

Panasonic

INSTRUCTION MANUAL

Static Remover

Ionizer・Spot type

ER-VS02

CMJE-ERVS02 No.0038-62V

Thank you very much for using Panasonic products.
Please read this Instruction Manual carefully and thoroughly for the correct and optimum use of this product.
Kindly keep this manual in a convenient place for quick reference.

WARNING

● Never use this product with a device for personnel protection.
In case of using devices for personnel protection,use products which meet laws or standards,such as OSHA ,ANSI or IEC etc.,for personnel protection applicable in each region or country.

● Do not use this product near or around surroundings containing any dangerous materials, such as combustible material and flammable material.
Dust gathers on and around the discharge needle, and inside the nozzle depending on the environment.

● Be sure to clean up the discharge needle, periodically once a week or so, or this product will be unable to exert the charge removal performance, which may also cause ignition or product malfunction. However, when using this product in the environment exposed to too much dust, be sure to clean up the discharge needle frequently.

● Be sure to ground the main body of this product via ground terminal to ensure electric shock prevention and reliable charge removal.

● Since the discharge needle is live with high voltage, never touch the discharge needle, or an electric shock may result.

● If this product is used in an airtight room, ozone emitted from this product may be detrimental. Therefore, in order for this product to be used in an airtight room, be sure to keep the room ventilated.

● Since the ion air contains ozone, do not aim this product at anyone.

● Since the tip of the discharge needle is pointed, take sufficient care in handling the discharge needle, or injuries may result.

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OUTLINE

● This product is a compact, corona discharge type electrostatic charge removal device.

● This product neutralizes electrostatic charge from charged objects quickly and effectively.

● This product removes dust stuck to charged objects due to static electricity, and keeps such objects free from electrostatic dust.

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CAUTIONS

● Make sure to use the DC power supply insulated by an isolation transformer etc. for this product. If an auto-transformer etc. (single winding transformer) is used, this product or the power supply may get damaged due to short-circuit.

● When the air is not supplied to the product, Stop discharging either input discharge halt (DSC OFF) or turn the power off. If discharge is continued without supplying the air, the amount of ozone generation increases and it may cause the accident and breakdown.

● If turn ON/OFF the air supply by a solenoid valve etc., the discharge must be turned ON/OFF simultaneously.

● Do not turn on the power supply with the discharge needle unit removed.

● Do not use during the initial transient time (0.5 sec.) after the power supply is switched on.

● If the power supply is switched on immediately after being switched off, fault output may be generated. After the power supply is switched off, keep an interval of 1 sec. or more, before switching it on again.

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MAJOR SPECIFICATIONS

● Use air (dried clean air) for the fluid. Fluid other than air (dried clean air)or that containing corrosive gas may cause accident or malfunction.

● Do not use air containing foreign particles, such as, carbon dust or dust, water or oil. Since those may cause ignition, electric shock, or malfunction, take appropriate measures, such as, installing an air-filter or an air-drier, etc.

● When maintenance, checkup or cleaning are carried out, make sure to cut the air supply completely and confirm that the inside the product and the tubes became atmospheric pressure in advance. The remained air pressure may cause accident or malfunction.

● Extension up to total 10m is possible with 0.15mm², or more, cable. However, in order to reduce noise, make the wiring as short as possible.

● Do not use this product for a purpose other than charge removal.

● When this product is no longer usable or required, carry out the appropriate disposal process meant for industrial waste.

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MOUNTING

● When this product is mounted on a housing, use M4 screws. (please arrange separately.) The tightening torque should be 2N・m or less.

● If more than 2 units are mounted closely, keep 5mm, or more, distance between them. Otherwise, the capability may be affected.

● Make sure to ground this product. If the grounding is not proper, the charge removal capability is reduced. (Direct earth or power supply common earth)

● If AC adopter is used, be sure to connect the ground terminal to the power supply common earth.

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PIPING

● The outer diameter of the air-tube to fit to the air inlet portion of this product should be φ6mm.

● Make sure that clean air (air containing no-water, no-oil and no dust) should be supplied.

● Since the pressure will drop when the air piping from the main pressure supply is extended or pneumatic-components (e.g., needle valve, speed-controller, mini filter) are added, keep an eye on the pressure supply to the ionizer making sure it isn't in short supply. For the pneumatic-components, select those that can accommodate the air supply flow rate.

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I/O CIRCUIT DIAGRAMS

Terminal connector No.

Color code

(Brown) +V

COM (+)
(Orange) Check output

(Black) Error output

(Pink) Discharge halt input

(Violet) Reset input

(Blue) 0V

COM (-)

Load

Load

50mA max.

50mA max.

24V DC
±10%

Ground terminal

Internal circuit

Users' circuit

Symbols... D: Reverse supply polarity protection diode
Zb1, Zb2: Surge absorption zener diode
Tr1, Tr2: NPN output transistor

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INPUT SIGNAL CONDITIONS

● Conditions for the discharge halt input and the reset input are as follows.

Discharge halt input

Reset input

DSC OFF
(Low input)

Open

Low

0.5 sec.
or more

RESET
(Start-up input)

Open

Low

10ms
or more

10ms
or more

Note: Repeat control with 'DSC OFF' input should be 1Hz or less.

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OPERATION MATRIX

Indicators (☀: Lights up, ●: OFF)

Power

Discharge

Check

Error

Check

Error

Discharge through needle

Green

Green

Orange

Red

N.O.

N.C.

Normal

Check

Error

Discharge halt input

Reset input

OFF

ON

OFF

ON

OFF

ON

OFF

ON

OFF

ON

Notes: 1) 'DSC OFF' input in the 'ERROR' state is invalid (since the 'ERROR' state is prioritized).
2) 'RESET' input is enabled even when in the 'DSC OFF' input state, and 'DSC OFF' input remains unaffected by 'RESET' input.
3) 'RESET' input in the 'ERROR' state resumes the 'ERROR' state unless the cause of the error has been eliminated.

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MAINTENANCE

WARNING

● Before checking the high-voltage part, be sure to turn off the power supply, or you may get an electric shock.

● Since the tip of the discharge needle is pointed, take sufficient care when cleaning. There is a danger of injury.

● Since the removal discharge effect will deteriorate if dirt is stuck to the tip of the discharge needle, clean the discharge needle periodically.

● The maintenance required depends on the environment of use. As a reference, the maintenance should be done once in one month.

● The discharge needle is a part having a product life time. It is recommended that the needle should be replaced, as a reference, after 20,000 hours in use. When replacing it, replace the whole unit.

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TROUBLE SHOOTING

WARNING

Make sure that the power supply is off while checking the high-voltage part. Otherwise, you may get an electric shock.

Symptom

Remedy

Check indicator (orange) lights up

• Make sure that the power voltage is within the tolerance as per specifications.

• Check the tip of the discharge needle for chip and contamination, and make sure that the discharge needle unit is mounted normally on the main body.

• If the CHECK indicator (orange) lights up even after cleaning the discharge needle, also check the nozzle part for contamination.

• Make sure that the nozzle assembly (including the attachment and the insulating pipe) is mounted properly.

• Make sure that the air pressure is within the applicable range as per specifications.

Error indicator (red) lights up

• Make sure that the power voltage is within the tolerance as per specifications.

• Abnormal discharge is possible.
Turn off the power supply, check the tip of the discharge needle for chip and contamination, and make sure that the discharge needle unit is mounted normally on the main body. Also, check the inside of the nozzle for foreign objects, and make sure that the nozzle is mounted and installed properly.

• Make sure that the ground terminal is connected completely.

Doesn't go back to normal state by reset

• Make sure that the cause of the error has been eliminated.

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DIMENSIONS (Unit: mm)

● Mounting drawing with shower nozzle (optional)

One-touch fitting φ6

27

16

11.7

4.5

5.5 (2.8)

5.2

Ground terminal (M3)

100

4.5

5.5

φ4.2 cable 0.5m (Gray)

5559-08P manufactured by Molex 5559-08P

2-φ4.5 mounting holes

Shower nozzle (ER-VAS) (optional)

31.7

(14.3)

11.3

11.4

(5.8)

17.8

16.9

Airflow outlet

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INTENDED PRODUCTS FOR CE MARKING

●The models listed under '3 MAJOR SPECIFICATIONS' come with CE Marking. As for all other models, please contact our office.

CE

Panasonic Industrial Devices SUNX Co., Ltd.

http://panasonic.net/id/pidsx/global
Overseas Sales Division (Head Office)
2431-1 Ushiyama-cho, Kasugai-shi, Aichi, 486-0901, Japan
Phone: +81-568-33-7861 FAX: +81-568-33-8591
About our sale network, please visit our website.

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