Dustproof and water-resistant (IP66 equivalent)

Ionizer / Bar Type

New

CE UKCA

RoHS

Improved Dust and Water resistance

Ionizer unit can be washed.*1

Short range static neutralization **0.2** s*2

(Distance: 100 mm, Ion generation mode: DC, Without air purge)

Long range static neutralization **0.9** s*2

(Distance: 500 mm, Ion generation mode: Dual AC, 30 Hz, Air purge at 0.5 MPa)

*1 **Static neutralization is not available while spraying with water.** For details, refer to the Specific Product Precautions on page 11 before use.
*2 Charged plate 150 mm x 150 mm, capacitance 20 pF, the time required for static elimination from 1000 V to 100 V.

***IZSW10* Series**

SMC

CAT.ES100-180A

Compliant with IP66 (EN/IEC 60529) protection degree

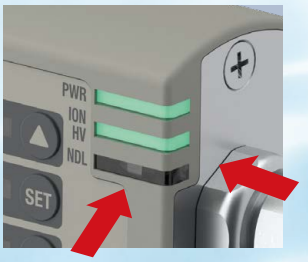
The air purge function must be used when using an emitter cartridge for air purging.
Static neutralization is not available while spraying with water. For details, refer to the Specific Product Precautions on page 11 before use.

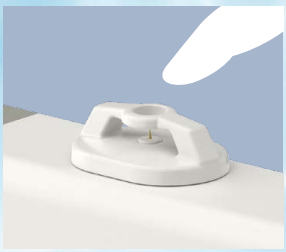
Designed to prevent liquid accumulation

· Smooth cylindrical body
· Radius shaped top surface
· Curved corner shape

Improved visibility

LED indicators visible from 2 directions





Safe design prevents finger contact with the emitter

Metal parts material: Stainless steel

* The emitter material is tungsten.

Replaceable fittings

Replacement Fitting Models

Standard

Applicable tubing size [mm]		Model
O.D.	I.D.	
ø6	ø4	Stainless steel 316 One-touch fitting (Straight)/KQG2S06-G01-F
ø8	ø6	Stainless steel 316 One-touch fitting (Straight)/KQG2S08-G01-F

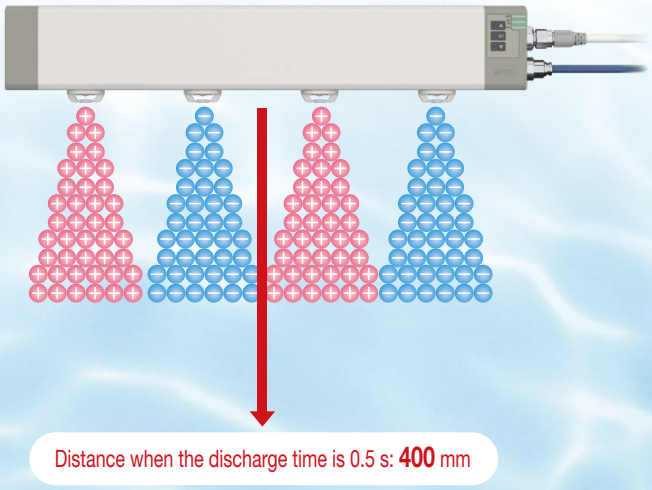
The following fittings can be installed
(please select without fittings and prepare the fittings separately)

Applicable tubing size [mm]		Model
O.D.	I.D.	
ø6	ø4	Stainless steel 316 One-touch fitting (Elbow)/KQG2L06-G01-F
		Clean design fitting (Straight)/KFG2H0604-G01-C
		EHEDG compliant fitting (Straight)/KFG2H0604-G01-E
ø8	ø6	Stainless steel 316 One-touch fitting (Elbow)/KQG2L08-G01-F

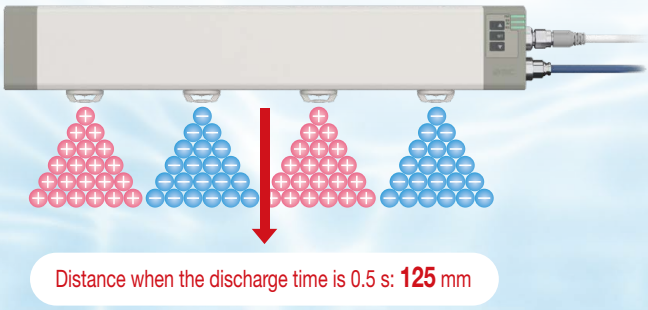
Air purge increases static neutralization distance by 3 times.

Static neutralization sends ions into the air further.

With air purge



Without air purge

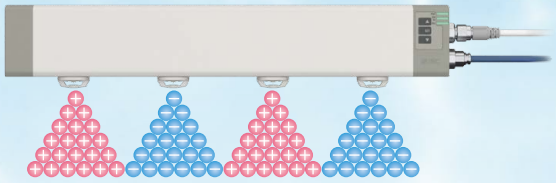


* Conditions: Discharge time from 1000 V to 100 V, Object to be neutralized: Charged plate (Dimensions: 150 mm x 150 mm, Capacitance: 20 pF), Bar length: 1120 mm, High speed static neutralization cartridge, Air supply: 0.5 MPa

Select the ion generation mode for the application.

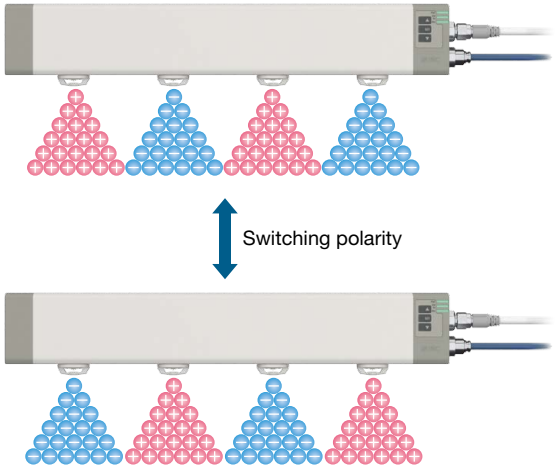
DC

Rapid static neutralization



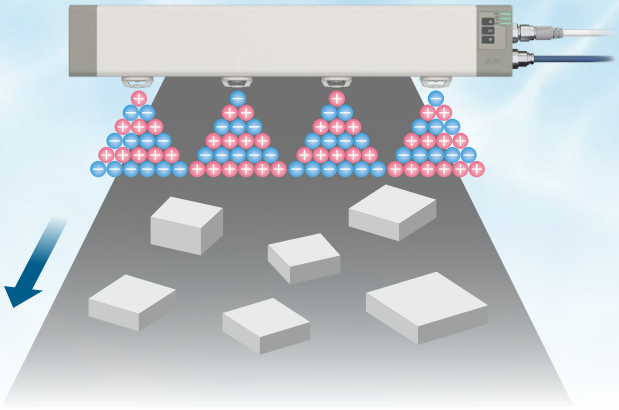
Averaging function

Averages out emitter contamination and degradation due to polarity differences, improving maintenance intervals



Dual AC

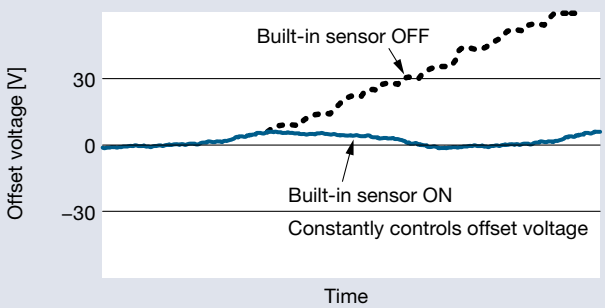
Minimal uneven static neutralization



Auto balance function

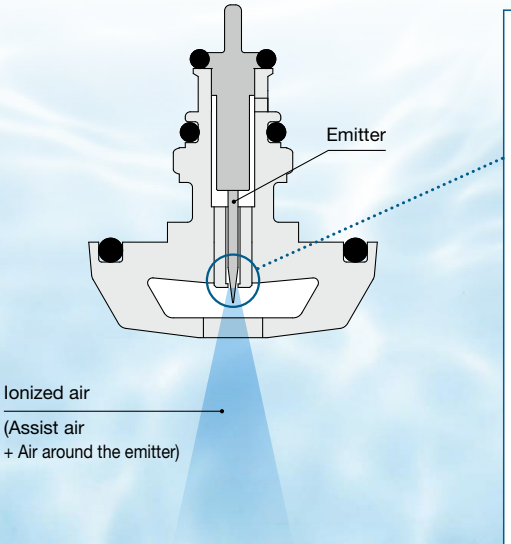
The offset voltage (ion balance) in the static neutralization area is controlled to remain within a constant value by monitoring the ions generated by the ionizer using a reference ground.

Effect of auto balance sensor (Image)

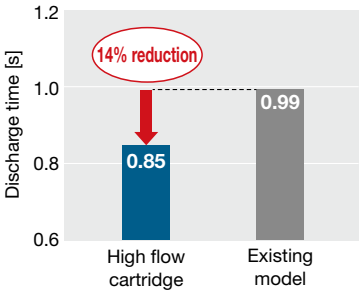


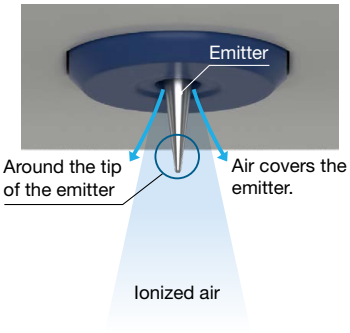
Maintenance

· Concentrates the air around the emitter (reduces emitter contamination) and the assist air (for ion transfer)
· Reduces emitter contamination, compared with the existing models



- **Low maintenance**
  Reduces emitter contamination by increasing the air flow around the emitter, compared with previous models.
- **High speed static neutralization**
  The air flow around the emitter tip has been optimized to improve ion transfer efficiency.
  Reduced discharge time (–14%)

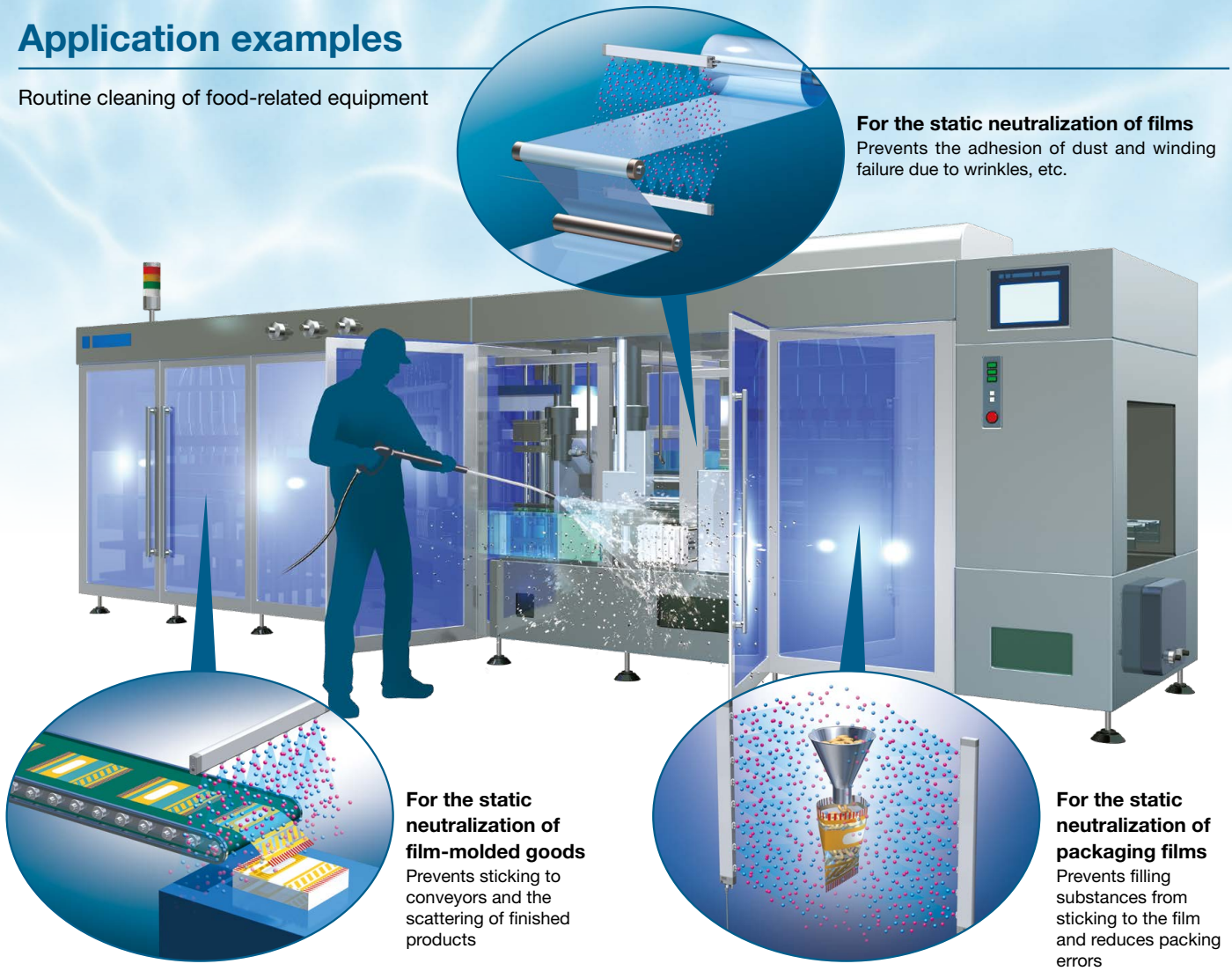




Existing model (High speed static neutralization cartridge)
High flow cartridge
· Number of cartridges: 10 pcs.
· Flow rate per cartridge: 11.1 L/min (ANR)
· Comparison at an installation distance of 600 mm

Application examples

Routine cleaning of food-related equipment



For the static neutralization of films
Prevents the adhesion of dust and winding failure due to wrinkles, etc.

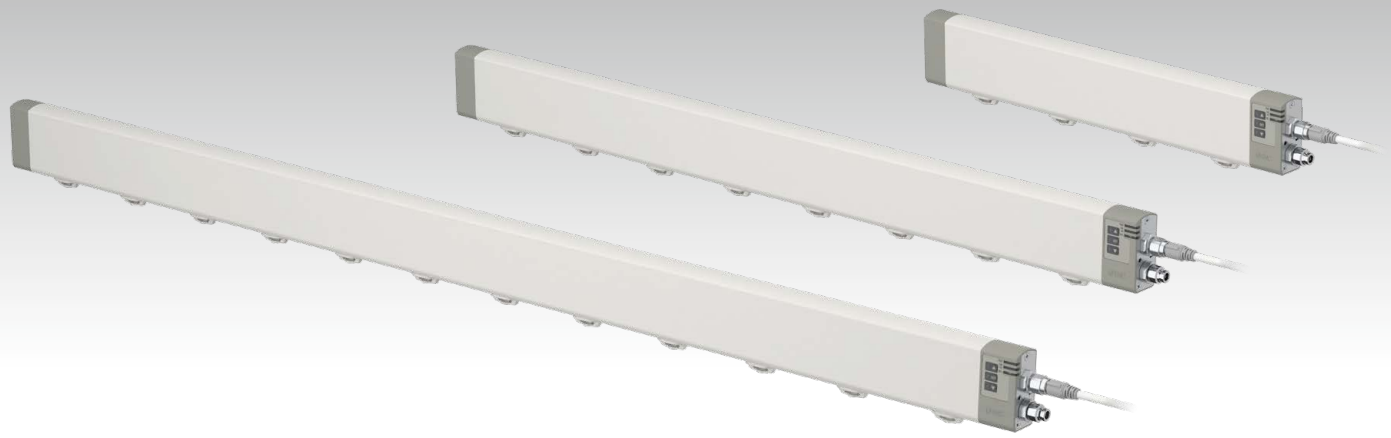
For the static neutralization of film-molded goods
Prevents sticking to conveyors and the scattering of finished products

For the static neutralization of packaging films
Prevents filling substances from sticking to the film and reduces packing errors

CONTENTS

Dustproof and water-resistant (IP66 equivalent)

Ionizer / Bar Type *IZSW10 Series*



Technical Data: Static Neutralization Characteristics

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How to Order ..... p. 6

Specifications ..... p. 7

Accessories / Accessories Sold Separately (for Individual Purchase) ... p. 8

Wiring Circuit ..... p. 9

Dimensions ..... p. 10

Specific Product Precautions ..... p. 11

Safety Instructions ..... Back cover

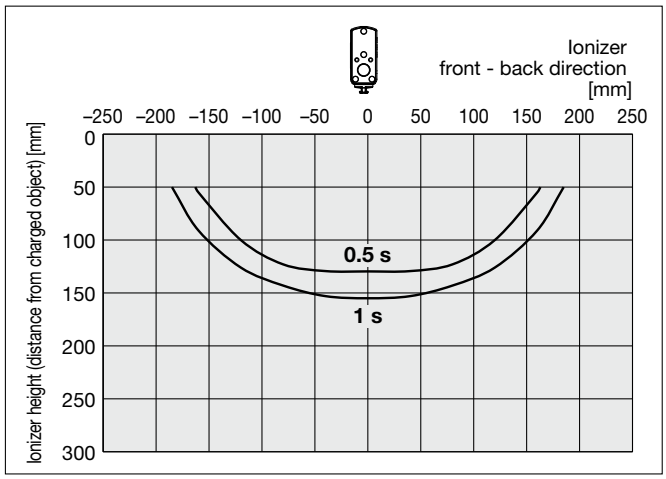
IZSW10 Series
Technical Data

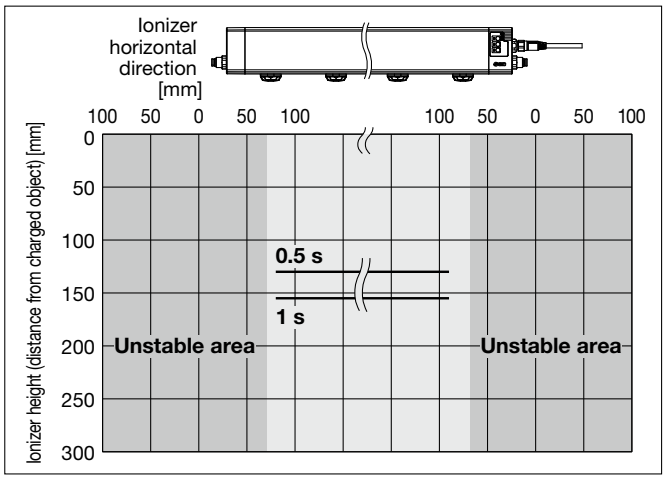
Static Neutralization Characteristics

* Static neutralization characteristics are based on data using a charged plate (Dimensions: 150 mm x 150 mm, Capacitance: 20 pF) as defined in the U.S. ANSI standards (ANSI/ESD STM3.1-2015). Use this data only as a guideline for model selection because the values vary depending on the material and/or size of the subject.

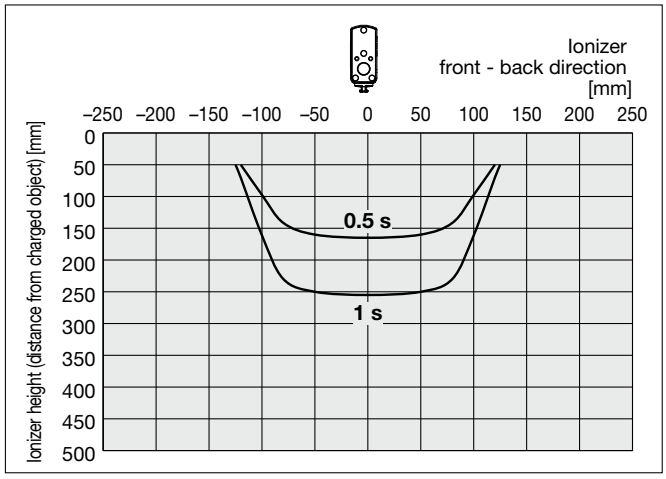
Static Neutralization Range (Discharge Time from 1000 V to 100 V)

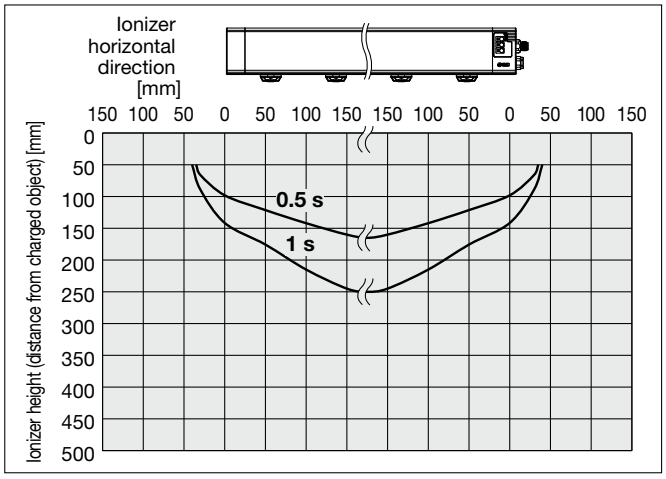
Airless cartridge (Without air, Ion generation mode: DC)



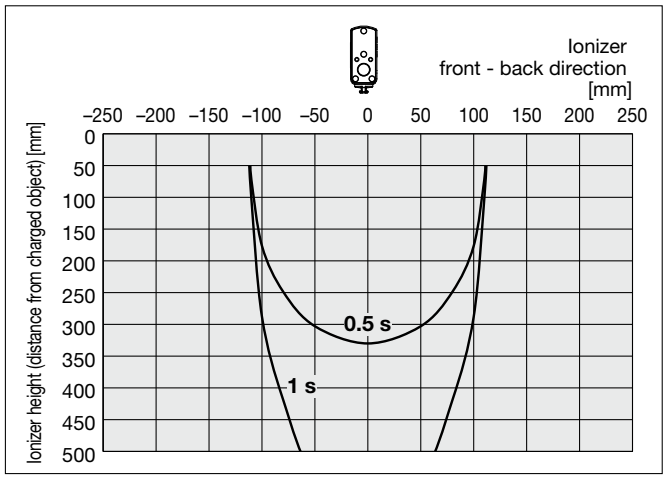


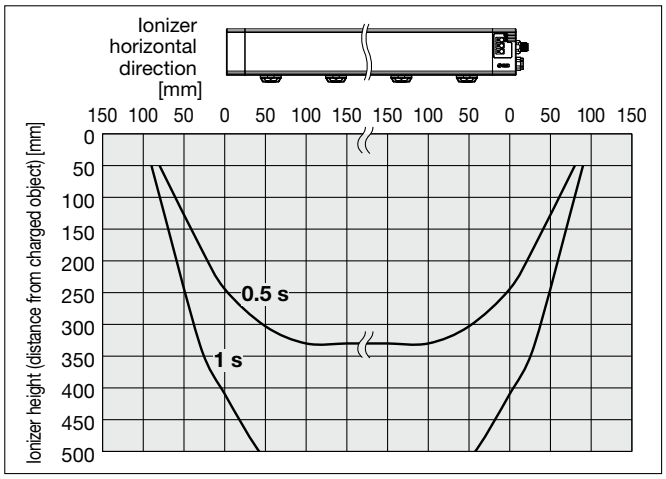
Low flow cartridge (Supply pressure: 0.5 MPa, Ion generation mode: Dual AC)





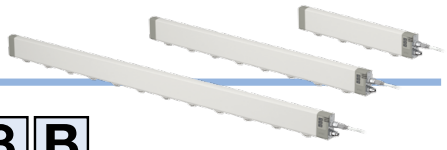
High flow cartridge (Supply pressure: 0.5 MPa, Ion generation mode: Dual AC)





Dustproof and water-resistant (IP66 equivalent)

Ionizer / Bar Type
IZSW10 Series



How to Order

IZSW10 – 40 ❶ ❷ – D ❸ N ❹ – 3 ❺ B ❻

❶ Bar length

Symbol	Bar length [mm]
40	400
58	580
76	760
94	940
112	1120

❷ Emitter cartridge type

Symbol	Type
Nil	Airless cartridge*1
T	High flow cartridge
J	Middle flow cartridge
V	Low flow cartridge

*1 When an airless cartridge is selected, a plug is included in the piping port.

❸ Piping port (Connection thread: G1/8)

Symbol	Type
Nil	Piping on both sides
D	Piping on one side*2

*2 Air supply from M12 connector side

❹ One-touch fitting

Symbol	Metric size
6	ø6 Straight
8	ø8 Straight
N	None*3

*3 Select "N" when the airless cartridge is selected, or when preparing your own fittings.

❺ Power supply cable

Symbol	Type
3	3 m
5	5 m
Z	10 m
N	None

❻ Bracket

Symbol	Type
Nil	None
B	With bracket

Recommended Piping Port Size

IZSW10-□T-□□-□□ High flow cartridge

Applicable tubing O.D. [mm]	Bar length				
	400	**580**	**760**	**940**	**1120**
ø6	○	○	○	○	●
ø8	○	○	○	○	○

○: Piping on one side ●: Piping on both sides

IZSW10-□J-□□-□□ Middle flow cartridge/
IZSW10-□V-□□-□□ Low flow cartridge

Applicable tubing O.D. [mm]	Bar length				
	400	**580**	**760**	**940**	**1120**
ø6	○	○	○	○	○
ø8	○	○	○	○	○

○: Piping on one side

Specifications

Ionizer model		IZSW10
Ion generation method		Corona discharge type
Voltage application method (Ion generation mode)		DC, Dual AC
Applied voltage∗1		±7000 V
Offset voltage∗2		Within ±30 V
Air purge	**Fluid**	Air
	Compressed air purity class	ISO 8573-1:2010 [2 : 4 : 3] to [2 : 6 : 3]
	Operating pressure	0.5 MPa or less
	Proof pressure	0.7 MPa
	Piping port	G1/8 (Standard fitting: Tubing O.D. ø6 mm, ø8 mm)
Power supply voltage		24 VDC ±10%
Current consumption		700 mA or less
Input signal	**NPN**	Voltage range: 5 VDC or less, Current consumption: 5 mA or less
	PNP	Voltage range: 19 VDC to power supply voltage, Current consumption: 5 mA or less
Output signal	**NPN**	Max. load current: 100 mA, Residual voltage: 1 V or less (at 100 mA), Max. applied voltage: 26.4 VDC
	PNP	Max. load current: 100 mA, Residual voltage: 1 V or less (at 100 mA)
Functions		Auto balance, Averaging function, Maintenance detection, High voltage abnormality detection (Ion generation stops when an abnormality is detected.), Ion generation stop input, Alarm check
Material (Enclosure)		Bar: ABS, PBT, PC, PET, Stainless steel, FKM, Tungsten (Emitter) Power supply cable: PVC, Elastomer, Stainless steel Bracket: Stainless steel
Ambient temperature		0 to +50°C
Ambient humidity		35 to 80%Rh (No condensation)
Enclosure rating	**Airless cartridge**	IP66
	High flow cartridge	When using air purge: IP66∗3 / When not using air purge: IP50
	Middle flow cartridge	
	Low flow cartridge	
Standards		CE, UKCA

∗1 Measured value with a high voltage probe (1000 MΩ, 5 pF)
∗2 When the ion generation mode is dual AC while using air purge at a distance of 300 mm between the workpiece and ionizer
∗3 When using air purge at a supply pressure of 0.1 MPa to 0.5 MPa

Weight

Bar length symbol	40	58	76	94	112
Number of emitter cartridges	4	6	8	10	12
Weight [g]	870	1010	1150	1290	1440

Accessories / Accessories Sold Separately (for Individual Purchase)

Emitter cartridge

IZSW10-N□

Symbol	Cartridge type	Nozzle color
Nil	Airless cartridge	White
T	High flow cartridge	Blue
J	Middle flow cartridge	Gray
V	Low flow cartridge	Black

Airless cartridge
(Nozzle color: White)

High flow cartridge
(Nozzle color: Blue)

Middle flow cartridge
(Nozzle color: Gray)

Low flow cartridge
(Nozzle color: Black)

Bar bracket

IZSW10-BE

Power supply cable

IZSW10-CP 03

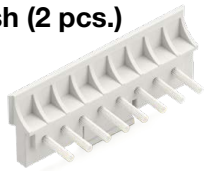
Symbol	Cable length [m]
03	3
05	5
10	10

Cleaning kit

IZSW10-M3

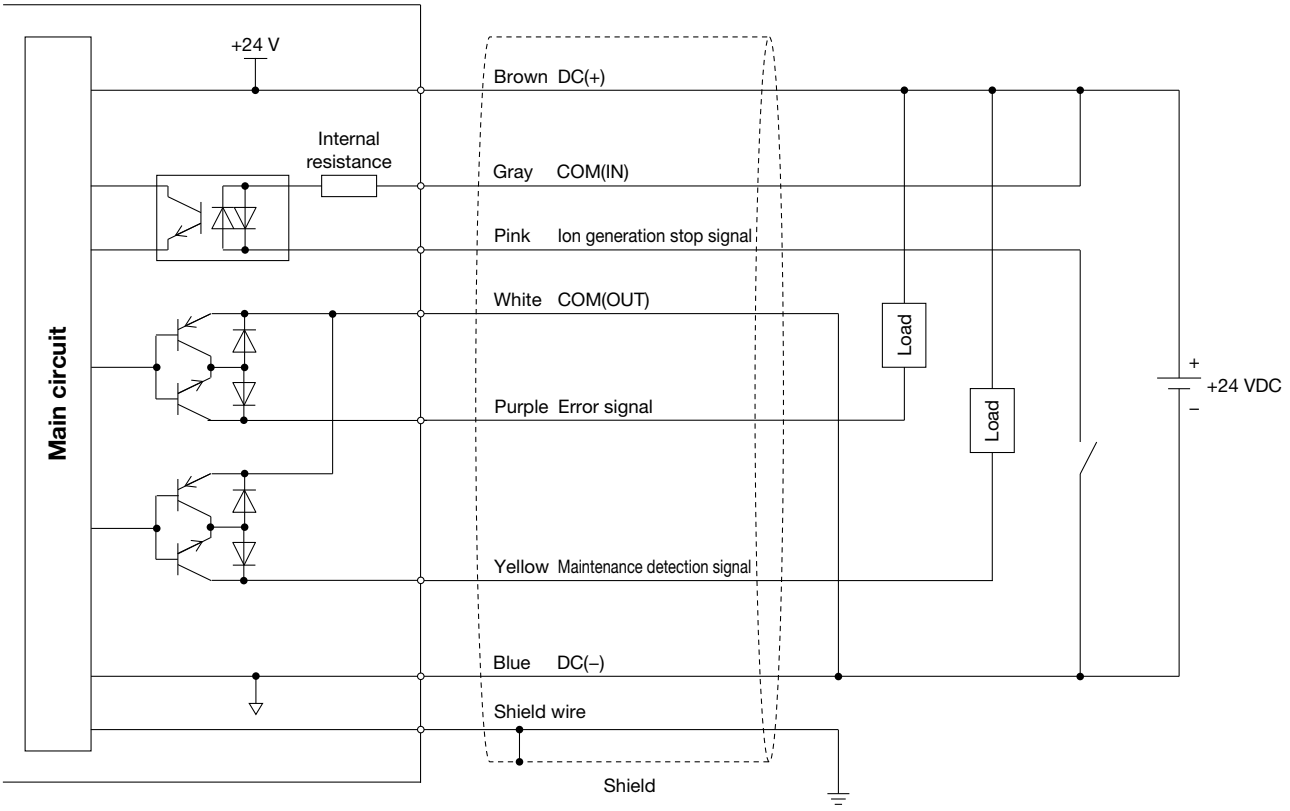
Replacement brush (2 pcs.)

IZS51-M3B

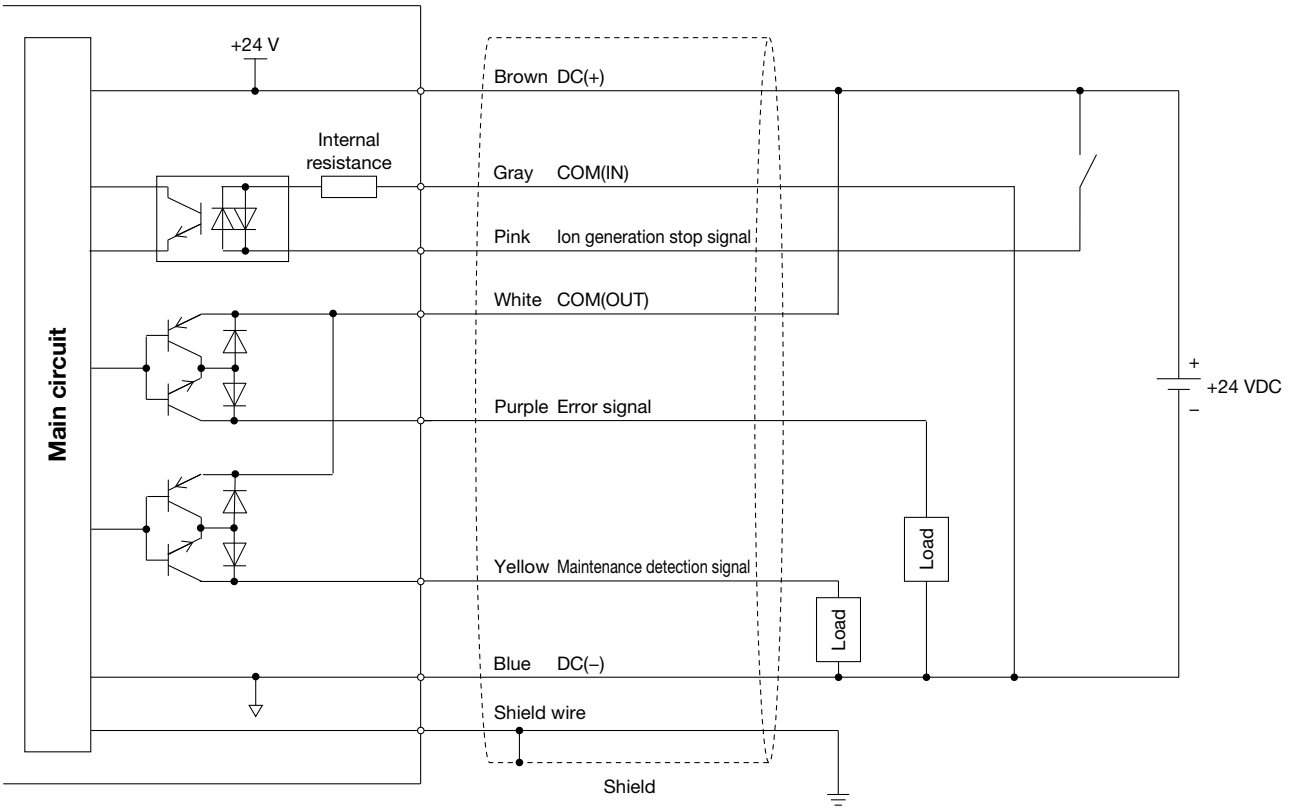


Wiring Circuit: IZSW10

Ionizer NPN input/output

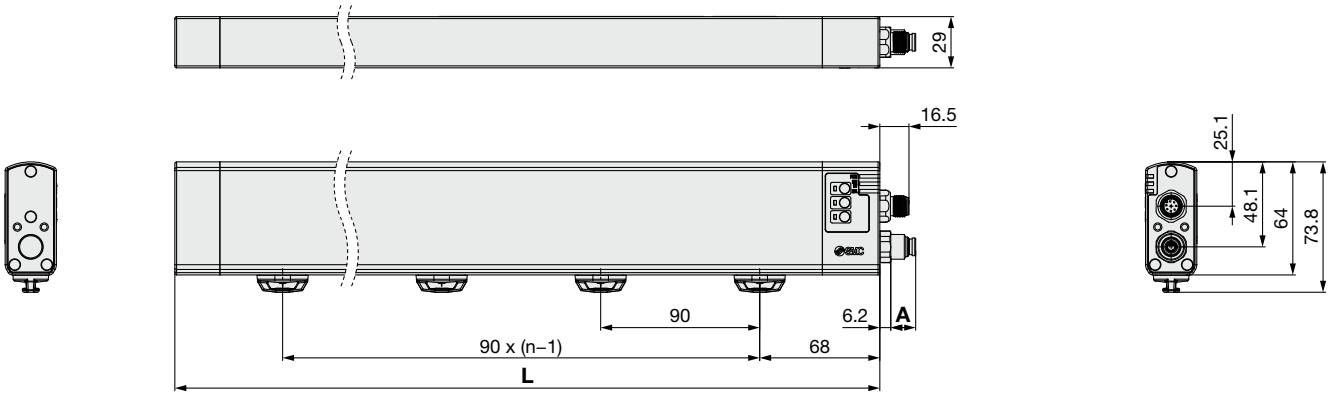


Ionizer PNP input/output

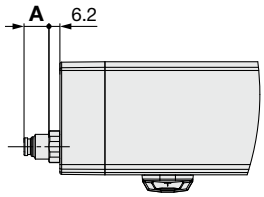


Dimensions

Ionizer/IZSW10



For piping on both sides



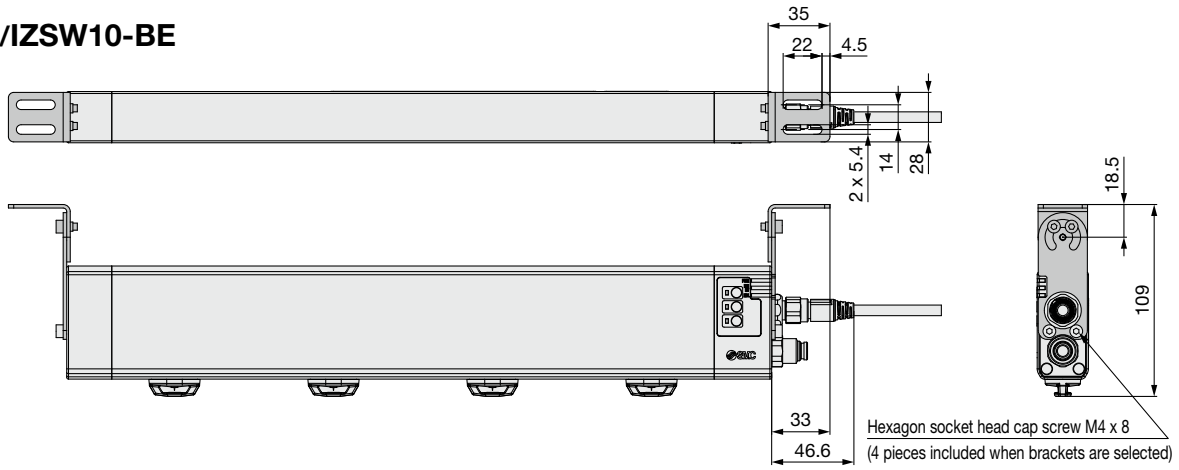
Number of Emitter Cartridges n
Bar Length L

Part no.	**n** [pcs.]	**L** [mm]
IZSW10-40	4	400
IZSW10-58	6	580
IZSW10-76	8	760
IZSW10-94	10	940
IZSW10-112	12	1120

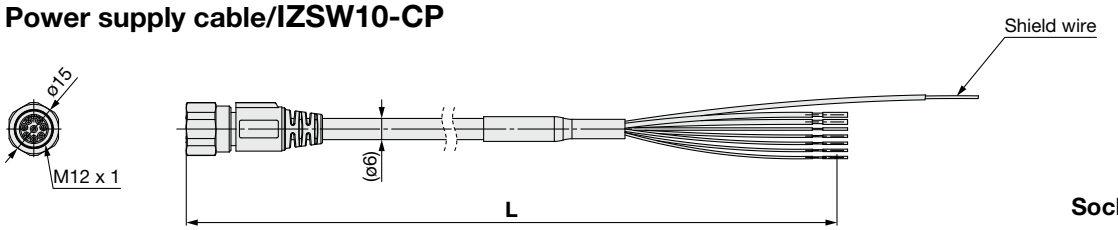
One-touch Fittings (Straight)

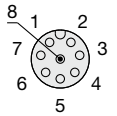
	Applicable tubing O.D.	**A** [mm]
Metric	ø6	16
	ø8	19
Plug		4

Bracket/IZSW10-BE



Power supply cable/IZSW10-CP





Socket connector

Power Supply Cable Length L

Part no.	**L** [mm]
IZSW10-CP03	3000
IZSW10-CP05	5000
IZSW10-CP10	9800

Power Supply Cable Specifications

Insulator	O.D.	ø1.55, ø0.95
	Material	PVC
Sheath	O.D.	ø6
	Material	PVC

A-coded

Terminal no.	Color	Nominal cross section
1	Brown	AWG20
2	Pink	AWG28
3	Blue	AWG20
4	Gray	AWG28
5	Purple	AWG28
6	Yellow	AWG28
7	White	AWG28
8	Black (Shield wire)	AWG20

IZSW10 Series
Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For common precautions, refer to the "Operation Manual" on the SMC website: https://www.smcworld.com

⚠ Caution

1. **When using, be sure to attach the power supply cable, emitter cartridge, and a piping tube or plug to the bar.**

   If it is not connected, the protective structure will not be maintained.

2. **Do not use while spraying water on the product. Always turn off the power supply before spraying water on the product.**

   If the bar is wet, it must be completely dry before turning the power supply on.

3. **Do not use in an atmosphere containing liquids other than water (cutting oil, chemicals, boiling water, etc.), conductive powders, or water vapor.**

4. **If the air purge is not used with the air purge emitter cartridge, the intrusion of water and dust may occur through the nozzle holes.**

   To prevent intrusion, clean the unit during an air purge (at a supply pressure of 0.1 to 0.5 MPa). If water or dust enters the air flow path, it may come into contact with the workpiece.

Protection Degree for Each Emitter Cartridge

Emitter cartridge	Degree of protection
Airless cartridge	IP66
High flow cartridge	When using air purge: IP66 / When not using air purge: IP50
Middle flow cartridge	When using air purge: IP66 / When not using air purge: IP50
Low flow cartridge	When using air purge: IP66 / When not using air purge: IP50

For details about the protection degree (JIS C 0920:2003/ IEC 60529:2001), refer to the following table.

Degree of protection		Details
IP66	Dust-tight	Ensure that dust particles do not enter the device.
	Water-jet-proof	Ensure that the direct application of water jets to the device from any direction while the ionizer is at rest does not cause any damage.
IP50	Dust protected	Ensure that dust particles do not enter the device in quantities that impair the operation or safety of the product.
	No water protection	No water protection

⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

⚠ Danger : **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

⚠ Warning: **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Caution: **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1:Robots
etc.

⚠ Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. SMC products cannot be used beyond their specifications. They are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not allowed.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, combustion equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

⚠ Caution

SMC develops, designs, and manufactures products to be used for automatic control equipment, and provides them for peaceful use in manufacturing industries.
Use in non-manufacturing industries is not allowed.
Products SMC manufactures and sells cannot be used for the purpose of transactions or certification specified in the Measurement Act of each country.
The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
   Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
   This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) **Suction cups (Vacuum pads) are excluded from this 1 year warranty.**
A suction cup (vacuum pad) is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the suction cup (vacuum pad) or failure due to the deterioration of rubber material are not allowed by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

⚠ Safety Instructions	Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.