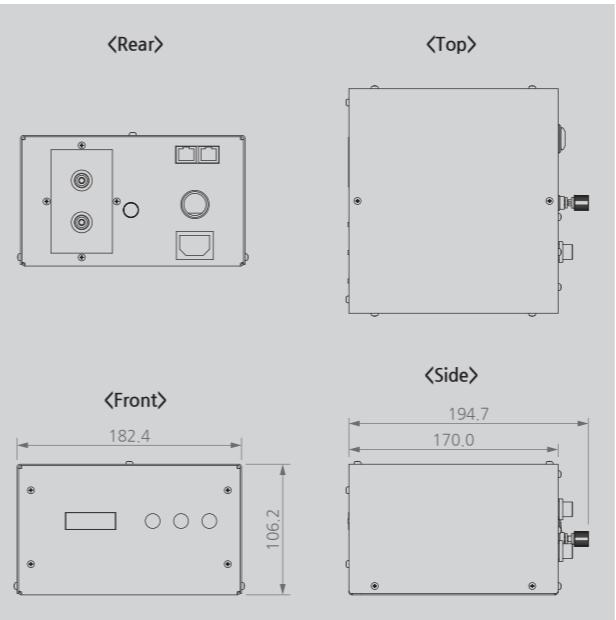
Checksum Calculation													
\$ ~ * Calculation													
#include<stdio.h>													
Void main()													
{													
char packet[] = "BC,REQ,1", cksum = 0;													
int i, size = 0;													
while(packet[size] != 'W0') size++;													
for(i = 0 ; i < size ; i++)													
{													
if(i == 0)													
cksum = packet[i];													
else													
cksum^= packet[i];													
//printf("packet[%d] = %c, checksum = %.2X\n", i, packet[i], cksum);													
}													
printf("Request : \$BC,REQ,1%2X,cksum); //Checksum character send by ASCII.													

5 How to set**6 Alarm status information**

AL-1	: HV1- Alarm	AL-2	: HV2- Alarm
AL-3	: HVALL- Alarm	AL-4	: Tip Clean Alarm

6 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.
	Is a fuse broken?	Replace the proper fuse immediately. (250V, 1A)
There is no ionization.	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 grounding the device.
	Any damages or cut on the cables?	You need to replace the cables if it gets cut or damaged.

7 Dimensions**8 Specification**

Parameter	Description / Value						
Input Power	AC 100~240V, 50/60Hz						
Output Voltage	Pulse AC 13 kVp-p(Max.)						
Power Consumption	30W						
Weight	2.11kg						
Main Body Material	EGI						
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH						
Adjust Function	<table border="1"> <tr> <td>Frequency [Hz]</td> <td>0.1, 0.3, 1, 3, 5, 8, 10, 20, 30, 50(10Steps)</td> </tr> <tr> <td>Duty Ratio [%]</td> <td>40~70(0.5 Unit)</td> </tr> <tr> <td>High Voltage [Level]</td> <td>H : 1~10(1 Unit)</td> </tr> </table>	Frequency [Hz]	0.1, 0.3, 1, 3, 5, 8, 10, 20, 30, 50(10Steps)	Duty Ratio [%]	40~70(0.5 Unit)	High Voltage [Level]	H : 1~10(1 Unit)
Frequency [Hz]	0.1, 0.3, 1, 3, 5, 8, 10, 20, 30, 50(10Steps)						
Duty Ratio [%]	40~70(0.5 Unit)						
High Voltage [Level]	H : 1~10(1 Unit)						
Interface	Remote On/Off, Run State, H/V Alarm State, RS485						
Warranty	1 year						

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

SUNJE Hi-Tek Co., Ltd.

www.sunstat.com

Head Office & Factory (Busan)
8 Cheonggwang-gil, Ilgwang-eup,
Gijang-Gun, Busan, Korea
T) +82-51-720-7501

Sunje (SHANGHAI) Trading Co.,Ltd.
205B, Building A, No.1018 Mingzhu Road,
Qingpu District, Shanghai, China
T) +86-21-5433-9761 F) +86-21-5433-9762

Sales Headquarter (Osan)
3rd floor, 129-20, Gyeonggi-daero 632
beon-gil, Osan-si, Gyeonggi-do, Korea
T) +82-31-203-9034 F) +82-31-202-9034
Product & Quotation Inquiries
+82-51-720-7529

Sunje Technology Co., Ltd.
2F, No.6, Lane 102, Sinhe Rd, Sinfong
Township, Hsinchu County, Taiwan 30472
T) +886-3-568-7891 F) +886-3-568-7950
Technical Support & A/S
+82-51-720-7519