Area Ionizer Pulse AC Method
ER-X SERIES

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CE Conforming to EMC Directive

FIBER SENSORS
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MICRO PHOTOELECTRIC SENSORS
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Selection Guide
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Cleaning Box
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Electrostatic Sensor

ER-X
ER-TF
ER-VS02
ER-VW
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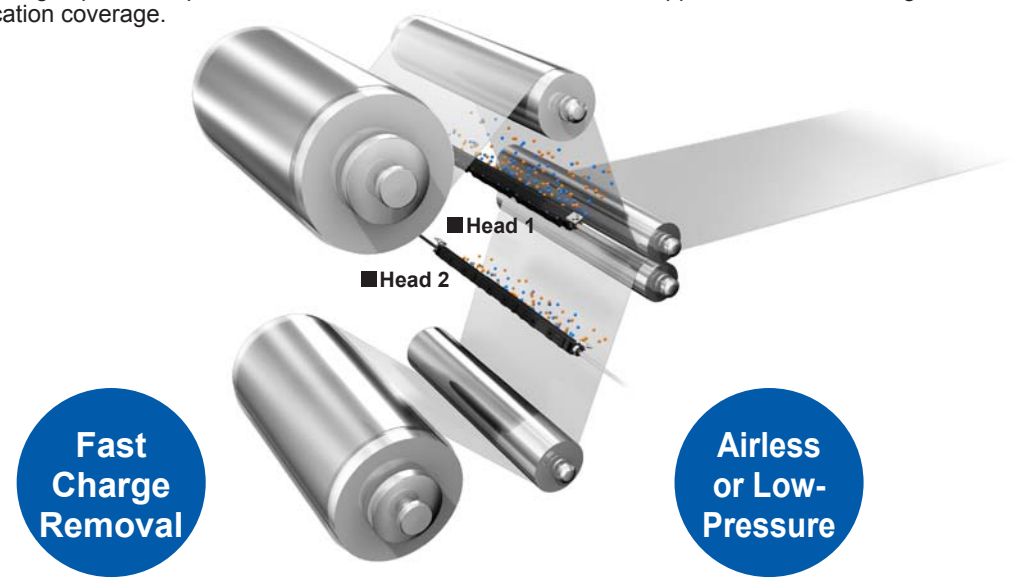
High-Speed, Wide Area Charge Removal

"Fast Charge Removal", "Airless", "Low-Pressure". Three charge removal modes for diverse application coverage.

The **ER-X** series offers an airless charge removal capability to eliminate the need for compressed air in addition to low pressure and high speed compressed air based modes. Furthermore, it supports dual-head configurations for expanded application coverage.



Massive ion discharge when using air reduces charge removal time.

By applying a compressed air source, the ion volume increases providing an improved tact time for substrate ionization. This makes the **ER-X** suitable for applications such as electronic paper and thin film solar cells, where charge removal time is directly linked to productivity.

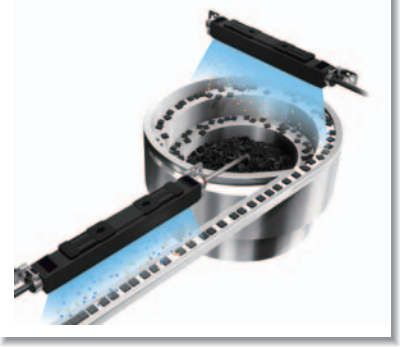
Prevents dust dispersion and cleanliness degradation!

The **ER-X** series can effectively remove surface charges with an air pressure of less than 0.05 MPa. With the advantage of minimal dust dispersion, it is suitable for charge removal in semiconductor, FPD (mobile panel), and other applications that require high degree of cleanliness. The presence of air also helps prevent adhesion of dust to the discharge needles, requiring less cleaning than in the airless charge removal mode.

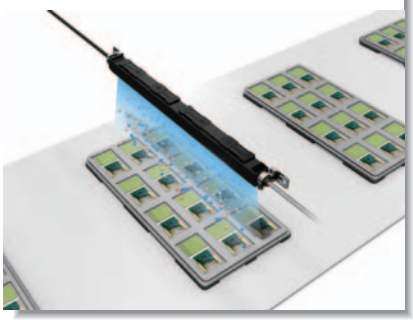
APPLICATIONS

Removal of static charges on laminate film

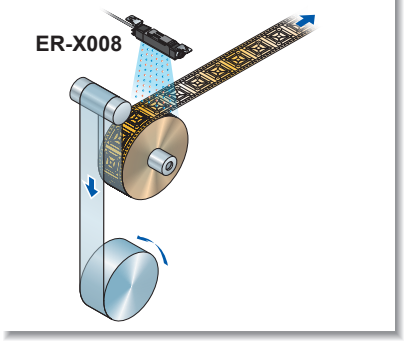
Prevention of part feeder clogging



High-speed charge removal on FPCs



Removing dust while separating TAB protective film



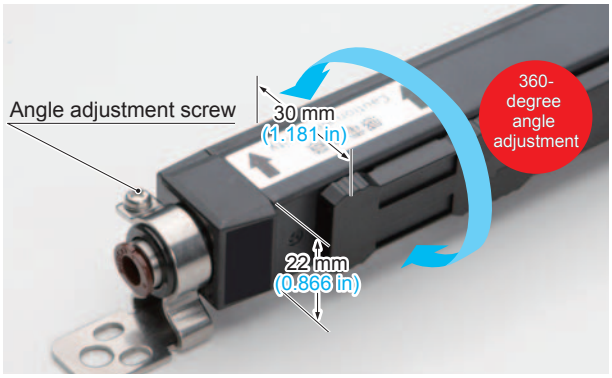
Preventing static damage to module components

Super-compact slim head

By thoroughly redesigning the discharge needle, we have created a super-compact slim head that combines high-speed charge removal*1 with a maintenance-saving design*2. The **ER-X** series can be embedded in, or retrofitted onto, equipment that did not provide enough space for antistatic measures in the past.

*1 Pulse AC method with built-in air tubes (max. pressure 0.5 MPa)

*2 Discharge needle air barrier structure, discharge needle unit for simple need replacement

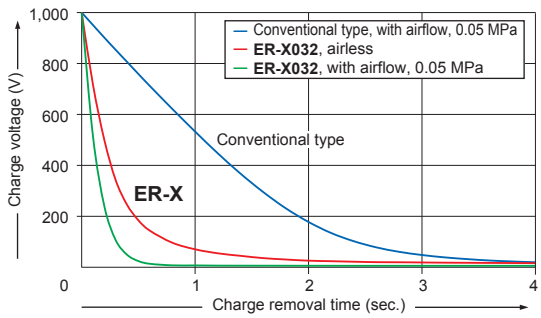


Pulse AC method for faster charge removal

The **ER-X** series has adopted the pulse AC method that alternately applies positive and negative voltages to each discharge needle. This enables generation and discharge of a large amount of ions, resulting in faster charge removal. Select from eight pulse frequencies according to your application, from 100 Hz for charge removal on nearby or moving workpieces to 1 Hz for charge removal on far-away workpieces or in a three-dimensional space.

■Charge removal time characteristics (TYPICAL)

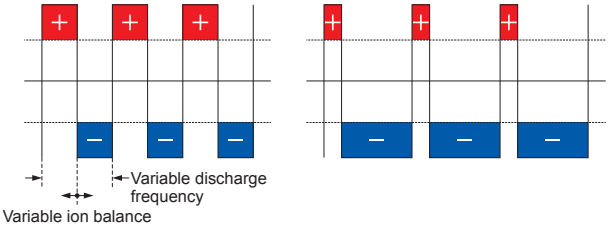
Measured at a charge removal distance of 100 mm 3.937 in using a 150 × 150 mm 5.906 × 5.906 in CPM (at center of CPM).



Automatic ion balance control

The **ER-X** series provides an automatic ion balance control mechanism that senses the amount of ions being generated (which changes according to environmental factors) and compensate for this deviation in the controller, thus maintaining a highly stable ion balance as an original operator setting.

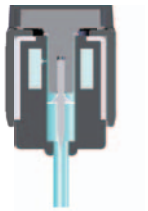
<Pulse AC method>



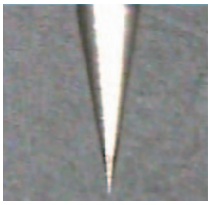
Discharge needle air barrier design for reduced contamination

A barrier of clean air around the discharge needle keeps foreign matter from adhering to it, preventing degraded performance. Additionally, by using separate air sources for the discharge needle barrier and ion transport, the **ER-X** series keeps discharge from becoming unstable due to pressure concentration, allowing the device to efficiently generate and transport ions.

Air barrier structure



Efficient charge removal structure using 0.05 MPa airflow
Discharge needle after 1 month



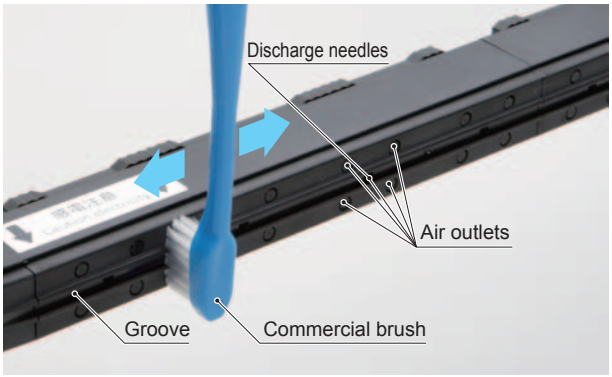
Efficient charge removal structure

Carefully designed to prevent contamination in manufacturing processes

In consideration of the manufacturing process (secondary cells etc.), the **ER-X** series heads neither use copper nor plate processing. This minimizes the risk of contamination with foreign substances.

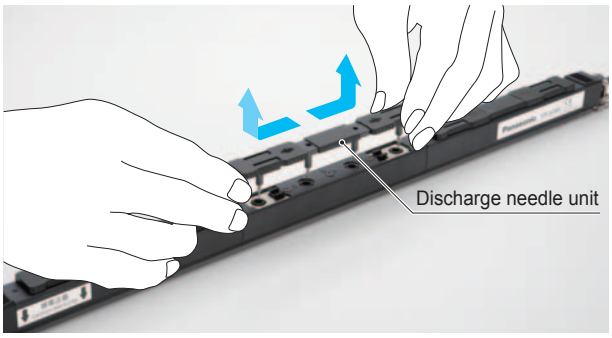
Flat discharge surface for easy cleaning

The **ER-X** series heads have a flat discharge face, allowing effortless cleaning of the discharge needles and air outlets by simply brushing along the groove provided.

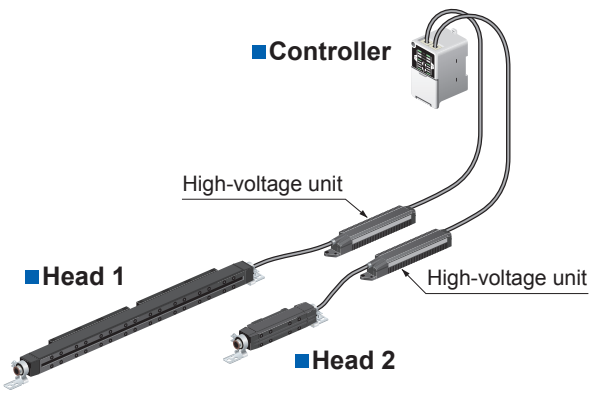


Discharge needle unit for simple needle replacement

The removable discharge needle unit (including a set of four needles) substantially simplifies maintenance. To remove the unit, just slide it toward both ends as indicated by the arrows.



Dual Head Configuration for Enhanced Charge Area and Layout Expansion



1 controller + **2 heads**

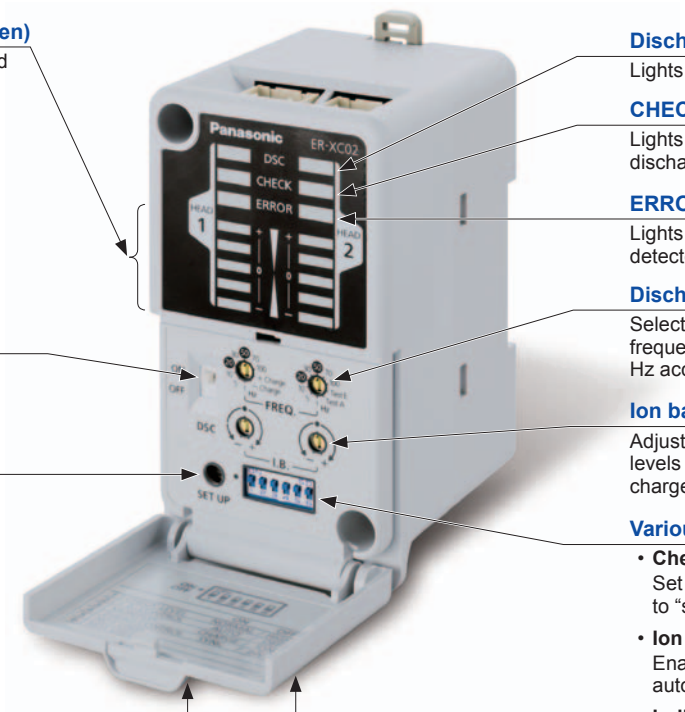
- Different heads can be combined.
- Charge removal is possible with a layout that places heads on either side of the workpiece.
- The charge removal efficiency can be increased by synchronizing the two heads.

Charge removal modes can be selected.

Charge removal in "fast" or "low-pressure" mode requires compressed air, while "airless or low-pressure" mode does not need compressed air.

Multifunction controller to which 2 heads can be connected

This all-in-one model controller features a range of functionality that allows it to perform optimal charge removal.



Level meter indicator (green)

Indicates static buildup around the head or the amount of ion generated from the head.

Discharge control switch

ON: Discharge allowed
OFF: Discharge halt

SET UP button

Stores the settings for the amount of ion and the check threshold in memory.

Discharge control input

Turn ion generation on and off from an external device.

Alarm output, error output

Report maintenance timing and malfunctions to an external device.

Discharge indicator (green)

Lights up during discharge.

CHECK indicator (orange)

Lights up when dirt, wear, etc. of the discharge needle is detected.

ERROR indicator (red)

Lights up when abnormal discharge is detected.

Discharge frequency setting switch

Select from eight ion generation frequencies ranging from 100 Hz to 1 Hz according to your application.

Ion balance setting switch

Adjust the ion balance to any of 15 levels according to the strength of the charge on the workpieces.

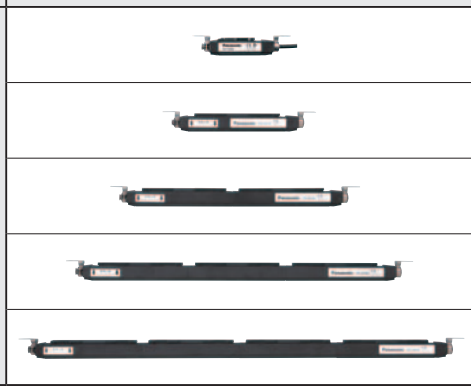
Various setting switch

- **Check level changeover switch**
  Set the maintenance notification level to “standard” or “high-sensitivity.”
- **Ion balance control switch**
  Enable or disable the ion balance auto control function.
- **Indicator changeover switch**
  Set the level meter indicator display mode to “charge strength display” or “ion generation volume display.”
- **2 heads control switch**
  Set the ion generation timing for the two heads to “synchronize” or “inverse.”

ORDER GUIDE

Heads

Head connection cable is not supplied with the head. Please order it separately.

Type	Appearance	Charge removal time (±1,000 V→±100 V)	Ion balance	Effective charge removal width	Model No.
Bar type		1 sec. approx. (Note 1)	±30 V or less (Note 1, 2)	80 mm 3.150 in approx.	NEW **ER-X008**
				160 mm 6.299 in approx.	**ER-X016**
				320 mm 12.598 in approx.	**ER-X032**
				480 mm 18.898 in approx.	**ER-X048**
				640mm 25.197 in approx.	**ER-X064**

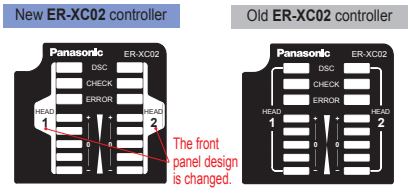
Notes: 1) In condition of discharge distance 100 mm 3.937 in, center of the product, discharge wavelength 50 Hz and no air supply.
2) Ion balance is average of plus and minus. Also, the specification value is typical value in condition of less than ±10°C ambient temperature change, set the ion balance after 30 minutes of the discharge starting, switching on the ion balance control function.

Controller

Power cable is not supplied with the controller. Please order it separately.

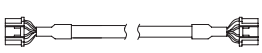
Type	Appearance	Model No.	Number of heads connected	Output
Standard type		**ER-XC02**	Max. 2 units	PhotoMOS relay

Note: When using the **ER-X008**, use the new controller **ER-XC02**. The new controller **ER-XC02** is compatible with existing heads of the **ER-X** series.
The new controller can be distinguished as follows:



Head connection cable

Head connection cable is not supplied with the head. Please order it separately.

Appearance	Model No.	Description	
	**ER-XCCJ2H**	Length: 2 m 6.562 ft, Net weight: 120 g approx.	Cabtyre cable with both connector
	ER-XCCJ5H	Length: 5 m 16.404 ft, Net weight: 290 g approx.	
	ER-XCCJ10H	Length: 10 m 32.808 ft, Net weight: 560 g approx.	

OPTIONS

Designation	Model No.	Description	
Power cable	**ER-XCC2**	Length: 2 m 6.562 ft, Net weight: 80 g approx.	0.15 mm² 10-core cabtyre cable with connector Cable outer diameter: ø5.3 mm ø0.209 in
	ER-XCC5	Length: 5 m 16.404 ft, Net weight: 190 g approx.	
AC adapter	**ER-XAPS-EX** (Note 1)	IN: 100 to 240 V AC, 50 / 60 Hz OUT: 24 V DC, 1.5 A Ambient temperature: 0 to +40 °C +32 to +104 °F Ground wire: 3.7 m 12.139 ft AC cable: 1 pc., Cable length 1.8 m 5.906 ft, Rating 125 V AC (Note) Wiring connector terminals: 6 pcs.	
	ER-XAPS		
AC cable	**CN-ACCN-C2**	AC cable (conforming to CCC), Length: 2 m 6.562 ft	
	CN-ACKR-C2	AC cable (conforming to KTL), Length: 2 m 6.562 ft	
Discharge needle unit	**ER-XANT**	Unit with replacement tungsten needles: 1 pc.	
	ER-XANT2	For **ER-X008** only. Unit with replacement tungsten needles: 1 pc.	
Discharge part protective cover	**ER-XACVR**	For **ER-X016**/**X032**/**X048**/**X064**. Enables to prevent electric shock by mounting to the heads. 2 pcs per set. (Note 2) Material: polycarbonate Weight: 20 g approx. (1 set) * No effect on charge removal capacity of the heads by mounting a discharge part protection cover	

Notes: 1) Rating of the AC cable is 125 V AC. In case using at more than 125 V, prepare a proper cable by yourself or purchase our optional cable **CN-ACCN-C2** or **CN-ACKR-C2**. And, the AC cable is not enclosed with **ER-XAPS-EX**.

2) The number of set(s) you need depends on the head model No.

Model No.	ER-X016	ER-X032	ER-X048	ER-X064
No. of set (2 pcs per set)	1 set	2 set	3 set	4 set

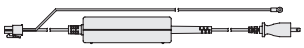
Power cable

• **ER-XCC□**

AC adapter

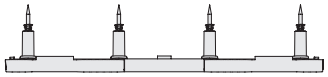
• **ER-XAPS-EX**

• **ER-XAPS**



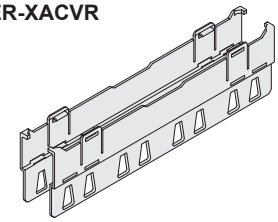
Discharge needle unit

• **ER-XANT**



Discharge part protective cover

• **ER-XACVR**



SPECIFICATIONS

Heads

Item \ Type / Model No.	ER-X008	ER-X016	ER-X032	ER-X048	ER-X064
	Head				
Effective charge removal width	80 mm 3.150 in approx.	160 mm 6.299 in approx.	320 mm 12.598 in approx.	480 mm 18.898 in approx.	640 mm 25.197 in approx.
Charge removal time	1 second or less (Note 1)				
Ion balance	±30 V or less (Note 1, 2)				
Discharge method	Pulse AC method				
Discharge output voltage	±7,000 V approx.				
Ozone generation	0.01 ppm or less				
Maximum air pressure	0.5 MPa				
Applicable fluid	Air (dried clean air) (Note 3)				
Ambient temperature	0 to +50 °C +32 to +122 °F (No dew condensation), Storage: –10 to +65 °C +14 to +149 °F				
Ambient humidity	35 to 65 % RH, Storage: 35 to 85 % RH				
Vibration resistance	10 to 55 Hz frequency, 0.75 mm 0.030 in amplitude in X, Y and Z directions for two hours each				
Shock resistance	100 m/s² acceleration (10 G approx.), in X, Y and Z directions for three times each				
Enclosure grounding method	Floating				
Material	Main unit enclosure: PPS, Stainless steal (SUS) Head mounting bracket: Stainless steal (SUS), Discharge needle: Tungsten				
Net weight	330 g approx.	410 g approx.	530 g approx.	650 g approx.	780 g approx.

Notes: 1) In condition of discharge distance 100 mm 3.937 in, center of the product, discharge wavelength 50 Hz and no air supply.
2) Ion balance is average of plus and minus. Also, the specification value is typical value in condition of less than ±10 °C ambient temperature change, set the ion balance after 30 minutes of the discharge starting, switching on the ion balance control function.
3) Dried clean air is the air passing through air dryer (dew point –20 °C –4 °F approx.) and air filter (mesh size 0.01 µm 0.0004 mil approx.)

Controller

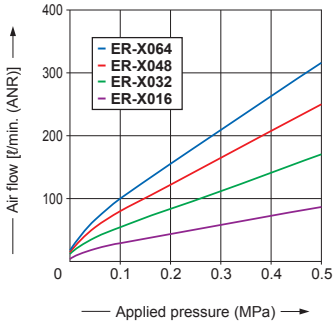
Item \ Type / Model No.	ER-XC02
	Controller
Number of heads connected	Maximum 2 units
Supply voltage	24 V DC ±10 %
Current consumption	450 mA or less when connecting 1 heads, 800 mA or less when connecting 2 heads
Indictor	Displays status of Head 1 and 2
DSC (Discharge)	Green LED (lights up when discharging)
CHECK	Orange LED (lights up when dirt, wear, etc. of the discharge needle is detected)
ERROR	Red LED (lights up when abnormal discharge is detected)
Level meter	Green LED (5 levels, lights up depending on amount of the charge or ion generation)
Output [ALARM, ERROR, COM (Common)]	PhotoMOS relay output • Maximum load current: 100 mA • Applied voltage: 30 V DC or less (between output-output common) • Residual voltage: 1.5 V or less (at load current of 100 mA)
Output operation	ALARM: ON when dirt or wear of the discharge needle is detected; OFF when operation is normal. ERROR: OFF when abnormal discharge is detected; ON when operation is normal.
Short-circuit protection	Incorporated (automatic reset type)
Discharge control input (DSC OFF)	Discharge allowed: Open, Discharge halt: 24 V or 0 V shorted
Ambient temperature	0 to +50 °C +32 to +122 °F (No dew condensation), Storage: –10 to +65 °C +14 to +149 °F
Ambient humidity	35 to 65 % RH, Storage: 35 to 85 % RH
Voltage withstandability	1,000 V AC for one min. between all supply terminals connected together and enclosure
Insulation resistance	20 MΩ, or more, with 250 V megger between all supply terminals connected together and enclosure
Vibration resistance	10 to 150 Hz frequency, 0.75 mm 0.030 in amplitude in X, Y and Z directions for two hours each
Shock resistance	100 m/s² acceleration (10 G approx.) in X, Y and Z directions for three times each
Enclosure grounding method	Floating
Material	Enclosure: ABS
Weight	130 g approx.
Accessories	Power supply / I/O connector: 1 set (Housing 5557-10R, Terminal 5556TL [manufactured by Molex]) Ground wire (3.7 m 12.139 ft approx.): 1 pc.

CHARGE REMOVAL CHARACTERISTICS (TYPICAL) Please contact our office for details on data that is not listed here.

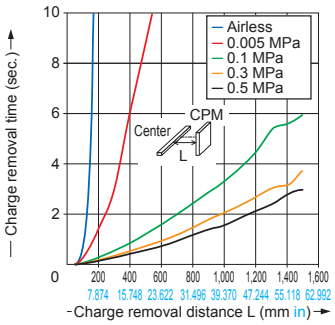
Measured using a 150 × 150 mm 5.906 × 5.906 in CPM (charge plate monitor). (At center of CPM)

Common

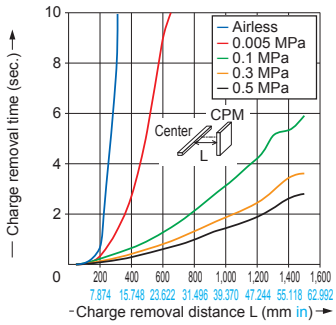
Air flow



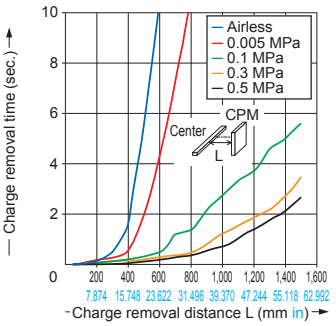
Correlation between charge removal distance and charge removal time (50 Hz)



Correlation between charge removal distance and charge removal time (10 Hz)

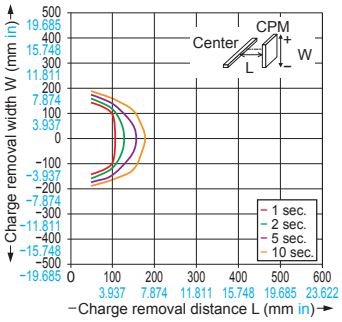


Correlation between charge removal distance and charge removal time (1 Hz)

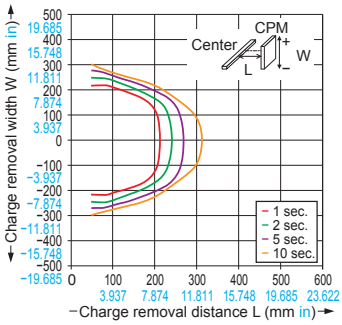


Common

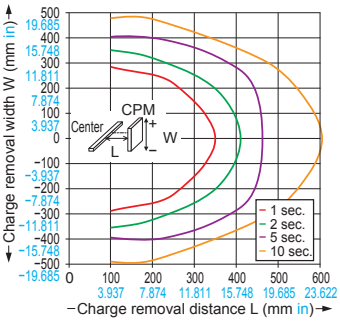
Charge removal field (vertical direction, airless, 50 Hz)



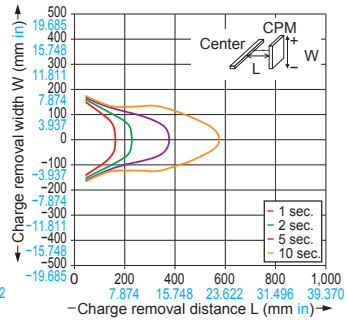
Charge removal field (vertical direction, airless, 10 Hz)



Charge removal field (vertical direction, airless, 1 Hz)

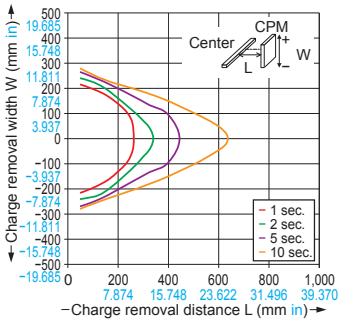


Charge removal field (vertical direction, 0.005 MPa, 50 Hz)

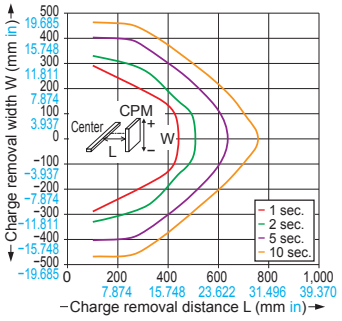


Common

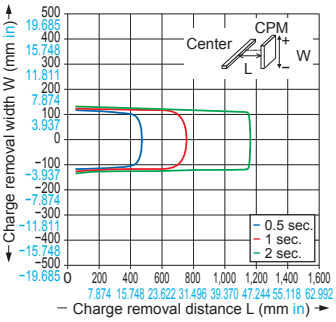
Charge removal field (vertical direction, 0.005 MPa, 10 Hz)



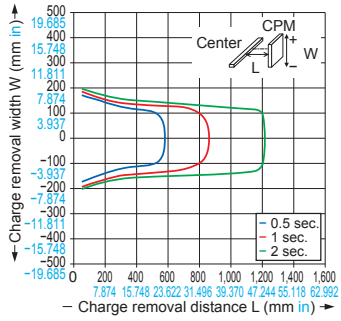
Charge removal field (vertical direction, 0.005 MPa, 1 Hz)



Charge removal field (vertical direction, 0.5 MPa, 50 Hz)

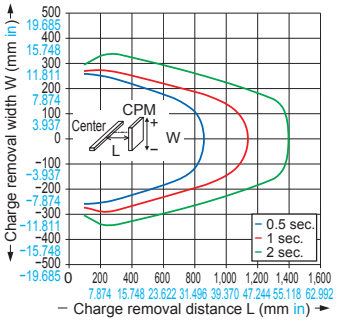


Charge removal field (vertical direction, 0.5 MPa, 10 Hz)



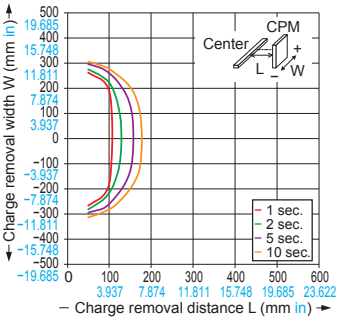
Common

Charge removal field (vertical direction, 0.5 MPa, 1 Hz)

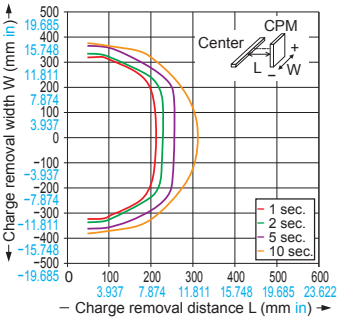


ER-X032

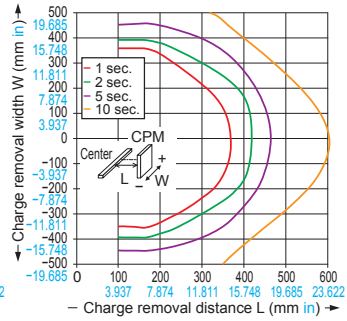
Charge removal field (horizontal direction, airless, 50 Hz)



Charge removal field (horizontal direction, airless, 10 Hz)



Charge removal field (horizontal direction, airless, 1 Hz)

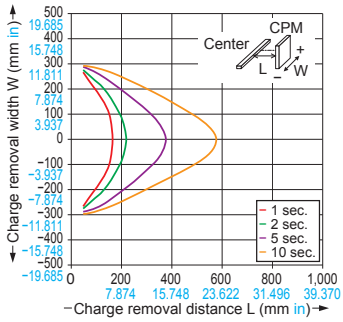


CHARGE REMOVAL CHARACTERISTICS (TYPICAL) Please contact our office for details on data that is not listed here.

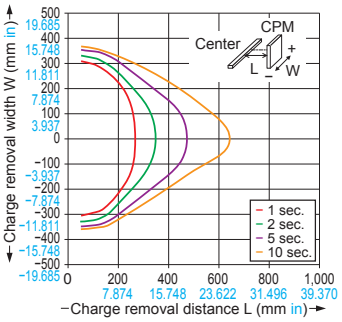
Measured using a 150 × 150 mm 5.906 × 5.906 in CPM (charge plate monitor). (At center of CPM)

ER-X032

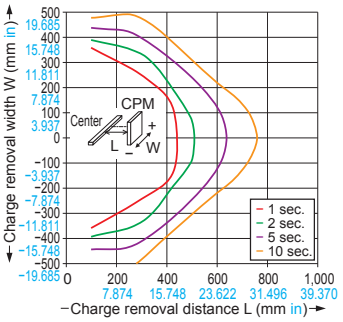
Charge removal field (horizontal direction, 0.005 MPa, 50 Hz)



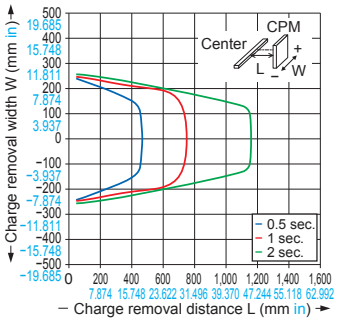
Charge removal field (horizontal direction, 0.005 MPa, 10 Hz)



Charge removal field (horizontal direction, 0.005 MPa, 1 Hz)

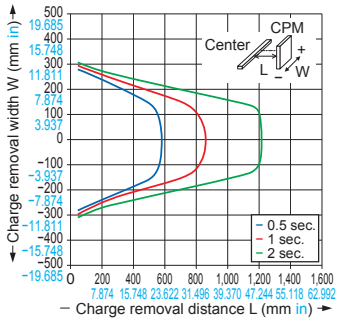


Charge removal field (horizontal direction, 0.5 MPa, 50 Hz)

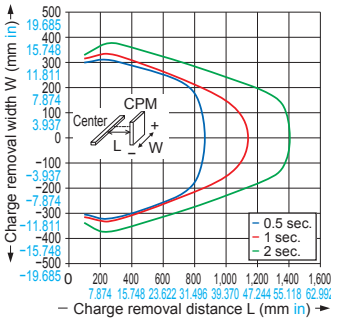


ER-X032

Charge removal field (horizontal direction, 0.5 MPa, 10 Hz)

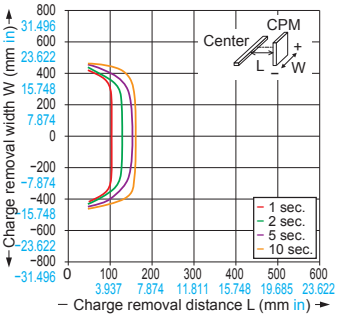


Charge removal field (horizontal direction, 0.5 MPa, 1 Hz)

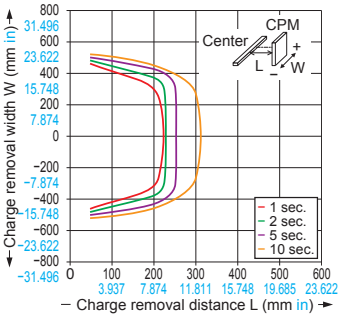


ER-X064

Charge removal field (horizontal direction, airless, 50 Hz)

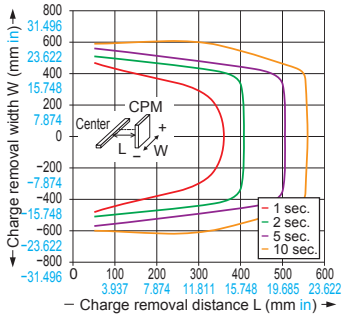


Charge removal field (horizontal direction, airless, 10 Hz)

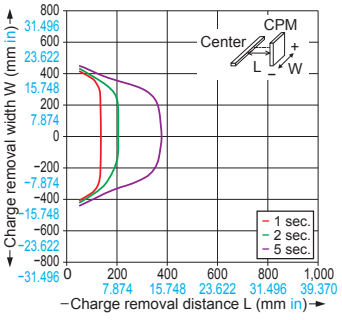


ER-X064

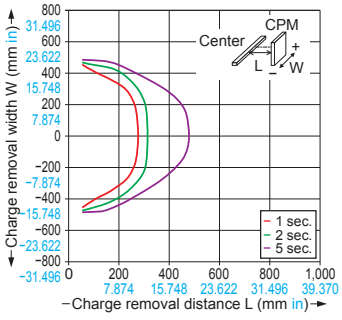
Charge removal field (horizontal direction, airless, 1 Hz)



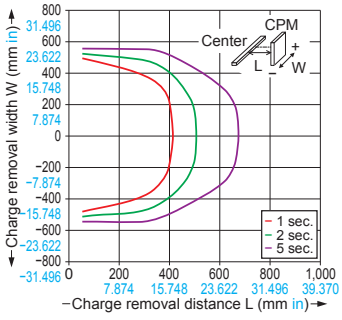
Charge removal field (horizontal direction, 0.005 MPa, 50 Hz)



Charge removal field (horizontal direction, 0.005 MPa, 10 Hz)

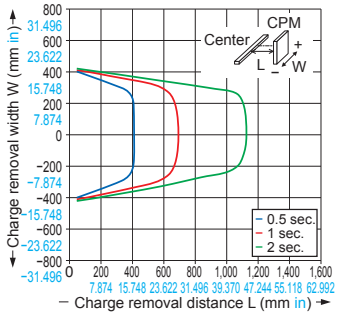


Charge removal field (horizontal direction, 0.005 MPa, 1 Hz)

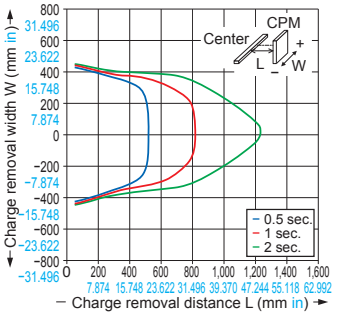


ER-X064

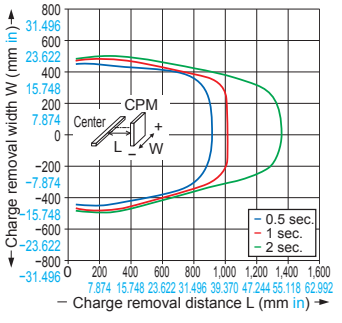
Charge removal field (horizontal direction, 0.5 MPa, 50 Hz)



Charge removal field (horizontal direction, 0.5 MPa, 10 Hz)

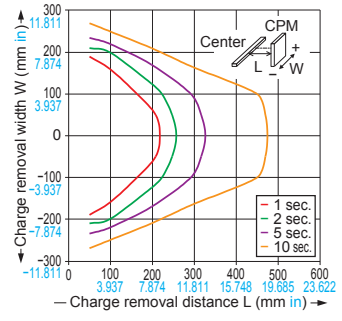


Charge removal field (horizontal direction, 0.5 MPa, 1 Hz)



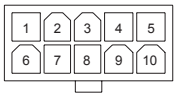
ER-X008

Charge removal field (horizontal direction, 0.005 MPa, 10 Hz)



I/O CIRCUIT AND WIRING DIAGRAMS

Power connector pin arrangement



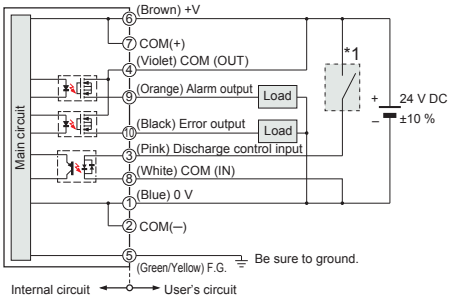
(Front view)

Housing: 5569-10A
[Manufactured by Molex]

Terminal No.	Terminal name	Color code
1	0 V	Blue
2	COM(–)	—
3	Discharge control input	Pink
4	COM(OUT)	Violet
5	F.G. terminal	Green/Yellow
6	24 V	Brown
7	COM(+)	—
8	COM(IN)	White
9	Alarm output	Orange
10	Error output	Black

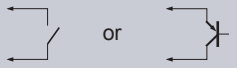
Note: Color code refers to cable colors of an optional power supply cable.

When connecting the output to negative common



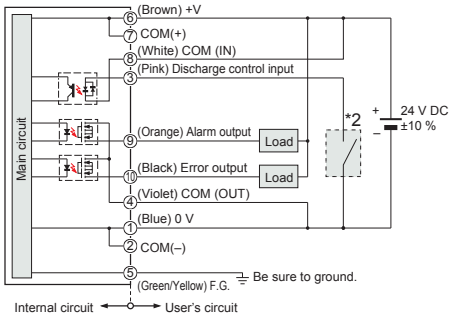
*1

Non-voltage contact or
PNP transistor/open collector



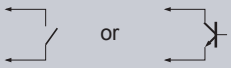
Contact "closed" or transistor ON: Discharge halt
Contact "open" or transistor OFF: Starting discharge

When connecting the output to positive common



*2

Non-voltage contact or
NPN transistor/open collector



Contact "closed" or transistor ON: Discharge halt
Contact "open" or transistor OFF: Starting discharge

Notes: 1) Be sure to ground the F.G. terminal. If F.G. terminal is not connected properly, it may cause electric shock.
2) To stop discharge, turn ON the discharge control input for 20 ms or longer. To start discharge, turn OFF (open) the discharge control input. Discharge will start in 20 ms.

PRECAUTIONS FOR PROPER USE

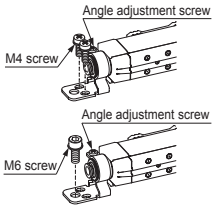
Refer to p.1501 for general precautions.

- Never use this product in 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 in places where there may be a danger of flammable or combustible items being present.
- To prevent electric shock and to conduct proper discharge, be sure to ground a frame ground (F.G.) terminal of a controller.
- Do not place hands near the discharge needle. Doing so may cause electric shock.
- Since the tip of the discharge needle is sharp, take sufficient care in handling the discharge needle, or injuries may result.
- The high-voltage cable between the head and the high-voltage unit must be fixed and the minimum bend radius is R30 mm R1.181 in or more. In case of using at the bend radius R30 mm R1.181 in or less and using at moving part may cause fire and break down, etc. of the high-voltage cable.
- Clean the discharge needle regularly (about once a week). Otherwise, optimum charge removal performance may not be achieved, and accidents or operating problems may occur.
- If this product is used in a confined space, ozone emitted from this product may be detrimental. Be sure to provide ventilation.
- Do not direct ionized air toward the face. Ozone may cause irritation to places such as the nose and throat.

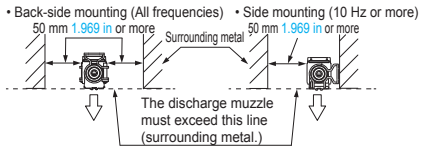
Mounting

Head installation

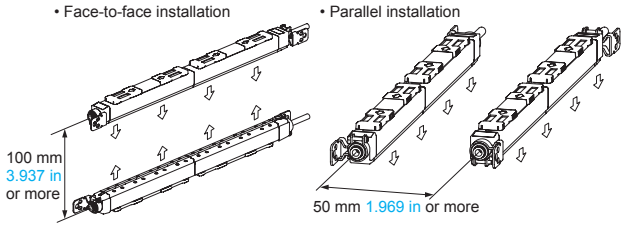
- Using 2 M4 screws or 1 M6 screw, mount the head onto the equipment housing.
- Loosen the angle adjustment screw, adjust the head angle, and then fasten the head with the tightening torque of 0.5 N·m or less.



Notes: 1) Be sure to ground the equipment housing onto which the head is mounted.
2) The distance between the head and the charge removing object should be 30 mm 1.181 in or more.
If the static buildup of the charge removing object is 30 kV or more, set the distance to 50 mm 1.969 in or more.
3) If there is metal near the head or between the head and the charge removing object, ion is absorbed, hindering appropriate static removal. Install the head under the following installation condition.
4) In case using the side mounting, the discharge frequency should be 10 Hz or more.

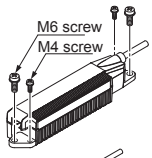


5) When installing two or more heads set the same frequency and keep the distance as below. In face to face or parallel using different frequency, keep the distance between the heads 400 mm 15.748 in or more.

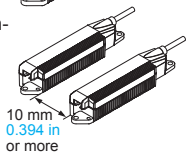


High-voltage unit installation

- Use 2 M4 screws or 2 M6 screws to fasten the head. The tightening torques for fastening, are as follows.
When using M4 screws: 1.2 N·m
When using M6 screws: 2.5 N·m



Notes: 1) Do not place any objects on top of the high-voltage unit.
2) When using multiple heads, keep the distance of at least 10 mm 0.394 in between the high-voltage units.
3) When fastening the high-voltage unit using M6 screws, fasten before connecting the head connection cable.



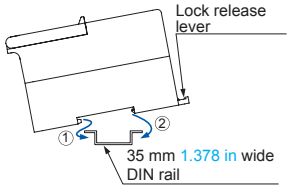
PRECAUTIONS FOR PROPER USE

Refer to p.1501 for general precautions.

Controller installation

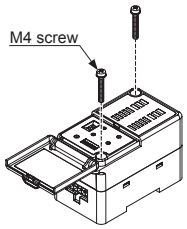
- Mount the controller on a 35 mm 1.378 in wide DIN rail or using M4 screws.

<When mounting on a DIN rail>



- Pull the lock release lever to remove this product from the DIN rail.

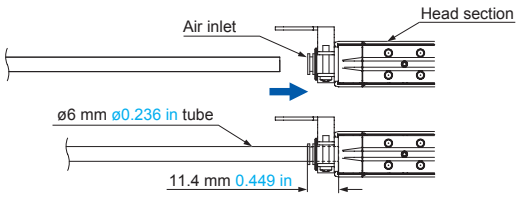
<When mounting using M4 screws>



- The tightening torque should be 1.2 N•m or less.

PIPING

- Air supplied to this product will reduce contamination of the discharge needle and improve the charge removal speed.
- The outer diameter of the air tube to fit to the air inlet portion of this product should be ø6 mm ø0.236 in.
- 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 is not in short supply. For the pneumatic components, select those that can accommodate the air supply flow rate.

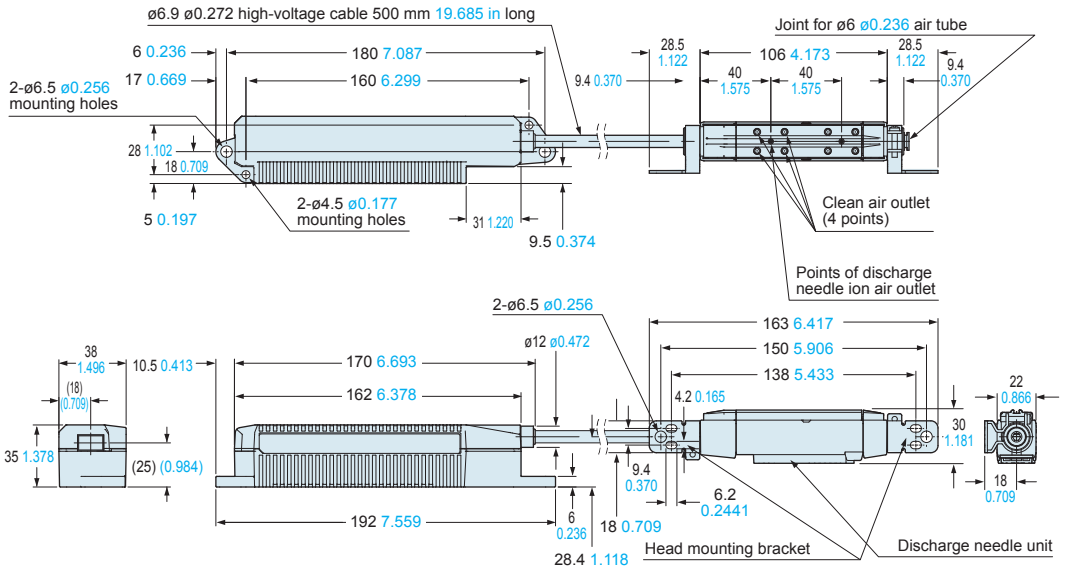


Note: After inserting the tube into the joint of this product, always make sure that the tube is all the way in and securely inserted. Insufficient tube insertion will cause air leakage.

DIMENSIONS (Unit: mm in)

The CAD data in the dimensions can be downloaded from our website.

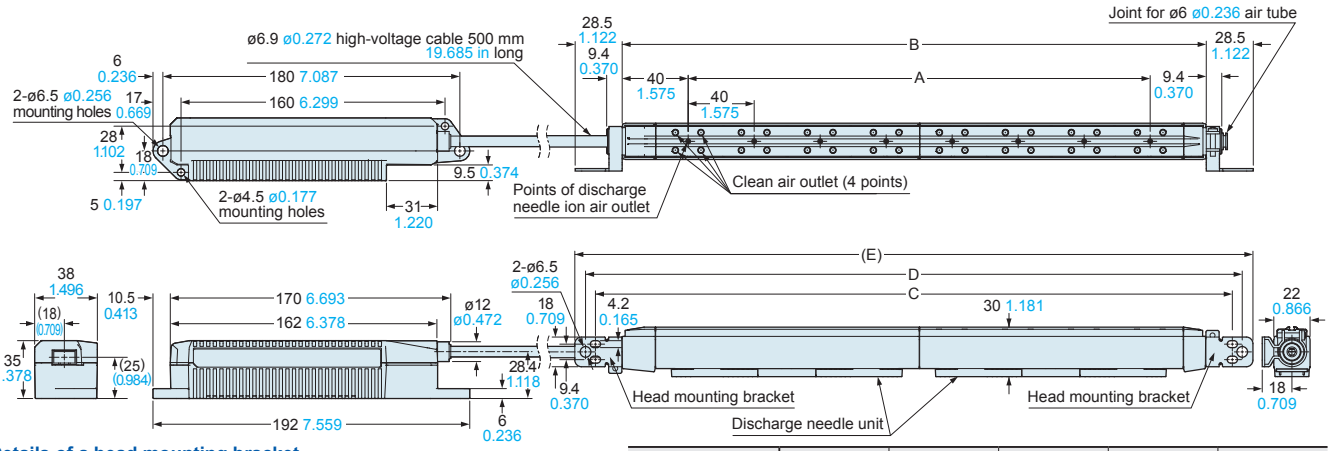
ER-X008 Head



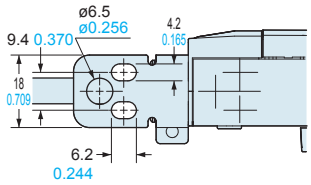
DIMENSIONS (Unit: mm in)

The CAD data in the dimensions can be downloaded from our website.

ER-X016 ER-X032 ER-X048 ER-X064 — Head

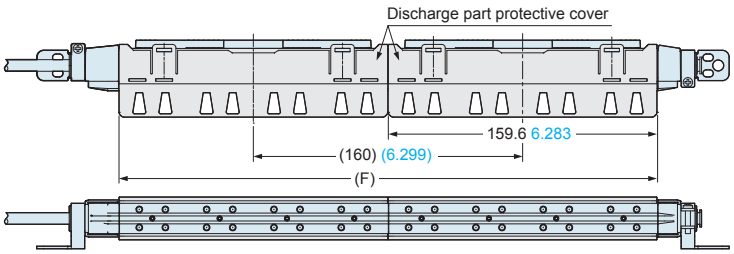


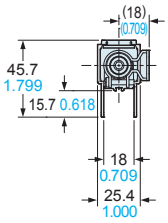
Details of a head mounting bracket



Model No.	A	B	C	D	(E)
ER-X016	120 4.724	194 7.638	226 8.898	238 9.370	251 9.882
ER-X032	280 11.024	354 13.937	386 15.197	398 15.669	411 16.181
ER-X048	440 17.323	514 20.236	546 21.496	558 21.969	571 22.480
ER-X064	600 23.622	674 26.535	706 27.795	718 28.268	731 28.780

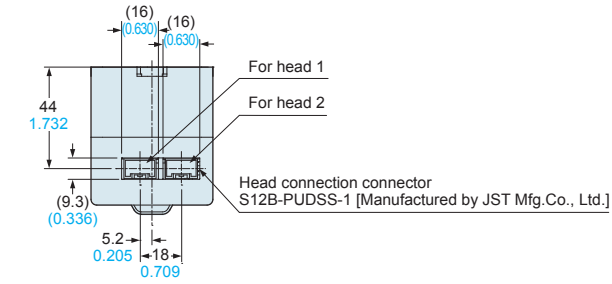
Mounting drawing with discharge part protective cover (ER-XACVR)

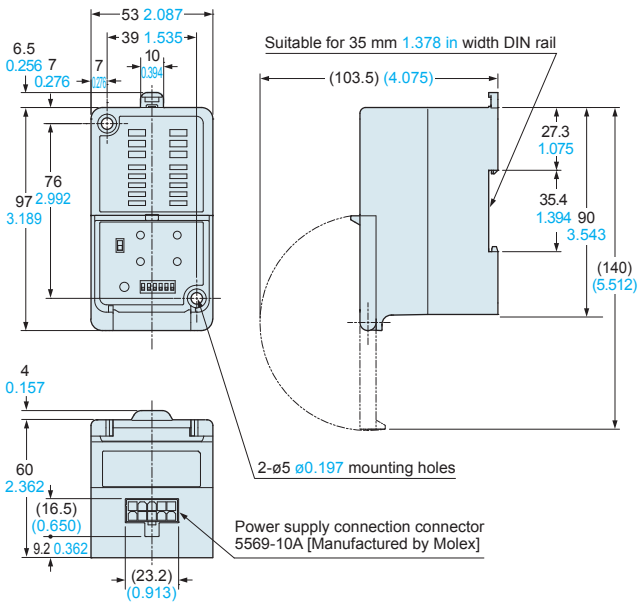




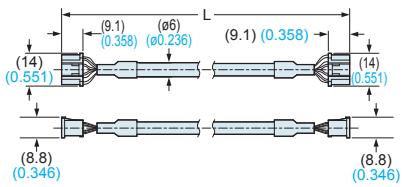
Model No.	(F)
ER-X016	159.6 6.283
ER-X032	319.6 12.583
ER-X048	479.6 18.882
ER-X064	639.6 25.181

ER-XC02 — Controller





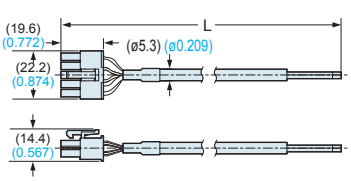
ER-XCCJ□H — Head connection cable



- Length L

Model No.	Length L
ER-XCCJ2H	2,000 78.740
ER-XCCJ5H	5,000 196.850
ER-XCCJ10H	10,000 393.701

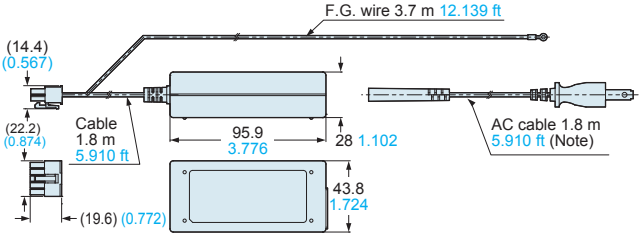
ER-XCC□ — Power cable (Optional)



- Length L

Model No.	Length L
ER-XCC2	2,000 78.740
ER-XCC5	5,000 196.850

ER-XAPS(-EX) — AC adapter (Optional)



Note: The AC cable is not enclosed with **ER-XAPS-EX**.