



# Instruction Manual

ION NOZZLE ZM-G1 Series



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For more information, please inquire on our website([www.dongiltech.co.kr](http://www.dongiltech.co.kr)) or contact sales agent.

# 1. Specification

Model	ZM-G11	ZM-G12
Ion Generation method	High-Frequency AC	
Output Frequency	50kHz	
Input Voltage	+24VDC	
Material	Body: ABS / Emitter Pins: Titanium	
Emitter replacement	Replaceable	
Ion balance	$\leq \pm 15V$ Typical	
Decay time	1.0sec at 15cm (Air 3kgf/cm <sup>2</sup> )	
Air pressure	Max 5kgf/cm <sup>2</sup> (N2,CDA)	
Blow-off force	128ℓ /cm <sup>2</sup> (Air 3kgf/cm <sup>2</sup> )	
Air tube diameter	Ø6	
Ozone generation	Under 0.05ppm	
Displays	High Voltage Alarm LED(G/R) ※ LED Green : Normal , LED Red : Abnormal	
Weight	70g(except Bracket)	
Relative temperature-humidity	0℃~50℃, 35~85%RH(No Condensation)	

※ Specification can be changed without notice for performance improvement.

## ■ Package contents

① Main Body (ZM-G11/G12)



② DC Power Cable



③ Emitter replacement jig



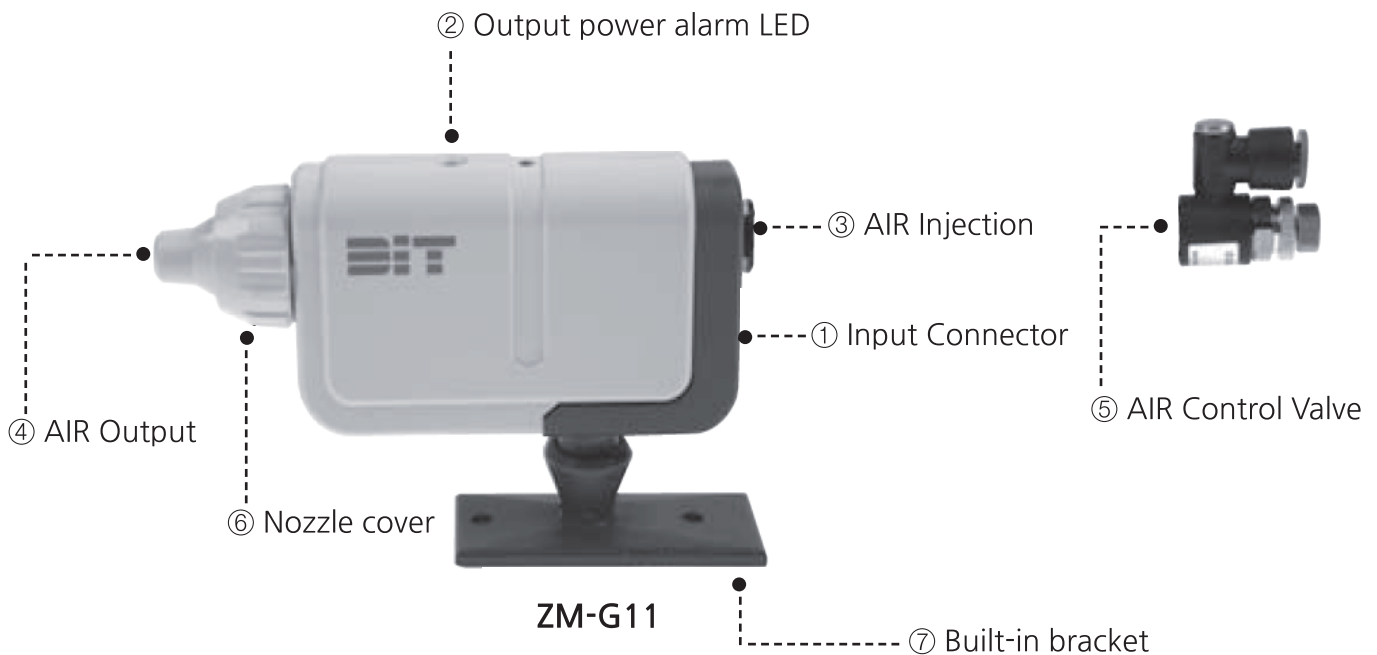
■ Option : Following items can be purchased as an option.

① DC ADAPTER



## 2. Parts' names and functions

### ZM-G11/G12



① **Input connector** : Connection part to DC Power Cable

**Caution!** Check the color of wire before connecting the cable

② **Output power alarm LED (LED Green/Red)** :Shows the state of ion emissions

LED Color	Remarks	Check
RED	NG	Ion Emission
Green	Good	Good

③ **AIR Injection** : Fit “diameter Ø6 into air fitting

④ **AIR Output** : Ions emitted from emission pins ionize the electrostatic discharge of targets.

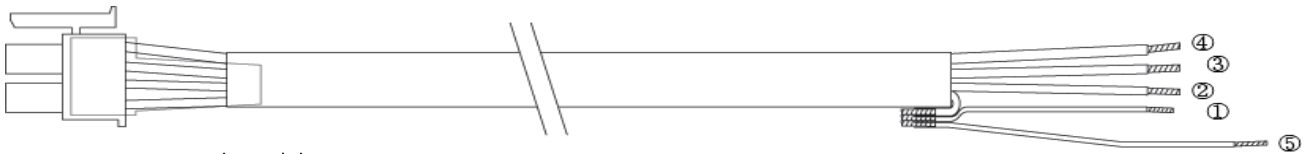
⑤ **AIR Control Valve(ZM-G12)** : It adjusts air pressure discharged from nozzle

⑥ **Nozzle cover** : Concentrate the air flow and focus ions on the targets. To clean and replace the emitter pins, turn the nozzle cover in counterclockwise direction. After cleaning the emitter pins and connecting into the main body, use it again.

⑦ **Built-in Bracket** : Affix the nozzle to the target structure by driving M3 screw thru each bracket hole.

## 3. Wiring diagram

### 3.1 24V DC power cable

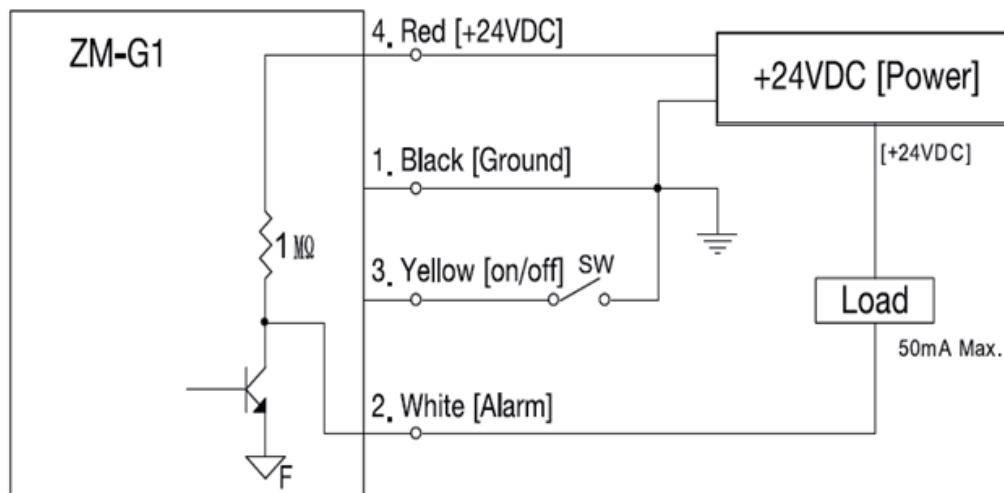


▲ Power supply cable

PIN No.	Color	Connection & Usage
①	Black	Power Ground (DC Power Ground)
②	White	High Voltage Alarm Signal
③	Yellow	On/Off Signal
④	Red	+24V DC Power Supply
⑤	Black	Ground (Field Ground)

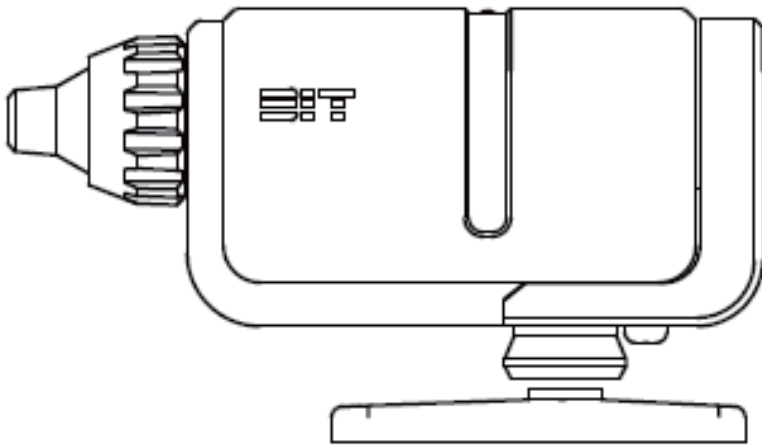
### 3.2 Connection when using PLC

[ZM-G1 PLC Circuit Diagram]

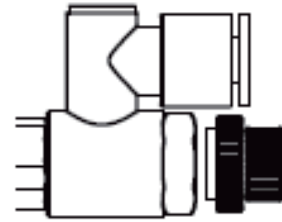


**Caution!** Setting Load : Set the output current under 50mA

## 4. How to operate



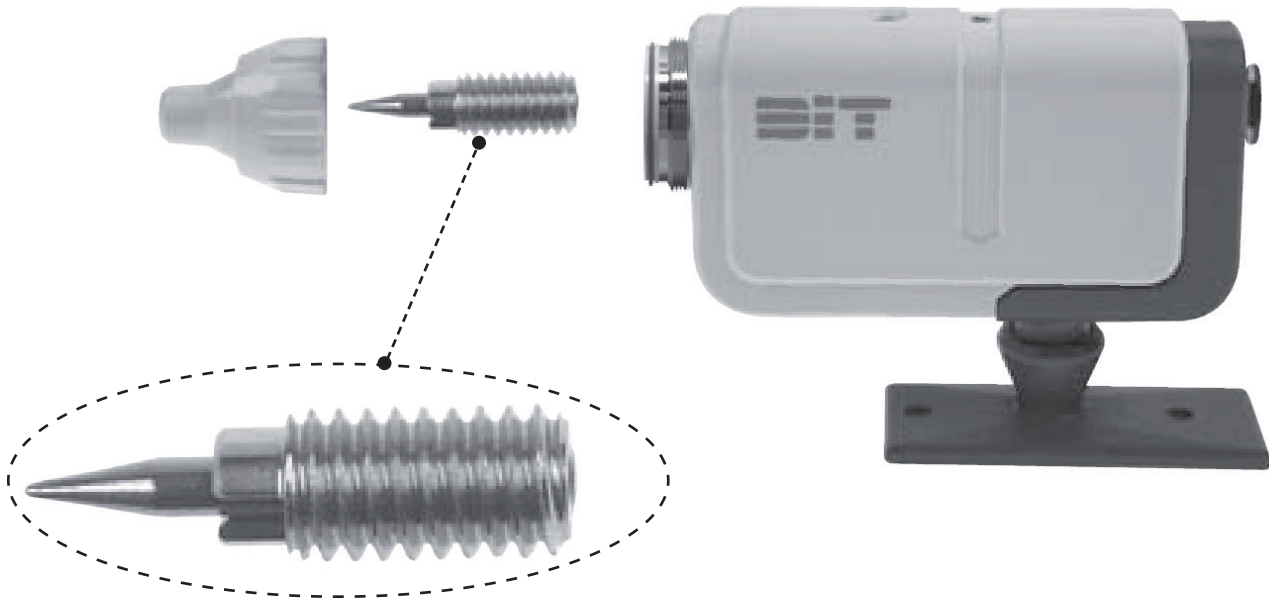
**ZM-G11**



**ZM-G12**

- ① Check connecting status of power cable (4 pin) and normally connecting.
- ② Connect earth wire to ground or earth of product and check earth status.
- ③ Connect high pressure air hose to air fitting.
- ④ Connect the On/Off line of power cable to S/W terminal and connect other terminal of S/W to GND (When user does not use switch, connect On/Off line in ground line)
- ⑤ Supply +24V DC power.
- ⑥ Check that LED light green.
- ⑦ Supply air.
- ⑧ Regulate air volume according to operating surrounding.
- ⑨ Check that ion balance and decay status of product is suitable.
- ⑩ ZM-G12 has a AIR control valve for user to regulate air volume.

## 5. Cleaning & Replacement of ion emitter



① If it separates power cable from the main body for cleaning emitter, it will shut down power source.

**Warning!** Be careful of electric shock you may get when cleaning on plugged in the power.

② Turn nozzle cover counterclockwise for separating from main body.

③ Separate emitter pin from its body, using Emitter replacement jig.

④ Clean emitter pin carefully, to avoid damaging its edge.

- It causes a bad effect on the performance, if the edge of emitter is damaged.

- Dusts and other residue collected may be removed using a brush or cotton

- Q-tip moistened with alcohol

(For the cleaning, you should use alcohol only..)

⑤ Dry emitter pin perfectly after cleaning.

⑥ After finishing cleaning, assemble by opposite process of separation, and reuse.

## 6. Installation procedures

- ① Check the package contents before installing.
- ② Install product in position that you want to, and fix bracket using M3 screw.  
**Warning!** Install product without obstacle between product and target.
- ③ When connecting power cable, refer to color which is matching function in wiring diagram
  - When not to need On/OFF, must connect yellow wire to ground.
  - When not to use the alarm, must wind white wire using the tape for avoiding the interference of other lines.  
(Black : Ground, White : Alarm, Yellow : On/OFF, Red : +24VDC)  
(No grounding may cause malfunction.)
- ④ When finishing wire connection, must connect power cable to connector of main body for locking. In this time, caution connection direction
- ⑤ Must connect GND wire in earth
- ⑥ Connect high pressure hose(Ø6) to air connection hole. In addition, when user buy air switch and user use air switch, user will prevent air loss
- ⑦ When finishing installation, check once again in reverse order.

## 7. Cautions for installation

- ① Read carefully instruction manual before installation of the product.
- ② Connect power cable after checking power(+24VDC)
- ③ Use air hose for high pressure.
- ④ During operating, do not cleaning emitter and not change position of product.
- ⑤ Remove water and oil from the place where the product is installed and avoid high temperature(50℃) and high humidity(RH 65%)
- ⑥ Fix product surely for doing not fall main body.
- ⑦ Install product without fire, direct rays and dust, and cleaning surroundings.  
(After removing water, oil, and dust etc., install product)
- ⑧ Don't clean with chemical and public detergent.
- ⑨ Install a filter to avoid that oil or moisture is melded in air.  
(Clean dry air is recommended)
- ⑩ Don't use this product in the place where there is volatile material or a lot of dust.  
There is risk of explosion.
- ⑪ Don't use this product in the place influenced by strong magnetic field.  
It may cause the product's malfunction.

## 8. Cautions for operation

### [Carelessness which cause serious injury or death]

- ① Don't touch with wet hand.
- ② Keep rating voltage of product.
- ③ Keep using air pressure at 0.3Mpa and air pressure should not exceed 0.5Mpa

### [Operational mistake which cause minor injury or cause damage to the product]

- ① Don't drop product or add serious shock at product.
- ② Use in flatness of bottom.
- ③ Don't remodeling, resolution, repair at a user's disposition.
- ④ Use fixed cable & connector and keep tube size.
- ⑤ When it is to move and install product, turn off all switch and lock air control part.
- ⑥ Avoid electrical shock and connect earth surely for guaranteeing performance.
- ⑦ Avoid tube being bended or rolled, when installing, and keep tube's cutting plane straight.

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## Warranty

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We, Dong Il Technology Ltd. Manufactured this product under a strict quality control system and guarantee its quality for 1 year of period from the shipment date.

However, we don't take any responsibility for 1)

- 1) Any damage if the product is used in a way different from that is explained in this manual or remade by users arbitrarily.
- 2) Any damage led by improper usage. We recommend the installation circumstances in this manual, but that is just a recommendation and users are responsible for understanding the product's specification and judgment of suitability of usage.
- 3) We are not responsible for direct and indirect damages led by the product malfunction.
- 4) Specification can be changed without notice for performance and safety improvement.

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