

# Instruction Manual

SUNJE HI-TEK CO., LTD



SIB-EX Series



Eng

Please read this manual fully before you may install or put the product into operation. Follow the instructions of the manual in depth to ensure proper operation of the product and to be able to invoke guarantee. The guarantee terms are mentioned in the General Conditions for the Sale and Delivery of Products and/or Performance of Activities by SUNJE.

## 1 The matters of safety

### WARNING

- \* SIB-EX Series anti-static ion bars are only designed to eliminate electrostatic problems.
- \* SIB-EX Series anti-static ion bar may be used in an explosion or hazardous environment for Gas group IIB and temperature class T6 (see Table 1)
- \* Electrical installation must be performed by a skilled electrical engineer.
- \* When installing the product on the equipment :  
Please turn off the equipment and make sure that it stays in 0V.
- \* Make sure that the equipment is properly earth grounded.  
To ensure proper operation of the product and to avoid electrical shocks via contacting, the earth grounding is necessary, by means of mains voltage connection.
- \* If any changes, adjustments, and etc. have been made without prior consent in writing, guarantee can no longer be available for the equipment.
- \* Repairs must be performed(only) by SUNJE.
- \* Please use wet cotton to clean the device in order to protect explosion from the electrostatic problem.

| Temperature Class                | T1  | T2  | T3  | T4  | T5  | T6 |
|----------------------------------|-----|-----|-----|-----|-----|----|
| Maximum surface Temperature (°C) | 450 | 300 | 200 | 135 | 100 | 85 |

▶ Table 1 : Classification of maximum surface temperatures for Group II electrical apparatus

## 2 Check the package contents

### Product compositions

The package includes the following products composition.



Ion Bar  
SIB-EX Series / 1ea  
※ In SIB-\*\*\*EX, \*\*\* is the length of product.  
(If 4 digits, it is written as SIB-\*\*\*\*EX)

- \* Connector Plug (For SBP-07A2) SCP-EX-001 / 1ea
- \* Cable Guide (For SBP-07A2) SCG-EX-001 / 1ea
- \* Banana Plug (For SBP-07A2) SBP-EX-001 / 1ea
- \* Cable Guide Bolt (For SBP-07A2) SCB-EX-001 M4x6L / 1ea
- \* Ground Cable SGC-MT-4-003 10m /Ø6-Ø4[mm] / 1ea
- \* H/V Pin (For SBP-08A3, SBP-08A1EX) SHP-BM-001 1~2ea
- \* Flexible Shield (For SBP-08A3, SBP-08A1EX) SFS-EX-001 Max. 10m / 1ea

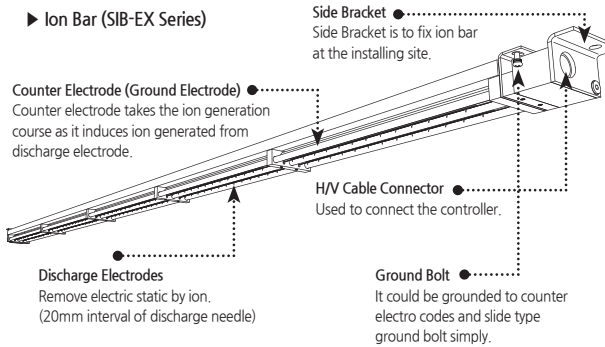
### Option

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

- \* Flexible Hose (For SBP-08A3, SBP-08A1EX, SBP-07A2) SFH-EX-001 Max. 10m / 1ea

## 3 Nomenclatures of parts

### ▶ Ion Bar (SIB-EX Series)



## 4 Installation and connection

### ▶ What to check

- \* Please check whether the product is not damaged or is a correct version that you have ordered.
- \* Please check the data on the packing information whether it corresponds with the data shown on the received product.
- \* If you have any problems and/or in the case of confusion on the product : Please contact SUNJE directly or regional distributor in your region.

### ▶ Ion bar installation

When you install ion bar, Please check the distance between ion bar and object.  
※ Please, handle with care when you carry or install not to break or bend an ion bar.

### WARNING

- \* Do not cover the anti-static ion bar with any material.
- \* The air circulation on the unit is sometimes necessary to secure appropriate functioning.

### ▶ How to install

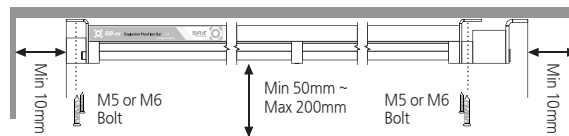
Fix the anti-static ion bar in right position where you need to install for ESD elimination. Please be aware the area not to be surrounded by grounded objects. Keep in mind that the distance between the bar and grounded objects must be greater than the distance from the bar to the m needs to be neutralized. Place the anti-static ion bar at the distance of 50~200 mm from the target object.

### WARNING

- \* Please Do Not install within 20mm from the object to be ionized. It may cause electric shock or fire due to malfunction.
- \* Make sure the supply voltage is correct.
- \* To avoid any mechanical damages, please place the connecting line properly.
- \* The earth grounding is required to assure proper/safe operation.
- \* Place the discharging tip side of anti-static ion bar pointing to the target object that needs to be neutralized.
- \* Mount the bar safely so that the tips would not be mechanically damaged.
- \* To mount the product securely on the facilities, please advise to facilities maintenance assistants for more specific details.
- \* Make sure that the equipment is properly earth grounded, by means of the mains voltage connection.

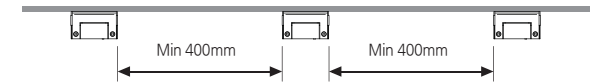
### Basic Installation

Fix side bracket at the wall or fixable object using M5 or M6 bolt. There is a risk of malfunction because of transmission, fall, or vibration of the product.



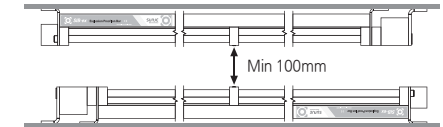
### Side to Side Installation

When the more than two ion bars are installed, to avoid interference, the range between two ion bars should be more than 400mm.

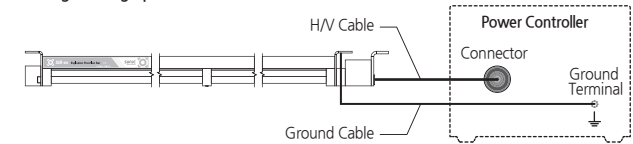


### Face to Face Installation

When two ion bars are installed face to face, to avoid interference, the range between two ion bars should be more than 100mm.



### ▶ High voltage power connection

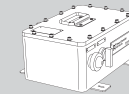


### CAUTION

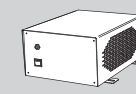
- \* High voltage power cable not to be turned or bent so that the sheath of the cable should not be damaged. Otherwise, there are in case of malfunction, electric shock, or fire damage.
- \* Make sure the item is surely powered off before you install or uninstall a power cable from the device.

### Connectable Power Controller

SIB-EX Series can be connected to the power controllers as below.



\* Power Controller SBP-08A1EX (Ex d IIB T6)



\* Power Controller SBP-08A3



\* Power Controller SBP-07A2

※ It does not affect to the performance even noise and vibration generated by the commercial frequency from high-voltage power.

### CAUTION

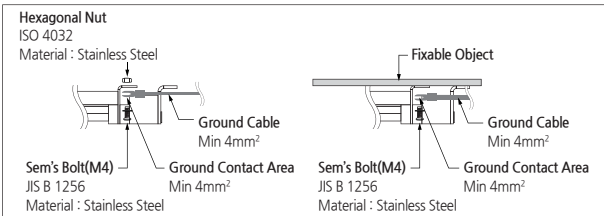
- \* Don't try to connect with the power controller that is not properly specified to install. It will be causes of malfunction or operation disorder.
- \* When installing SIB-EX Series in an explosion-proof area, the controller can only be used with SBP-07A2, and the controller must be installed in a non-explosion-proof area.

### ▶ H/V Cable Length

|                 | SBP-08A1EX | SBP-08A3            | SBP-07A2            |
|-----------------|------------|---------------------|---------------------|
| Cable Length    | 10m        | 10m(1EA)<br>5m(2EA) | 10m(1EA)<br>5m(2EA) |
| Flexible Shield | ○          | ○                   | ×                   |
| Connector       |            |                     |                     |

► Ground Connection

Users can ground using M4 ground bolt.  
Connect ground terminal at the bottom of power controller and SIB-EX Series bar with ground wire.  
Provided metal fixed object is grounded, there is no need to ground functionally.



※ The additional earth ground can be found in the opposite side of a side bracket.

► H/V cable connection

**CAUTION**

- Wire high-voltage cable not to be turned or bent so that the sheath of the cable should not be damaged.
- H/V cable is specially manufactured good from our company. Users cannot substitute other cables for H/V cable arbitrarily.
- When wiring H/V cable, do not allow H/V cable to wire along with signal cable which drives facilities or others because of generation of high electric field around the cable. If you wire both cables together unavoidably, make at least 200mm distance between them.

► H/V cable length control (Only available in non-explosion-proof areas)

A 10m high-voltage cable is afforded. Users can adjust the length as needed as described below.  
(When installing in an explosion-proof area, it is not possible to arbitrarily adjust the cable. If necessary, please contact the manufacturer.)

Power Controller (SBP-08A3, SBP-08A1EX)

- Cut the high-voltage cable(a) as users need. At this moment, cut H/V cable(a) in lengths of below 17mm, and slip the cable core(b) in lengths of up to 5mm.
- After inserting the cable core(b) in high-voltage pin(c), fix the high-voltage connector screwing the bolt.

Power Controller (SBP-07A2)

- You can cut the cable(b) in any length you want. In this case, you can cut the wire in 10mm when shedding.
- After adjusting the cable's length, follow the procedure by c → d → e and reinstall the connector.
- Use 2mm wrench to tighten the bolt(f) when you reinstall it.

5 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. In particular, in environments where conductive dust is generated, there is a possibility of explosion due to dust adsorption to the discharge needle, if so, please contact the manufacturer.

**CAUTION**

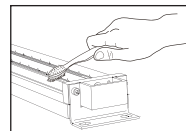
- This device uses the high level of voltage. When operating maintenance, please power off and unplug the device. Otherwise, there might be in case of electric shock or fire damage.
- The discharge needle is very sharp at the edge. Do not physically(directly) touch the discharge needle.

► Cleaning and inspection interval

- Brush cleaning : Once a week (After using 168 Hours)
- Alcohol cleaning : Once in 3 months (After using 2,160 Hours)

► Discharge needle cleaning order

- Before cleaning, cut off the power of controller certainly.
- Brush dust or foreign substances using nylon brush or compressed air. (Oral brushes are available)
- When it is contaminated by the fat-solubles such as ink or oil, put small amount of pure methanol or pure IPA on Wiper once in 3 months(After using 2,160 hours). Then, wipe it with lightly wired thing, and dry it completely.
- After cleaning, power on controller.
- Please record the cleaning process as a reference in the file.



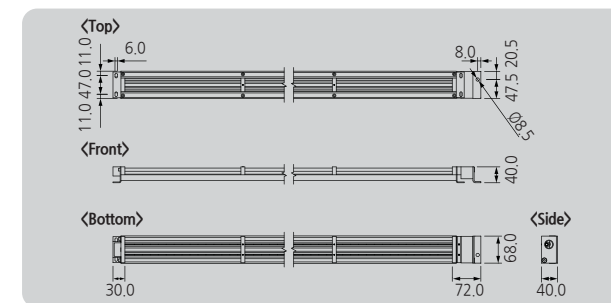
6 Problem solving

► Checklist before called

| Problem                               | Identifying Problem              | Solution                     |
|---------------------------------------|----------------------------------|------------------------------|
| No/poor ionization.                   | No high voltage?                 | See problem: no high voltage |
|                                       | Anti-static ion bar is dirty?    | Clean anti-static ion bar.   |
| No high-voltage on discharge needles. | No mains voltage on the ion bar? | Restore mains voltage.       |
|                                       | Transformer is defective?        | Replace the ion bar.         |

7 Dimensions

| No. | Model No.  | A    | B    | Number of needles | Certification |
|-----|------------|------|------|-------------------|---------------|
| 1   | SIB-100EX  | 160  | 102  | 3                 | ATEX          |
| 2   | SIB-200EX  | 260  | 202  | 13                | ATEX          |
| 3   | SIB-300EX  | 360  | 302  | 23                | ATEX          |
| 4   | SIB-400EX  | 460  | 402  | 33                | ATEX          |
| 5   | SIB-500EX  | 560  | 502  | 43                | ATEX          |
| 6   | SIB-600EX  | 660  | 602  | 53                | ATEX          |
| 7   | SIB-700EX  | 760  | 702  | 63                | ATEX          |
| 8   | SIB-800EX  | 860  | 802  | 73                | ATEX          |
| 9   | SIB-900EX  | 960  | 902  | 83                | ATEX, KGS     |
| 10  | SIB-1000EX | 1060 | 1002 | 93                | ATEX          |
| 11  | SIB-1100EX | 1160 | 1102 | 103               | ATEX          |
| 12  | SIB-1200EX | 1260 | 1202 | 113               | ATEX          |
| 13  | SIB-1300EX | 1360 | 1302 | 123               | ATEX          |
| 14  | SIB-1400EX | 1460 | 1402 | 133               | ATEX          |
| 15  | SIB-1500EX | 1560 | 1502 | 143               | ATEX          |
| 16  | SIB-1600EX | 1660 | 1602 | 153               | ATEX, KGS     |
| 17  | SIB-1700EX | 1760 | 1702 | 163               | ATEX          |
| 18  | SIB-1800EX | 1860 | 1802 | 173               | ATEX, KGS     |
| 19  | SIB-1900EX | 1960 | 1902 | 183               | ATEX          |
| 20  | SIB-2000EX | 2060 | 2002 | 193               | ATEX, KGS     |
| 21  | SIB-2100EX | 2160 | 2102 | 203               | ATEX          |
| 22  | SIB-2200EX | 2260 | 2202 | 213               | ATEX          |
| 23  | SIB-2300EX | 2360 | 2302 | 223               | ATEX          |
| 24  | SIB-2400EX | 2460 | 2402 | 233               | ATEX          |
| 25  | SIB-2500EX | 2560 | 2502 | 243               | ATEX          |
| 26  | SIB-2600EX | 2660 | 2602 | 253               | ATEX          |
| 27  | SIB-2700EX | 2760 | 2702 | 263               | ATEX          |
| 28  | SIB-2800EX | 2860 | 2802 | 273               | ATEX          |
| 29  | SIB-2900EX | 2960 | 2902 | 283               | ATEX          |
| 30  | SIB-3000EX | 3060 | 3002 | 293               | ATEX          |



8 Specification

| Parameter              | Description / Value   |
|------------------------|---|
| Ion-Generation Method  | Corona discharge AC (Capacity coupled)  |
| Applied Voltage        | Max AC 7kV(±7%), 50/60Hz  |
| Max. Current           | 5mA(from emitter point earth)   |
| Material               | Main Body: Aluminum, PVC, PA  |
|                        | Bracket: SUS  |
|                        | Electrode: SUS  |
|                        | Cable Insulator: PE, PVC  |
| Ion Bar Length         | 100mm ~ 3000mm (Step 100mm)   |
| Cable Length           | Max. 10m (Ion Bar to Controller)  |
| Operating Distance     | 50 ~ 200mm (Non air pressure)   |
| Mounting Method        | Ceiling, Wall   |
| Ambient Condition      | 0°C ≤ Tamb ≤ +40°C  |
| Warranty               | 1 year  |
| Atmospheric Pressure   | 80kPa ~ 110kPa  |
| Certification Standard | IECEx Test Report: IEC 60079-0:2017, 7th Edition<br>IECEx Test Report: IEC 60079-7:2015, 5th Edition<br>IECEx Test Report: IEC 60079-33:2012, 1st Edition |
| Type of Protection     | Ex eb sb IIA T6 Gb  |

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

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