

## KIS-400 使用說明書

### 1. 產品內容清單 (使用前，請先確認包裝內容及附件)

- ① 本體含固定座 ..... 1 組
- ② 入出力訊號線組 (2M)..... 1 組
- ③ 接地線 (2M)..... 1 條
- ④ 放電針清潔刷 ..... 1 支
- ⑤ 使用說明書 ..... 本冊
- ⑥ 電源轉換器組 (KIC-03)..... 選購

### 2. 產品用途說明

本靜電消除器 KIS-400以電量放電產生離子，使用氣壓氣流 (Multi-Ionizer Type)將離子快速送達目標，可快速的去除靜電及灰塵，並可預防因靜電氣所造成的污染，能簡單的大幅提升產品的品質及生產良率。

### 3. 除電特性

- ① 左右兩側皆有電源、氣壓入力 Port，配線及配管應用更具彈性。
- ② 高周波交流放電，離子綿密可深入凹凸處，確實去除靜電。
- ③ 高精度離子平衡  $\pm 25V$  以下，依使用條件及狀況可達  $\pm 10V$  以內。
- ④ 放電異常時，警示燈及接點輸出有效監控。
- ⑤ 可依據現場實際狀況，選購適當的空氣噴嘴，使用非常方便。
- ⑥ 採用模組化設計，每組長 400mm，最多可串連 5 組、範圍可達 2,000mm。

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### 4. 規格表

★本產品須搭配噴嘴使用，噴嘴需另行購買。

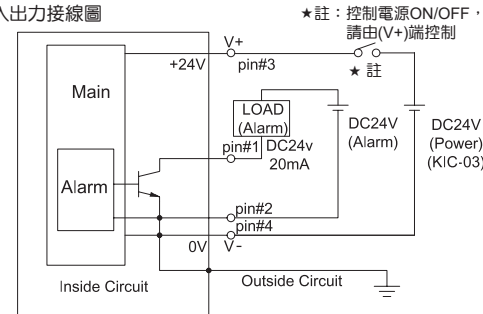
		KIS-400
使用流體 <sup>*1</sup>		乾淨壓縮空氣
放電針電壓施加方式		高頻AC 約 2KV, 72KHz
消耗電流		約 150 mA
離子平衡 <sup>*2</sup>		$\pm 25 V$
LED動作指示燈	電源	綠燈LED
	異常	紅燈LED
警報輸出 <sup>*3</sup>		NPN電晶體出力 20 mA(Max.50)
臭氧量		0.09 ppm 以下
使用壓力範圍		0.2~0.5 MPa 2.0~5.0 kgf/cm <sup>2</sup>
使用環境溫度		室內 0~40°C
入力電源		DC 24V $\pm 5\%$
外型尺寸(本體) (WxDxH)		414x60x36 mm
重量(本體)		800 g
標準配件	入出力訊號線組(2M)	75 g
	接地線	23 g
選購配件	放電針清潔刷	1.4 g
	KIC-03電源轉換器組	223 g

- ★1. 使用時，禁止於未供給氣源狀態下持續運轉。
- ★2. 離噴嘴出口處300mm。
- ★3. 警告出力，僅供信號監控用，請不要直接驅動負載。

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### 5. 配線說明

#### 入出力接線圖



留意點：pin#2 及 pin#4，與箱體在內部有連接

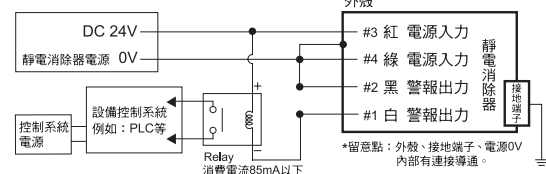
#### 入力端子說明

- #1：Alarm output 警報出力
- #2：Alarm ground 警報接地
- #3：Power DC+24V 電源入力
- #4：Power ground 0V 電源接地

#### 入出力訊號線 (標準配件)

- [White 白]：Alarm output 警報出力
- [Black 黑]：Alarm ground 警報接地
- [Red 紅]：Power DC+24V 電源入力
- [Green 綠]：Power ground 0V 電源接地

#### 警報輸出變更為隔離接點之接線範例



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### 6. 使用方法

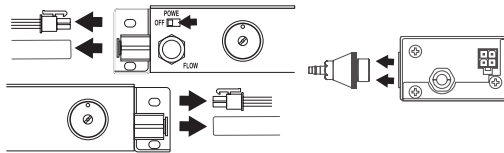
- ① 固定 KIS-400 本體及選購的噴嘴。接上電源、接地線及空氣壓配管。
- ② 通過過濾器的乾淨空氣 (無油、無水)，調整好符合噴嘴使用的壓力 (參考型錄上的規格)，插入右側或左側的入氣閥。
- ③ 開啟空氣源後，打開電源開關，暖機約 5 分鐘。(位於前方的節流閥，可調整空氣的流量)
- ④ 使用一段時間後，放電針因濕氣產生結晶，請使用放電針清潔刷清潔針尖。針尖若有積炭或髒污，可用棉花棒或軟布沾酒精，擦拭針尖。
- ⑤ 建議經常清潔放電針，延長針的使用壽命，維持良好的離子平衡及除電效果。(在良好維護的情形下，使用約 10,000 小時請更換放電針)
- ⑥ 若紅色 LED 燈亮，表示放電異常，請聯絡服務人員，切勿自行拆解。
- ⑦ 請注意噴嘴之上金屬部分，不要碰觸到 KIS-400 的外殼、電源 [0V] 及接地極。為加強固定噴嘴，在噴嘴與接地之間，請以絕緣物隔開。
- ⑧ 接地端子請連接接地線，若未作好接地工作，會影響除靜電的效果。

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### 7. 維護

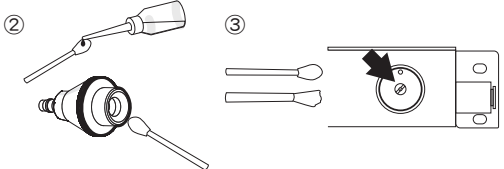
⚠ 請務必拔除電源!!

- ① 關閉電源 ➡ 移除空壓管 ➡ 拆掉噴嘴頭

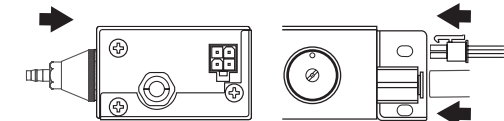


- ② 棉花棒沾酒精清潔搭配的噴嘴頭

- ③ 清潔並去除放電針上的結晶物；再使用清潔刷，確認放電針有無異物附著



- ④ 裝上噴嘴頭、空壓管及電源，保養完成



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### 8. 注意事項

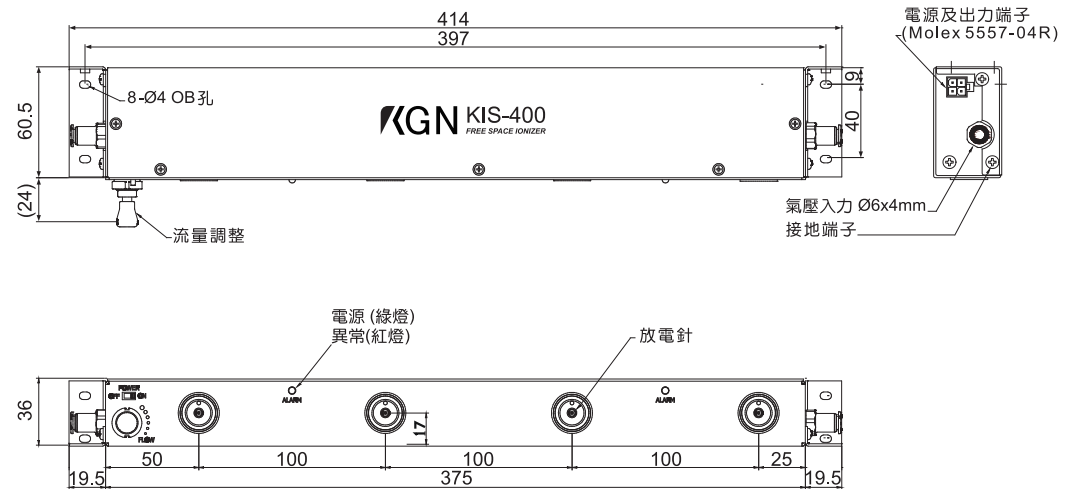
⚠	避免使用於有水氣、油氣、灰塵、高溫、多濕的場所。 嚴禁於爆炸性、易燃性氣體，及需要防爆的場合使用本產品。
⚠	嚴禁拆解：內部迴路及放電針高電壓危險，勿自行拆解本產品。
⚠	KIS-400 不可單獨使用，須加裝空氣噴嘴。
⚠	更換或清潔放電針，務必關閉電源，並且小心避免被尖端刺傷。
⚠	通電中不可拆下空氣噴嘴，避免高電壓觸電危險。
⚠	觸電危險：◎ 通電中不要觸摸放電針 ◎ 實施配線、保養或維修，請拔除電源 ◎ 請務必做好接地

- ★定期保養清潔放電針，可減緩放電針之耗損和防止驅動元件負載過大造成故障。
- ★放電針屬消耗品，會因環境及開機時間，改變其效能及壽命。



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### 尺寸圖 (單位：mm)



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# KIS-400 Instruction Manual

## 1.Product list

① Body including retaining base.....	1 Set
② Power and signal cable (2M).....	1 Set
③ Ground cable (2M).....	1 PC
④ Cleaning brush.....	1 PC
⑤ Instruction Manual .....	this manual
⑥ Power Adapter (KIC-03).....	Optional

## 2.Applications of this product

This static eliminator (KIS-400) produces ions through Corona Discharge, which are sent to the destination in a timely manner using the multi-ionizer type method. The model is capable of rapidly eliminating static and dust as well as preventing the pollution caused by static currents. It can easily but vastly improve product quality and production yield.

### 3.Features and advantages

- ① Power source and air input port are equipped on left and right side for more flexible application.
- ② High frequency AC discharge, high density ion capable of infiltrating into cavities, hence thoroughly eliminating static electricity.
- ③ High accuracy ion balance to lower than  $\pm 25V$ . Under some conditions, with  $\pm 10V$  could be attainable.
- ④ When abnormal discharge occurs, there will be a warning light and contact point output for effective monitoring and control.
- ⑤ Optional purchase of suitable air discharge nozzle according to actual requirement for your convenience.
- ⑥ It is serial module designed. 400mm long for each set and can be serialied up to 5 sets and 2,000mm long for more of your choice.

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## 4. Specifications

★The main unit cannot be operated alone;  
always use it with a nozzle .

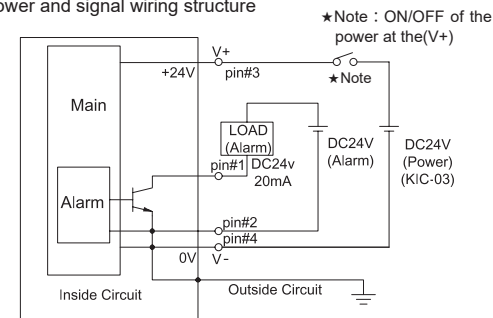
		<b>KIS-400</b>
Media* <sup>1</sup>		Air (Non-lubricated dry air)
Voltage supply method		High-frequency AC Approximate 2KV, 72KHz
Current consumption		Approximate 150 mA
Ion Balance* <sup>2</sup>		±25 V
Indicator LED	Power supply	LED (Green)
	Abnormality	LED (Red)
Warning output		Open collector (NPN) 20mA (Max.50)
Ozone volume		0.09 ppm or less
Operating air pressure range		0.2~0.5 MPa 2.0~5.0 kgf/cm <sup>2</sup>
Operating environmental temperature		indoor 0~40°C
Overall dimensions (Main Unit) (WxDxH)		414x60x36 mm
Power input		DC 24V±5%
Weight (Main Unit)		800 g
Accessories	Power and signal cable (2M)	75 g
	Ground cable (2M)	23 g
	Clean brush	1.4 g
Optional	KIC-03 Power Adapter	223 g

- ★ 1. When in use, it is prohibited to operate continuously in a state where no gas source is supplied.
- ★ 2. 300mm away for the nozzle outlet.
- ★ 3. For signal monitoring only, do not drive load directly.

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## 5. Description of Wiring

## Power and signal wiring structure



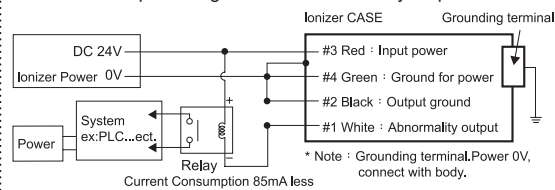
Note : pin#2 and pin#4, connect with body.

### Connector structure

Power and signal cable (Accessory)

- #4 #3 #1 : Alarm output  
#2 : Alarm ground  
#3 : Power DC+24V  
#4 : Power ground 0V
- [White] : Alarm output  
[Black] : Alarm ground  
[Red] : Power DC+24V  
[Green] : Power ground 0V

The alarm output changes to the isolated relay output



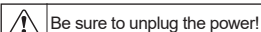
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## 6. Operation

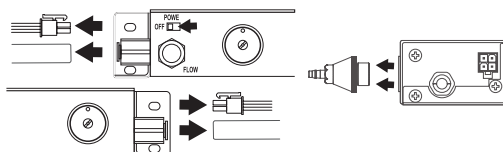
- ① Secure the main body of Model KIS-400 and the discharge nozzle. Connect the power, earthing wire and air pressure pipes.
- ② Filtered clean air (provided by user), adjust the pressure suited for the discharge nozzle (refer to the specifications) and plug in the air inlet at left or right side.
- ③ Turn on the power switch, warm up for 5 five minutes. (Turn on the air at the same time or in advance when switching on the power)
- ④ After using the product for some time, crystallite will form on the discharge needle due to moisture. Please use a small brush to clean the tip of the needle. Use a cotton wool or soft cloth damp with alcohol to clean the needle if it is stained with carbon residue or dust.
- ⑤ It is suggested that the discharge needle be cleaned regularly to prolong the needle's service life and to maintain good ion balance and static electricity elimination effects. (Replace the discharge needle after 10,000 hours of use provided regular maintenance has been done.)
- ⑥ If the red LED light is on, this means abnormal discharge is taking place. Contact our customer service at once. Do not disassemble the model yourself.
- ⑦ Avoid the metal of the discharge nozzle to contact the outer shell of KIS-400, [OV] of the power source and the earth electrode. Make sure the discharge nozzle is secured and insulate the discharge nozzle and the earth electrode.
- ⑧ Connect the earthing wire to achieve the best static elimination results.

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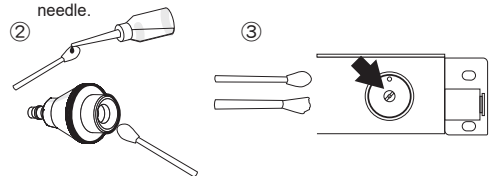
## 7. Maintenance



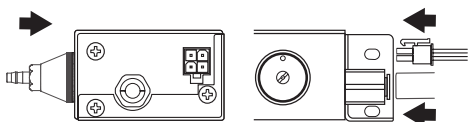
- ① Turn off the switch ➡ Remove the tube ➡ Remove the nozzle



- ② Use a cotton wool with alcohol to clean the needle
- ③ Clean and remove any crystals from the needle, and then use a Static Brush to confirm if foreign matter is affixed to the needle.









- ④ Restore the nozzle and the com-pressive air pipe to complete the maintenance.



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## 8. Time sequence diagram description

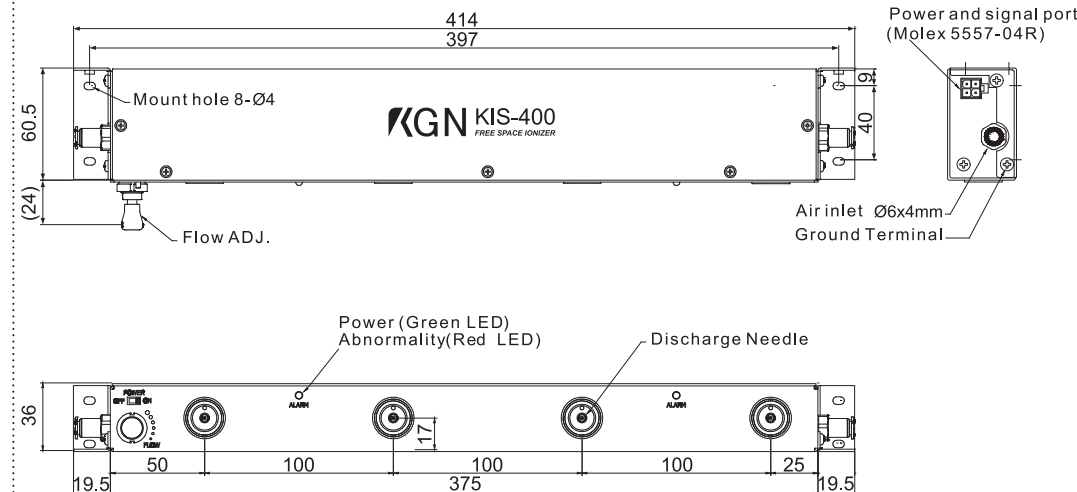
	Please avoid installation at locations with moisture, oil vapor, dust, high temperature and high humidity. This product shall not be used at locations where explosive or flammable gas is present or where an explosion-proof measure is required.
	Disassembling is strictly prohibited: High voltage danger with the internal circuit and discharge needle. Do not disassemble this product by yourself.
	This model KIS-400 shall not be used alone but in conjunction with the air discharge nozzle, which shall be installed at the front of the body.
	Make sure that the power is off when replacing or cleaning the discharge needle and be careful not to be stung by the needle to be picked.
	Do not disassemble the air discharge nozzle when the power is on to avoid high voltage danger.
	<p>Electric Shock Danger</p> <ul style="list-style-type: none"> <li>⦿ Never touch the discharge needle when energized</li> <li>⦿ Be sure that grounding is properly executed</li> <li>⦿ Switch off power before going ahead with service or maintenance</li> </ul>

- ★ Regular maintenance and cleaning of the Discharge Needle can reduce needle wear and prevent overload of the drive component that cause failure.
- ★ The Discharge Needle is a consumable item. Its effect and lifespan varies along with the environment and the operating time.



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### Dimensions (Unit: mm)



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