



# CONTROL SOLUTIONS

Product Catalog



A hand is shown in silhouette, holding a small globe. The globe is also in silhouette and features a grid of latitude and longitude lines. The background is a solid blue color with a faint, larger-scale grid pattern. The overall composition is centered and balanced.

A company with insight into the core

# Core Insight

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# We know **ESD**<sup>TM</sup>

We provide ESD control, ~~not just solutions!~~



## Expertise

We pursue excellence in EOS/ESD control.



## Knowledge

With precise knowledge, we solve our customers' problems.



## Challenge

We never give up on difficult challenges and persevere to the very end.



## Passion

We handle every task with the same passion to the very end.

# Light and Salt

A company that realizes vision

Core Insight, Inc. has a passion to go beyond technical barriers and limitations in the field of EOS/ESD control industries since it was established on March 26, 2003. Since its foundation, Core Insight, Inc. pursues outstanding technical leadership based on latest theory and best practices of industry, strived to solve customers' problems beyond the business of EOS/ESD control solutions.

Core Insight, as the company name means that we have an insightful understanding about core knowledge and understanding of EOS/ESD controls. We have a lot of successful case studies in semiconductor, flat panel display (FPDs) and electronic assembly line EOS/ESD related problem solving and yield improvements. For example, we improved yields over 30% of AI related device assembly processes as ESD control issue and over 13% improvement of particle contamination controls in Mask manufacturing plants. We serve customer's success with great yield improvement and brought them beyond level in EOS/ESD controls throughout numerous cases.

Core Insight, Inc. is a small company but very strong EOS/ESD

company, investing a lot of resources and efforts in research and development, and emerging leading company in the global EOS/ESD control industry. Besides this business effort, Core Insight contributed to serving the Korean electronics industry for understanding of EOS/ESD by establishing the Korea EOS/ESD Association and supporting academic research and annual events.

The EOS/ESD Association, which has been active member since 2000, has been participating in factory control standard working groups for EOS/ESD standard documents as updating and writing team. As STDCOM member, we vote on every single document release of EOS/ESD Association and reviews of all document changes.

Since 2023, Core Insight is contributing to significant yield improvement of Advanced Package Devices and AI-related GPU and etc. Core Insight, Inc. will do our very best to continue to demonstrate leadership in the changing semiconductor and AI industries and the electronics industry and to contribute to the development of the industry.

President **Joshua Yoo**

# Company History

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- 2025** Nvidia : Yield Improvement Solution Provided for EOS/ESD Failures  
Foxconn Vietnam : EOS/ESD Assessment Service
- 2024** ZMC - Regional Distributorship Agreement Signed for Southeast Asia  
Foxconn (Ingrasys) : Yield Improvement Solution Provided for ESD Failure
- 2023** RONGDI : China - Distribution Business Partnership  
Scientech : Taiwan & China - Distribution Business Partnership  
Apple : Qualified Supplier for Advanced Package Ionization Solutions
- 2022** HanHwa : China - Distribution Business Partnership  
Production Automation : USA & Latin America - Distribution Business Partnership
- 2021** Intel : Qualified Supplier for ESD control Ionization Solutions  
Model 7380d, QuadPoint Steady-State DC Bar Ionizer Development
- 2020** Certified by Ministry of SMEs and Startups "INNOBIZ"  
R&D Funding Award by Ministry of SMEs and Startups
- 2019** Model 3890, Wide-Coverage Steady-State DC Ionizer Development  
Model 2400, AirStat Technology, Digital Room Ionization System Development
- 2018** Korea Trade-Investment Promotion Agency Membership  
Model 2100, AirStat Technology, Pulsed DC Ionization System Development  
Model 470 & 472A, Steady-State DC Gun Ionization System Development
- 2017** Patent for "CoreStat" and "AirStat" Trade Marks  
Model 3800 Series, CoreStat, Steady-State DC Overhead Ionizer Development  
Single Crystal Silicon Emitter Point Development
- 2016** Hybrid Room Ionization System Development  
Mini Air-Knife Ionization System Development
- 2014** Nozzle Ionization System Development
- 2013** PROSTAT certified Calibration & Repair Center
- 2012** Air Assist Ionizing Bar, Self-Balanced Blowing Ionizer, Model 310 Series Development  
iNARTE Authorized Training Institution Designation
- 2011** Government Approval Research & Development Center  
Venture Company certified by Ministry of SMEs and Startups
- 2010** Core Insight Co., Ltd. Acquires Factory Registration Certificate  
Develops and Mass-Produces Air Knife and Shock-less Static Bar Ionizer
- 2009** Alternative Room Ionization System Development  
Yield Improvement at LG Display
- 2006** Distribution Business with "MKS Ion Systems"  
Distribution Business with "Saint-Gobain"
- 2005** Corporate Change "CORE INSIGHT, INC."
- 2003** Founded as "Sunwoo, Inc."  
Distribution Business with - DESCO, Julie Industries, Monroe-Electronics

# Partners & Clients



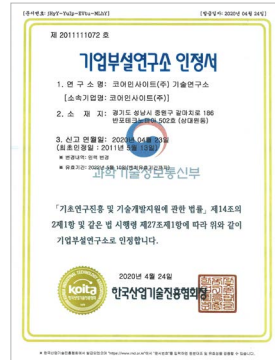

# Certificates



Venture Company Certification



SEMI Member



Corporate Research Institute



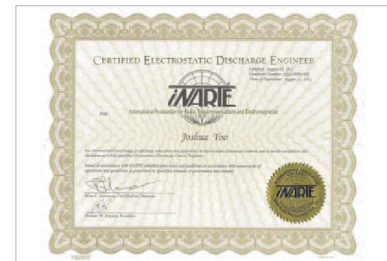
ISO-9001 Quality Management Certification



EOS/ESD Association Member



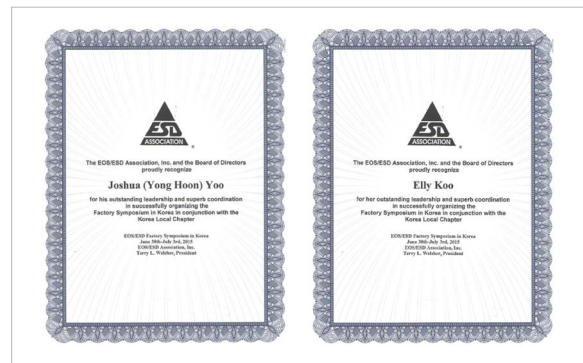
Professional Program Manager



iNarte ESD Engineer



CE Certification



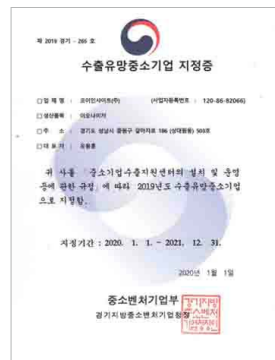
Leadership Award



Taiwan ESD Association Award



Philippine ESD Association Award



Export-Promising SME



ESD Association

# Patents

**특허증**  
CERTIFICATE OF PATENT

특허 제 10-1260733 호 등록번호 제 2013-0002134 호  
PATENT NUMBER 제 10-1260733 호 등록번호 제 2013년 04월 29일  
특허청 등록번호 제 2013년 04월 29일

발명명칭 (TITLE OF THE INVENTION)  
확여에 전각을 구비한 세인장치

특허권자 (PATENTEE)  
동우사(원천에 기재)

발명자 (INVENTOR)  
유종훈(710214-1\*\*\*\*\*)  
경기 구리시 보령동 955 대원생명과학의 107-304

위의 발명은 「특허법」에 따라 특허등록원부에 등록되었음을 증명합니다.  
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2013년 04월 29일

특허청장 김인영  
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

**특허증**  
CERTIFICATE OF PATENT

특허 제 10-1967104 호  
Patent Number 제 10-1967104 호  
출원번호 제 10-2018-0086187 호  
발명일 2018년 07월 25일  
등록일 2019년 04월 02일

발명명칭 (Title of the Invention)  
노출형 제자리장치

특허권자 (Patentee)  
중앙인사정보 (주)(110111-\*\*\*\*\*)  
경기 고양시 중동구 갈마리로 186, 808호 (상대원, 방포테크노파크)

발명자 (Inventor)  
유종훈(710214-1\*\*\*\*\*)  
경기 구리시 보령동 955, 107동 304호 (대원동, 보원생명과학의)

위의 발명은 「특허법」에 따라 특허등록원부에 등록되었음을 증명합니다.  
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2019년 04월 02일

특허청장 김인영  
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

**특허증**  
CERTIFICATE OF PATENT

특허 제 10-2344038 호  
Patent Number 제 10-2344038 호  
출원번호 제 10-2020-0040143 호  
발명일 2020년 04월 02일  
등록일 2021년 12월 23일

발명명칭 (Title of the Invention)  
광원이 방출 제스도 장치 및 방법

특허권자 (Patentee)  
중앙인사정보(주)(110111-\*\*\*\*\*)  
경기 고양시 중동구 갈마리로 186, 808호 (상대원, 방포테크노파크)

발명자 (Inventor)  
유종훈(710214-1\*\*\*\*\*)  
경기 구리시 보령동 955, 107동 304호 (대원동, 보원생명과학의)

위의 발명은 「특허법」에 따라 특허원부에 등록되었음을 증명합니다.  
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2021년 12월 23일

특허청장 김용래  
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

**실용신안등록증**  
CERTIFICATE OF UTILITY MODEL REGISTRATION

등록 제 20-0477646 호  
Registration Number 제 20-0477646 호  
출원번호 제 20-2014-0002294 호  
발명일 2014년 03월 24일  
등록일 2015년 06월 29일

고안명칭 (Title of the Invention)  
가운편각 일체형 필터 조립체를 구비한 브리나 장전식 청진기 제자리장치

특허권자 (Owner of the Utility Model Right)  
동우사(원천에 기재)

발명자 (Inventor)  
유종훈(710214-1\*\*\*\*\*)  
경기 구리시 보령동 955, 107동 304호 (대원동, 보원생명과학의)

위의 고안은 「실용신안법」에 따라 실용신안등록원부에 등록되었음을 증명합니다.  
This is to certify that, in accordance with the Utility Model Act, a utility model for the device has been registered at the Korean Intellectual Property Office.

2015년 06월 29일

특허청장 최동국  
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

**상표등록증**  
CERTIFICATE OF TRADEMARK REGISTRATION

등록 제 40-1335033 호  
Registration Number 제 40-1335033 호  
출원번호 제 40-2017-0048185 호  
발명일 2017년 04월 14일  
등록일 2018년 02월 27일

상표권자 (Owner of the Trademark Right)  
중앙인사정보 (주)(110111-\*\*\*\*\*)  
경기 고양시 중동구 갈마리로 186, 808호 (상대원, 방포테크노파크)

상표 (Mark)  
Airstat

상표의 사용권 보유 및 구분  
제 41류  
항공기제작용 이요니저용 42인

위의 표장은 「상표법」에 따라 상표등록원부에 등록되었음을 증명합니다.  
This is to certify that, in accordance with the Trademark Act, a trademark has been registered at the Korean Intellectual Property Office.

2018년 02월 27일

특허청장 김준모  
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

**상표등록증**  
CERTIFICATE OF TRADEMARK REGISTRATION

등록 제 40-1827971 호  
Registration Number 제 40-1827971 호  
출원번호 제 40-2021-0116031 호  
발명일 2021년 08월 17일  
등록일 2022년 03월 03일

상표권자 (Owner of the Trademark Right)  
중앙인사정보 (주)(110111-\*\*\*\*\*)  
경기 고양시 중동구 갈마리로 186, 808호 (상대원, 방포테크노파크)

상표 (Mark)  
QuadPoint

상표의 사용권 보유 및 구분  
제 41류  
항공기제작용 이요니저용 42인

위의 표장은 「상표법」에 따라 상표등록원부에 등록되었음을 증명합니다.  
This is to certify that, in accordance with the Trademark Act, a trademark has been registered at the Korean Intellectual Property Office.

2022년 03월 03일

특허청장 김용래  
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

**상표등록증**  
CERTIFICATE OF TRADEMARK REGISTRATION

등록 제 40-2008741 호  
Registration Number 제 40-2008741 호  
출원번호 제 40-2021-0169626 호  
발명일 2021년 08월 17일  
등록일 2023년 04월 18일

상표권자 (Owner of the Trademark Right)  
중앙인사정보 (주)(110111-\*\*\*\*\*)  
경기 고양시 중동구 갈마리로 186, 808호 (상대원, 방포테크노파크)

상표 (Mark)  
We Know ESD

상표의 사용권 보유 및 구분  
제 41류  
교육적 서비스의 송신 및 전달용 11인

위의 표장은 「상표법」에 따라 상표등록원부에 등록되었음을 증명합니다.  
This is to certify that, in accordance with the Trademark Act, the trademark has been registered at the Korean Intellectual Property Office.

2023년 04월 18일

특허청장 이인근  
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

**디자인등록증**  
CERTIFICATE OF DESIGN REGISTRATION

등록 제 30-0806673 호  
Registration Number 제 30-2014-0051853 호  
출원번호 제 30-2014-0051853 호  
발명일 2014년 10월 29일  
등록일 2015년 07월 14일

디자인권자 (Owner of the Design Right)  
심사동

디자인 (Design)  
We Know ESD

디자인의 사용권 보유 및 구분  
제 41류  
교육적 서비스의 송신 및 전달용 11인

위의 디자인은 「디자인보호법」에 따라 디자인등록원부에 등록되었음을 증명합니다.  
This is to certify that, in accordance with the Design Protection Act, a design has been registered at the Korean Intellectual Property Office.

2015년 07월 14일

특허청장 최동국  
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE

**관련디자인등록증**  
CERTIFICATE OF RELATED DESIGN REGISTRATION

등록 제 30-0819220 호  
Registration Number 제 30-2014-0051854 호  
출원번호 제 30-2014-0051854 호  
발명일 2014년 10월 29일  
등록일 2015년 07월 09일

디자인권자 (Owner of the Design Right)  
심사동

디자인 (Design)  
We Know ESD

디자인의 사용권 보유 및 구분  
제 41류  
교육적 서비스의 송신 및 전달용 11인

위의 디자인은 「디자인보호법」에 따라 디자인등록원부에 등록되었음을 증명합니다.  
This is to certify that, in accordance with the Design Protection Act, a design has been registered at the Korean Intellectual Property Office.

2015년 07월 09일

특허청장 최동국  
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE



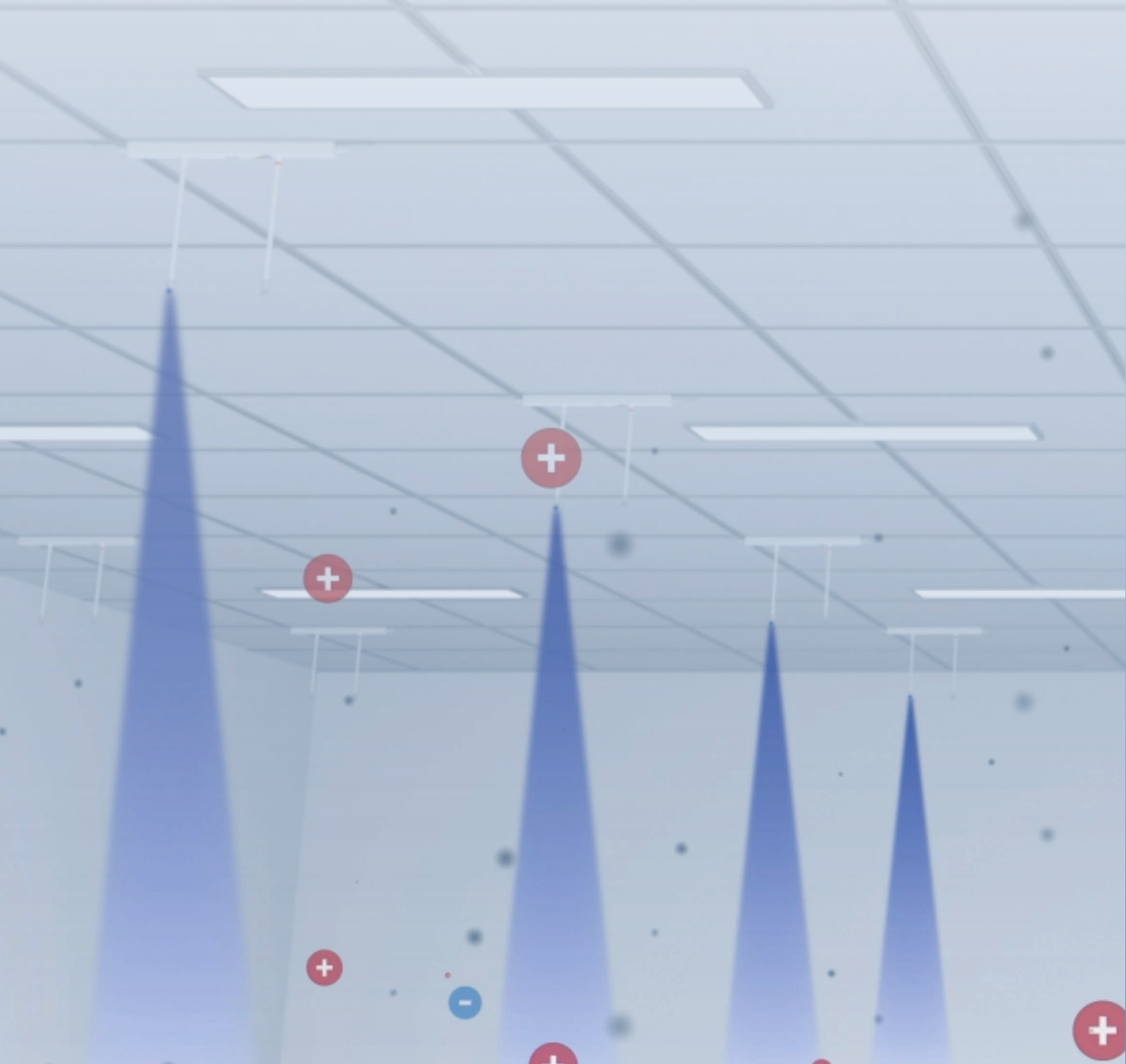
# 1

# Ionization

- Room Ionization
- Bar Ionizers
- Blowers
- Overhead
- Cleaning
- Industrial Application

# Room Ionization System

AirStat® Digital Room Ionization System has developed for Contamination Control in Cleanrooms in Semiconductor wafer processing, flat panel display (FPD), Medical, and other clean environment applications. The Room Ionization System is an effective proven solution for controlling and improving contamination by small particles in a open bays or large spaces in clean manufacturing environment required processes.



## Room Ionization System

# Model 2400

AirStat® Digital Ceiling Emitter Ionizer



IR Remote Controller



Single Crystal Silicon Emitter Point

### Micro-particle and ESD control for cleanroom environments

The Model 2400, incorporating CoreInsight's AirStat® technology, is a ceiling-mounted room ionizer system designed to efficiently control contaminants and fine particles in semiconductor fabs, flat panel display (FPD) manufacturing, medical device production, and other cleanroom manufacturing environments. The system can be connected to a controller capable of managing up to 120 ionizers simultaneously. Featuring a streamlined design for easy installation, the ionizer allows for comprehensive adjustment and monitoring of various parameters including output voltage, output timing, and ionizer status.

### FEATURES

- Innovative Digital Technology
- Pulsed DC Ion Emission
- 4 Digit LED Display
- Audio & Visual LED Alarms
- IR Remote Controller
- Voltage Feedback Monitoring

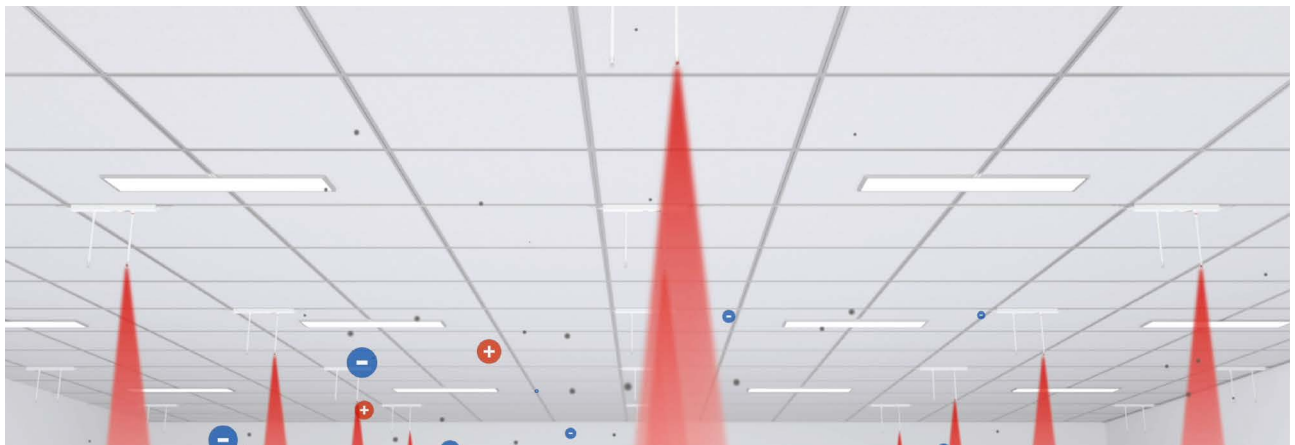
### BENEFITS

- Fast Discharge Time
- ON & OFF Time Operation
- Highly Reliable Quality
- Output Parameter Display
- Large Capacity

### Pulsed DC Ion Emission Technology



### Room Ionization Operational Concept for Contamination Control



## Room Ionization System

# Model 2400/2300

AirStat® Digital Ceiling Emitter Ionizer



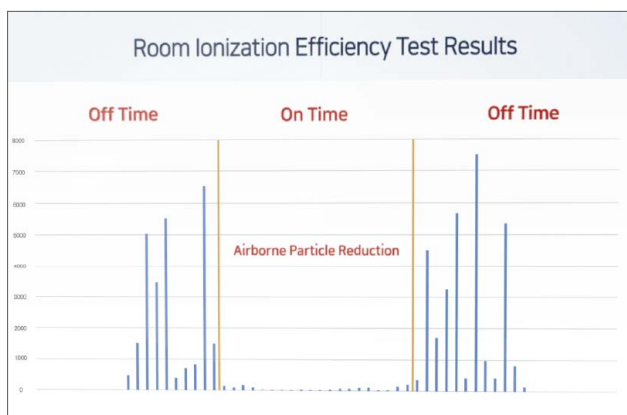
	Model 2400 SPEC	Model 2300 SPEC
<b>Ion Emission</b>	Pulsed DC Technology	
<b>Output Voltage</b>	±12 kV, 100 V Step	±10 kV, 100 V Step
<b>Operation Mode</b>	Pulsed DC, Standby	
<b>On-Time</b>	0.1 to 15.0 sec	
<b>Off-Time</b>	0.1 to 10.0 sec	
<b>Connectivity</b>	Up to 120 units	Up to 40 units
<b>Compatibility</b>	ISO 14644-1 Class 1	



Controllers SPEC	
<b>Model 6320</b>	Up to 20 units
<b>Model 6340</b>	Up to 40 units
<b>Model 6340</b>	Up to 40 units, MODBUS
<b>Model 6380</b>	Up to 120 units, MODBUS

RODS length(mm)	
<b>125</b>	Model 2400-125-XX
<b>300</b>	Model 2400-300-XX
<b>450</b>	Model 2400-450-XX
<b>600</b>	Model 2400-600-XX
<b>750</b>	Model 2400-750-XX
<b>900</b>	Model 2400-900-XX
<b>1200</b>	Model 2400-1200-XX

※ XX: ES-Single Crystal Silicon | ET-Titanium | EP-Tungsten

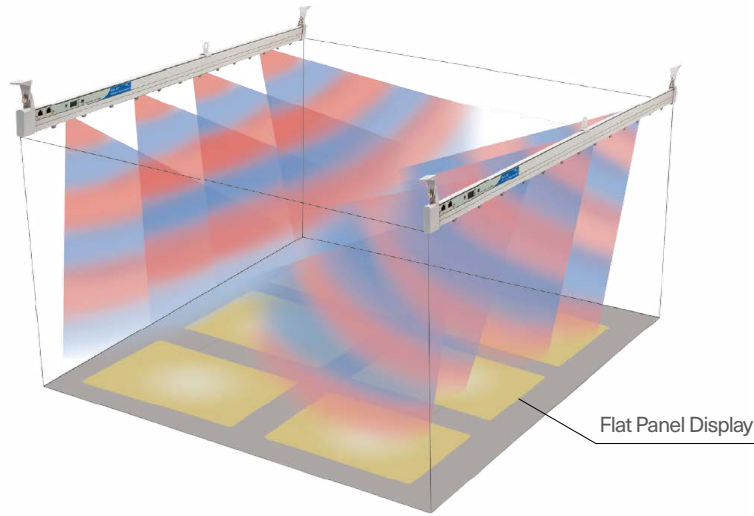


Related Product	
<b>IR</b>	Remote Controller
<b>Model 5239</b>	Junction Box - Extension function

Alternative Room Ionization for FPD

# Model 2200

AirStat® FPD Room Ionization System



IR Remote Controller

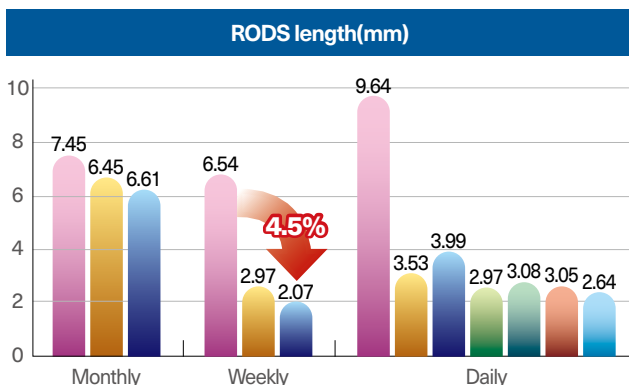
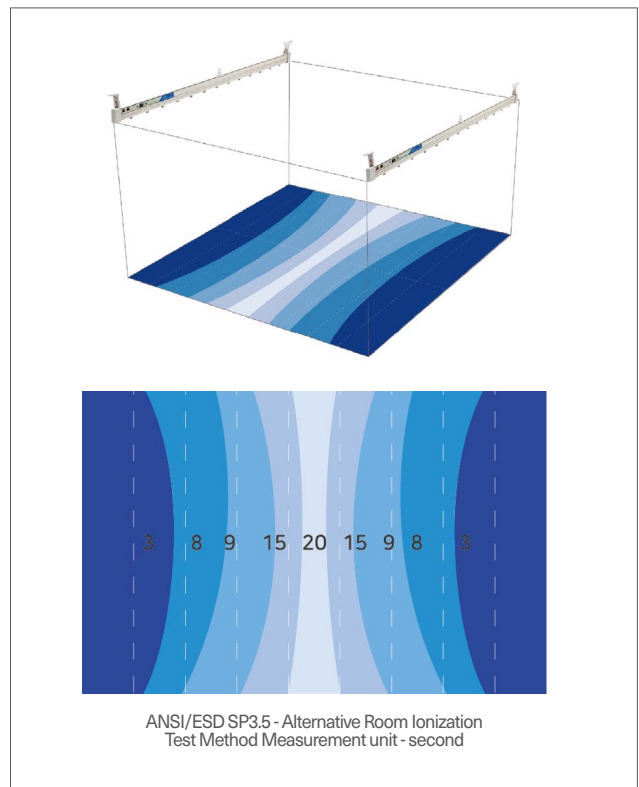
## Fine Particle and ESD Control in FPD Manufacturing Environments

The Model 2200, featuring CoreInsight's AirStat® technology, is an innovative room ionizer designed to control large-scale spaces such as FPD manufacturing environments. By utilizing existing airflow within cleanrooms or equipment interiors for spatial control, it eliminates the need for additional airflow supply devices while enabling easy installation and effective static control. The system offers convenient remote operation via remote control, allowing operators to manage the ionizer from outside the equipment. With individually adjustable output settings including voltage and frequency, the Model 2200 provides exceptional ease of management and operational flexibility.

- FEATURES**
- Innovative Digital Technology
  - Pulsed DC Ion Emission
  - 3 Digit LED Display
  - LED & Audio Alarm
  - IR Remote Controller
  - Synchronized Ion Emission

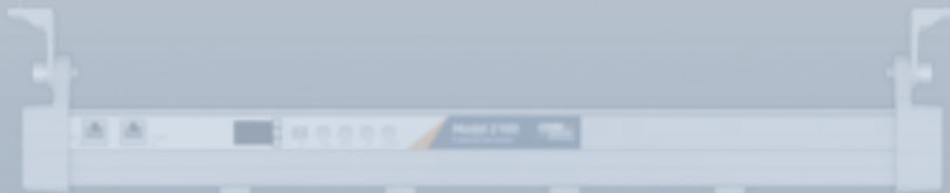
- BENEFITS**
- Fast Discharge Time
  - Programmable ON/OFF timing
  - Output Parameter Display
  - Extream Large Space Coverage

Specifications	
Ion Emission	Pulsed DC Technology
Output Voltage	±14 kV, 100 V Step
Operation Mode	Pulsed DC, Independent
On-Time	0.1 to 99.9 sec
Monitoring	Relay Output
Connectivity	RJ-45 Terminal



# Bar Ionizers

QuadPoint® Steady-State DC Bar Ionizer is a new innovation technology that can be applied to ultra sensitive device ESD control application such as AI related GPUs and ASIC device handling processes. QuadPoint® technology can be achieved at very low peak offset voltage level and fast discharge time performance.



**Ionization for Mini-Environment**

# Model 2100

AirStat® Digital Pulsed DC Bar Ionizer



IR Remote Controller



Single Crystal Silicon Emitter Point



**Micro-particle and ESD control for cleanroom environments**

The Model 2100, featuring AirStat® Pulsed DC technology, is a bar-type ionizer that operates without compressed dry air (CDA). By utilizing existing laminar airflow within cleanrooms or equipment, this technology effectively controls static electricity and fine particles without disrupting the cleanroom's airflow environment. With a selection of discharge needles made from various materials, the system is suitable for deployment in Class 10 and below cleanrooms.

The Model 2100 is designed to allow users to control detailed parameters such as output voltage and output timing, optimized according to specific installation environments.

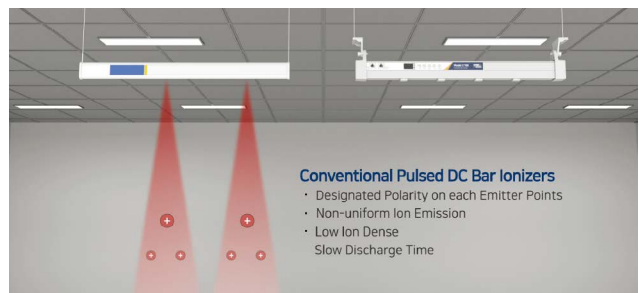
- FEATURES**
- Innovative Digital Technology
  - Pulsed DC Ion Emission
  - 3 Digit LED Display
  - LED & Audio Alarm
  - IR Remote Controller
  - Current feedback monitoring

- BENEFITS**
- Fast Discharge Time
  - Programmable ON/OFF timing
  - Output Parameter Display
  - Power connection ready

Specifications	
Ion Emission	Pulsed DC Technology
Output Voltage	±7 kV, 100 V Step
On-Time	0.1 to 99.99 sec
Daisy-Chain	Up to 2 units
Compatibility	ISO 14644-1 Class 1
Dimensions	95 x 39 x 600, 700, 900, 1200, 1600 and 2000 L mm

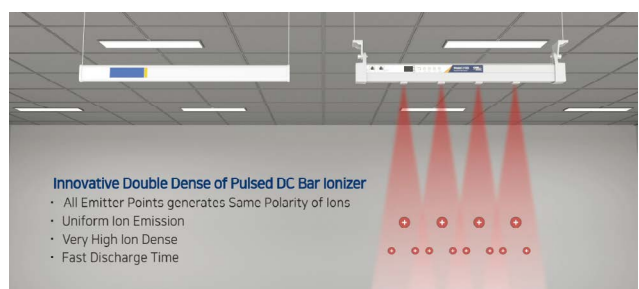
**Conventional Pulsed DC Bar Ionizer**

Designated Polarity on each Emitter Points



**Innovative Double Dense of Pulsed DC Bar Ionizer**

All Emitter Points generates Same Polarity of ions



Emitter Point Information	
Model 5220ES	Single Crystal Silicon
Model 5220EP	Tungsten Emitter

The New Innovative Bar Ionizers

# Model 7380d

QuadPoint® Steady-State DC Bar Ionizer



IR Remote Controller

### Advanced Package Device ESD Control Ultra-high-speed, Die-to-Die Interface & HPC Application

The Model 7380d, featuring AirStat® Steady-State DC technology, is an ionizer specifically designed to maintain low Peak Offset voltage in manufacturing and handling processes for high-speed components used in AI and HPC applications. The QuadPoint® nozzle is a patented core technology that maintains low ion balance unachievable with conventional AC ionizer technology, making it the only Bar Type ionizer capable of fully complying with ANSI/ESD S20.20 control program requirements of ±35V or ±5V.

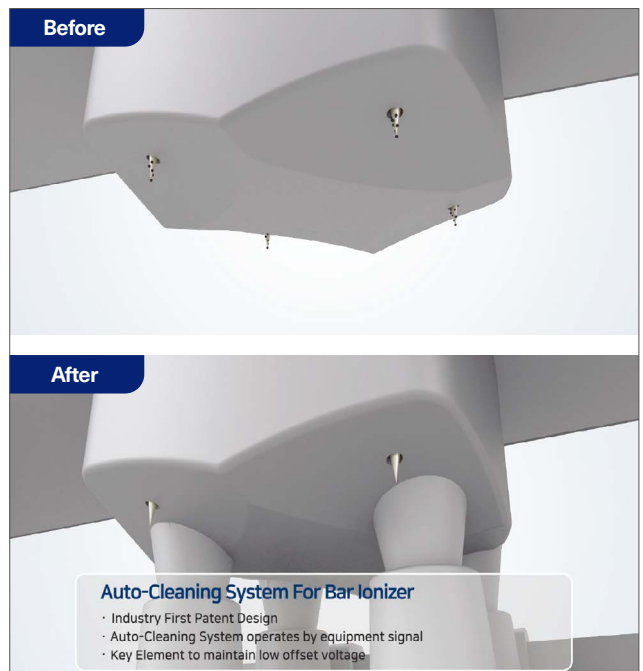
- FEATURES**
- Steady-State DC Ion Emission
  - Class 0 ESD Control Application
  - Output Voltage Adjustable
  - Very Low Offset Voltage
  - Audio & Visual LED Alarms
  - FMS Monitoring Interface

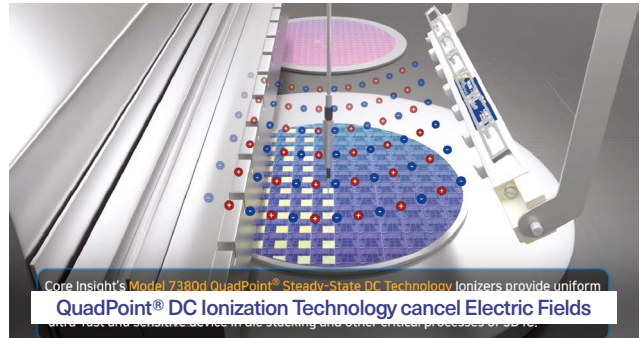
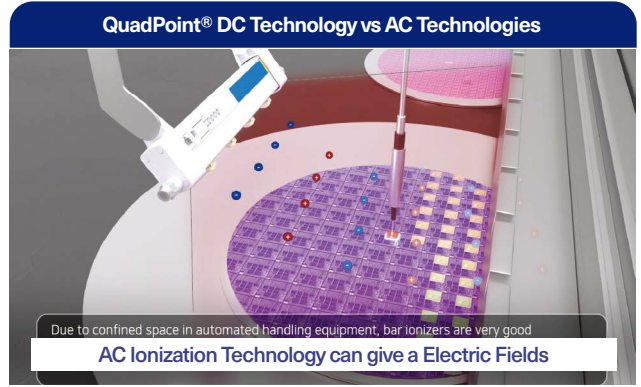
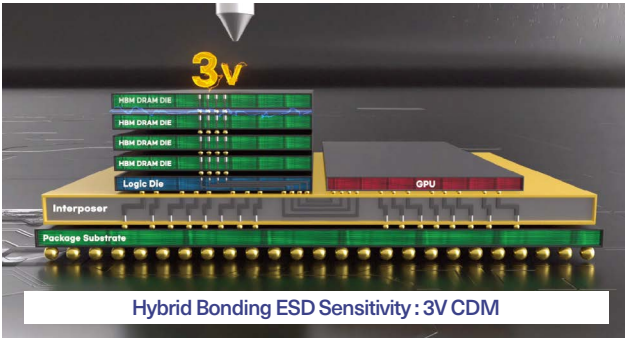
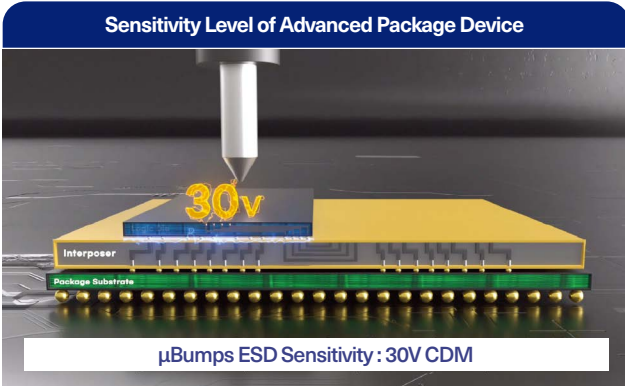
- BENEFITS**
- Ion Balance Alarms
  - HV Power Failure Alarms
  - No Swing Voltage
  - No Induction Field



Specifications	
Ion Emission	Steady-State DC Technology
Ion Balance	Less than ±5 V peak
Output Voltage	±3.5 kV, 10V Resolution Adjustment
Decay Time	Less than 2.0 sec at 300 mm
Dimensions	62.5 x 30 x 350, 590, 770, 860, 1040 L mm

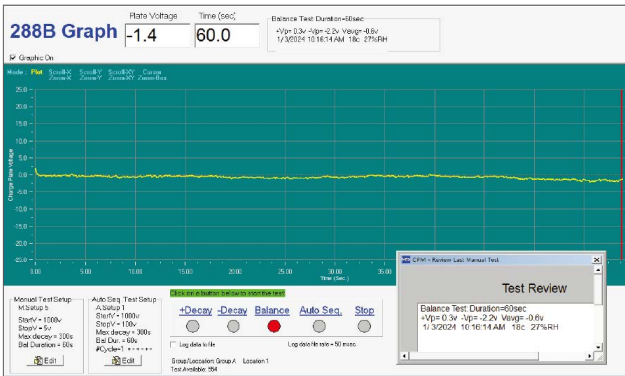
Emitter Point Information	
Model 5780ES	Single Crystal Silicon
Model 5780EP	Tungsten





**Ion Balance Test Results** AC Switching Voltage can cause of ESD Damage by Induction

- ANSI/ESD STM3.1 & S20.20 - Offset Voltage means for DC based ionizer
- Test Equipment - Model 288B CPM by Monroe Electronics



No Swing Voltage from Steady-State DC Ionizer



Induction Field Swing Voltage from Pulsed AC Ionizer  
Peak-to-Peak value: +305V to -393V

**Ionizer Test Method Review**

Less than ±35 volts peak offset

Not Acceptable to ANSI/ESD S20.20

**Ionizer Technology Comparison**

Parameters	Conventional AC	Pulsed AC	Steady State DC
Voltage	Fixed 5000Vdc	Adjustable 0 - 70V	Fixed & Adjustable 0 - 50V
Frequency	Fixed 5000Hz	Adjustable Frequency 10 - 200Hz	N/A
Duty Ratio	Not Available	Open to 100% for both polarity	N/A

AC Ionizers' Peak Offset Swing Voltage can cause of ESD Damage on ESD sensitive device

Peak Offset Voltage is +65V

Peak Offset Voltages are +65 and -65V

Traditional DC Bar vs QuadPoint® Nozzle Steady-State DC Bar Ionizers

Traditional DC bar ionizer has designated polarity and polarized region at each end.

QuadPoint® nozzle Steady-State DC bar ionizer has both polarity on single nozzle and same offset voltage all regions.

ANSI/ESD STM3.1 and ANSI/ESD S20.20 standard requirements



Automatic cleaning system - Patent registered

## Air Assist Bar Ionizers

# Model 7300

CoreStat® Self-Balanced DC Bar Ionizer



The Model 7300, featuring CoreStat® Steady-State DC technology, is a bar-type ionizer that operates with CDA or compressed air. Primarily designed for installation inside equipment, it maintains low ion balance ( $\pm 35V$  peak), minimizing the risk of ESD failures caused by ionizer-induced charging. This makes it suitable for processes handling Class 0 level sensitive components.

- FEATURES**
- Steady-State DC Ion Emission
  - Intrinsic Self-Balance Technology
  - Low Offset Voltage
  - Audio & Visual LED Alarms
  - FMS Monitoring Interface

- BENEFITS**
- No Calibration
  - No Swing Voltage
  - Less Maintenance

### Emitter Point Information

Model 5780EP

Tungsten

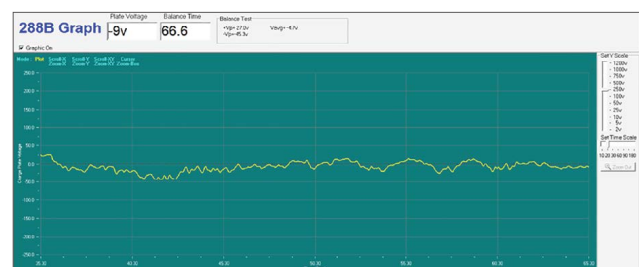
### Specifications

Ion Emission	Steady-State DC Technology
Output Voltage	5 kV
Ion Balance	$\pm 35 V$
Dimensions	95 x 39 x 300, 400, 500 mm

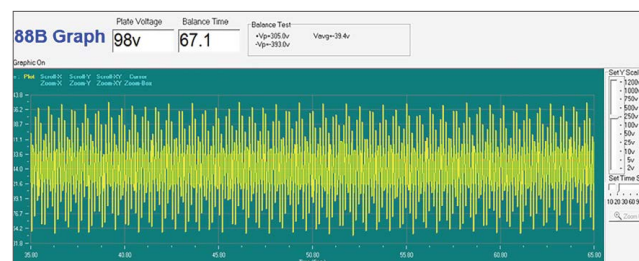
### Ion Balance Test Results

#### AC Switching Voltage can cause of ESD Damage by Induction

- ANSI/ESD STM3.1 & S20.20 - Offset Voltage means for DC based ionizer
- Offset Voltage measurement should be change to Peak Voltage
- Test Equipment - Model 288B CPM by Monroe Electronics



No Swing Voltage from Steady-State DC Ionizer



Induction Field Swing Voltage from Pulsed AC Ionizer  
Peak-to-Peak value: +305V to - 393V

**Air Assist Bar Ionizers**

# Model 7110

AirStat® Digital Pulsed AC Bar Ionizer



IR Remote Controller

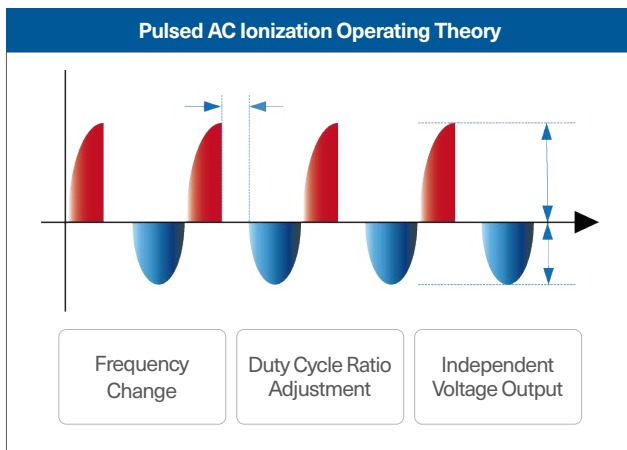
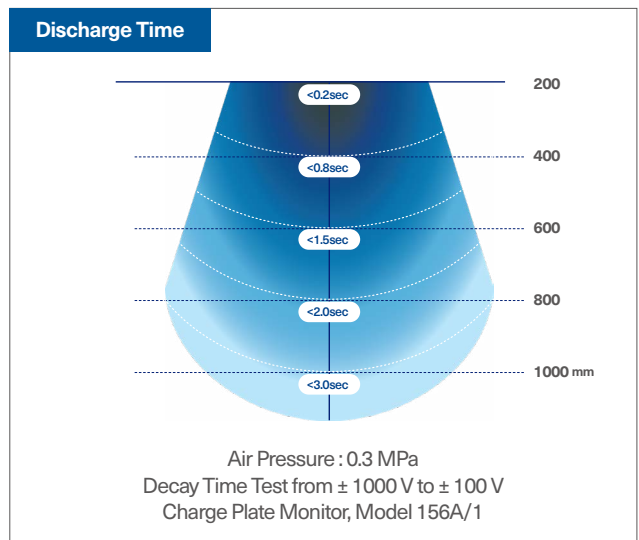


The Model 7110, featuring AirStat® Pulsed AC technology, is a bar-type ionizer that operates with CDA or compressed air. Using air flow, it neutralizes charged energy with rapid neutralization speed. Available in lengths up to 3 meters, it can be customized for various process applications.

- FEATURES**
- Innovative Digital Technology
  - Pulsed DC Ion Emission
  - 3 Digit LED Display
  - LED & Audio Alarm
  - IR Remote Controller
  - Current feedback monitoring

- BENEFITS**
- Fast Discharge Time
  - Output Parameter Display
  - Power connection ready
  - FMS Interface

Specifications	
Ion Emission	Pulsed AC Technology
Output Voltage	±7.0 kV (±3.5 kV for short bar)
Frequency	1 to 50 Hz
Daisy-Chain	Up to 2 units
Dimensions	95 x 39 x 300, 400, 500, 600, 800, 1000, 1400, 1600, 1800, 2000 L mm



Emitter Point Information	
Model 5780EP	Tungsten

# Blowers

CoreStat® technology are developed for Class 0 device handling and all other common ESD control applications, such as semiconductor assembly and testing, and SMT/PCB assembly manufacturing processes. CoreStat® technology is an intrinsic self-balancing high-voltage power design technology that does not require any calibration and an easy to maintenance.



## Single Fan Ionizer Series



### Self-Balanced and No Calibration

CoreStat® is a steady-state DC technology has internally connected positive and negative high voltage power units in circuit. Thus, it maintain same voltage output level with no calibration required.

### No Ground Required

As essence of CoreStat® technology, it use opposite polarity power supply circuit as acting reference ground and do not need attach to electrical ground system.

### Low Offset Voltage

As part of CoreStat® technology with mechanical design of all components in assembled, it maintain at very low peak offset voltage. This will not change offset voltage with no maintenance after a long operation time.

※ **Remark** : No maintenance will be a foreign material (FM) contamination issue.

### One-Touch Auto-Cleaning

One-touch auto-cleaning brush activate to cleaning emitter points when power down or simply press LED button on ionizers. When fan motor loose power, brush built-in fan module get close to emitter points and provide cleaning. After cleaning cycle finished, motor activate power and brush get further from emitter point and do not touching when normal operation.

### RJ-45 Terminal

24V DC can be supply by Model 5100D DC power supply unit or automated handling equipment via RJ-45 terminal to turn on/off and alarm status.



## CDM & Class 0 ESD Control Ionizer

# Model 360 Series

CoreStat® Self-Balanced Air Ionizing Blower



Auto-Cleaning Brush



One-Touch Cleaning Button



### Self-Balanced Ionizer & Auto-Cleaning

A Steady-State DC ionizer featuring CoreStat Self-Balance technology, designed for use within automated equipment in various electronic manufacturing environments, including Class 0 semiconductor assembly and PCB handling processes.

The Model 360 Series is equipped with a one-touch automatic cleaning brush for easy discharge needle maintenance and offers convenient operation with no calibration or verification required.

Specifications			
	360E	360S	360A
Ion Emission	Steady-State DC		
Ion Balance	± 5 V peak	± 10 V peak	± 10 V peak
Decay Time	Less than 5 sec (300 mm)	Less than 3 sec (300 mm)	Less than 5 sec (300 mm)
Air Flow	27 CFM	34 CFM	27 CFM
Dimensions	80 x 110 x 64 mm (without bracket) / 105 x 120 x 64 mm (with bracket)		
Compatibility	ISO 14644-1 Class 4		

### FEATURES

- Steady-State DC Ion Emission
- Class 0 ESD Control Application
- LED & Audio Alarm
- ONE-Touch Auto-Cleaning (Except 360A)
- FMS monitoring through RJ-45 port

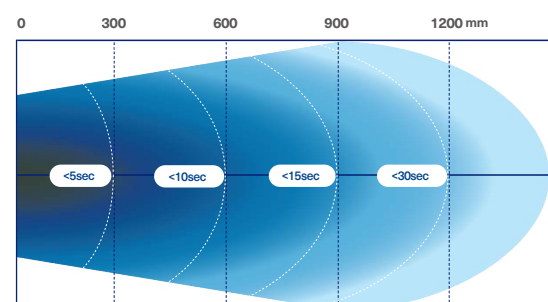
### Product Information

Model 360E	Built-in Auto-Cleaning Brush Type
Model 360A	General Type
Model 360S	High Speed Fan Type

### BENEFITS

- No Calibration
- Low Offset Voltage
- No High Switching Voltage
- Easy Replacement of Emitter Points
- Auto Stop Safety function
- No Transient Noise Free

### Discharge Time \* Based on 360E



Discharge time and balance measured according to ANSI/ESD STM3.1 using a Charge Plate Monitor(CPM)

## Self-Balanced Air Ionizing Blower

# Model 310 Series

CoreStat® Self-Balanced Air Ionizing Blower



Auto-Cleaning Brush



One-Touch Cleaning Button



### Ion Balance & HV Failure Alarm / Audio, LED Alarm

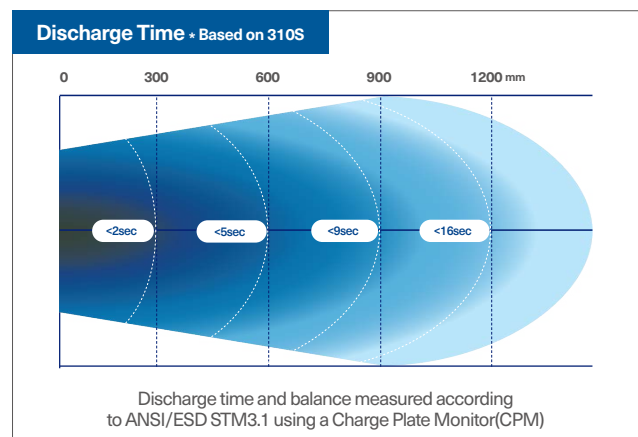
The Model 310 Series, featuring CoreStat Self-Balance technology, is a Steady-State DC ionizer equipped with a high-speed fan, designed for use in various electronic manufacturing environments including semiconductor assembly and PCB handling processes. It is equipped with a one-touch automatic cleaning brush that makes discharge electrode cleaning simple and convenient to use as it requires no calibration.

Specifications		
	310E	310S/SE
Ion Emission	Steady-State DC	
Ion Balance	± 10 V peak	± 20 V peak
Decay Time	Less than 3 sec (300 mm)	Less than 2 sec (300 mm)
Air Flow	60 CFM	100 CFM
Dimensions	125 x 135 x 70 mm (without bracket) / 152 x 155 x 70 mm (with bracket)	
Compatibility	ISO 14644-1 Class 4	

- FEATURES**
- Steady-State DC Ion Emission
  - ANSI/ESD S20.20 compliance specifications
  - LED & Audio Alarm
  - ONE-Touch Auto-Cleaning (Except 310S)
  - FMS monitoring through RJ-45 port

- BENEFITS**
- No Calibration
  - Low Offset Voltage
  - No High Switching Voltage
  - Easy Replacement of Emitter Points
  - No Transient Noise Free

Product Information	
<b>Model 310E</b>	Built-in Auto-Cleaning Brush Type
<b>Model 310S</b>	High Speed Fan General Type
<b>Model 310SE</b>	High Speed Fan, Built-in Auto-Cleaning Brush Type



CDM &amp; Class 0 ESD 제어 이온나이저

# Model 3810F

CoreStat® Self-Balanced Air Ionizing Blower



Auto-Cleaning Brush



One-Touch Cleaning Button

## Self-Balanced Ionizer & Auto-Cleaning features

The Model 3810F, featuring CoreStat Self-Balance technology, is a Steady-State DC ionizer designed for use in various electronic manufacturing environments including Class 0 semiconductor assembly and PCB handling processes.

The Model 3810F is equipped with a one-touch automatic cleaning brush that makes discharge electrode cleaning simple and convenient to use as it requires no calibration. When the rear grill filter is opened or closed, power is automatically shut off, ensuring safety and convenience for maintenance work during internal cleaning.

### FEATURES

- Steady-State DC Ion Emission
- Class 0 ESD Control Application
- LED & Audio Alarm
- ONE-Touch Auto-Cleaning (Except 3810)
- FMS monitoring through RJ-45 port

### BENEFITS

- No Calibration
- Low Offset Voltage
- No High Switching Voltage
- Easy Replacement of Emitter Points
- Auto Stop Safety function
- No Transient Noise Free

## Specifications

Ion Emission	Steady-State DC
Ion Balance	±5 V peak
Decay Time	Less than 1.0 sec
Air Flow	150 CFM
Dimensions	148 x 185 x 77 mm
Compatibility	ISO 14644-1 Class 4



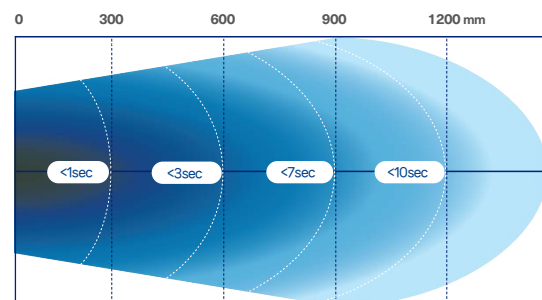
Easy Open Grill

FMS monitoring  
through RJ-45 portPlug-and-Play  
Type

## Product Information

Model 3810	General Type
Model 3810E	Built-in Auto-Cleaning Brush Type

## Discharge Time



Discharge time and balance measured according to ANSI/ESD STM3.1 using a Charge Plate Monitor(CPM)

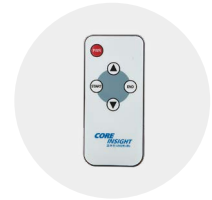
Wide Coverage Ionizing Blower

# Model 3890E

CoreStat® Self-Balanced Air Ionizing Blower



Auto-Cleaning Brush



IR Remote Controller

### Self-Balanced Ionizer & Auto-Cleaning features

The Model 3890E, featuring CoreStat Self-Balance technology, is a Steady-State DC ionizer equipped with a high-speed fan, designed for use in various electronic manufacturing environments including Class 0 semiconductor assembly and PCB handling processes.

The Model 3890E is equipped with a one-touch automatic cleaning brush that makes discharge electrode cleaning simple and convenient to use as it requires no calibration. When the rear grill filter is opened or closed, power is automatically shut off, ensuring safety and convenience for maintenance work during internal cleaning. With 24-hour automatic cleaning setting capability, it performs daily automatic cleaning at user-specified times.

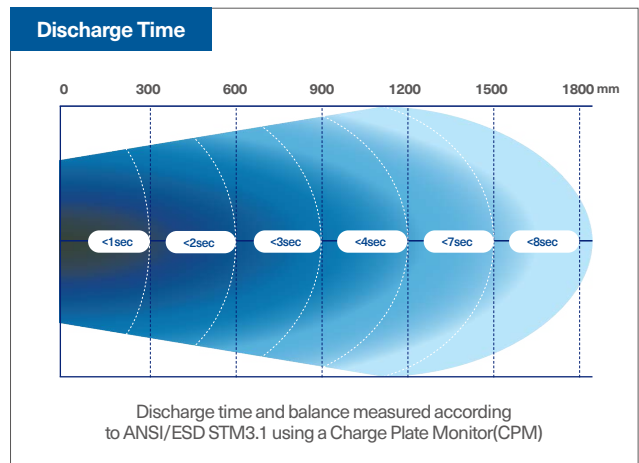
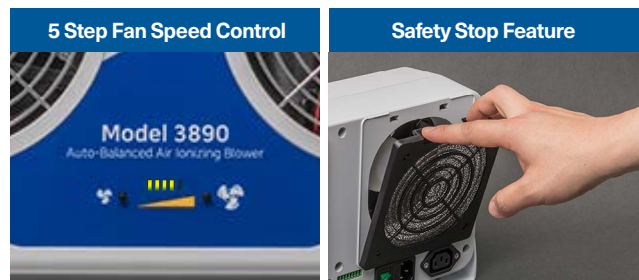
### FEATURES

- Steady-State DC Ion Emission
- Class 0 ESD Control Application
- LED & Audio Alarm
- ONE-Touch Auto-Cleaning (Except 3890)
- 5 Step Fan Speed Control
- 24hour Auto-Cleaning Cycle

### BENEFITS

- No Calibration
- Low Offset Voltage
- No High Switching Voltage
- Easy Replacement of Emitter Points
- Auto Stop Safety function
- No Transient Noise Free

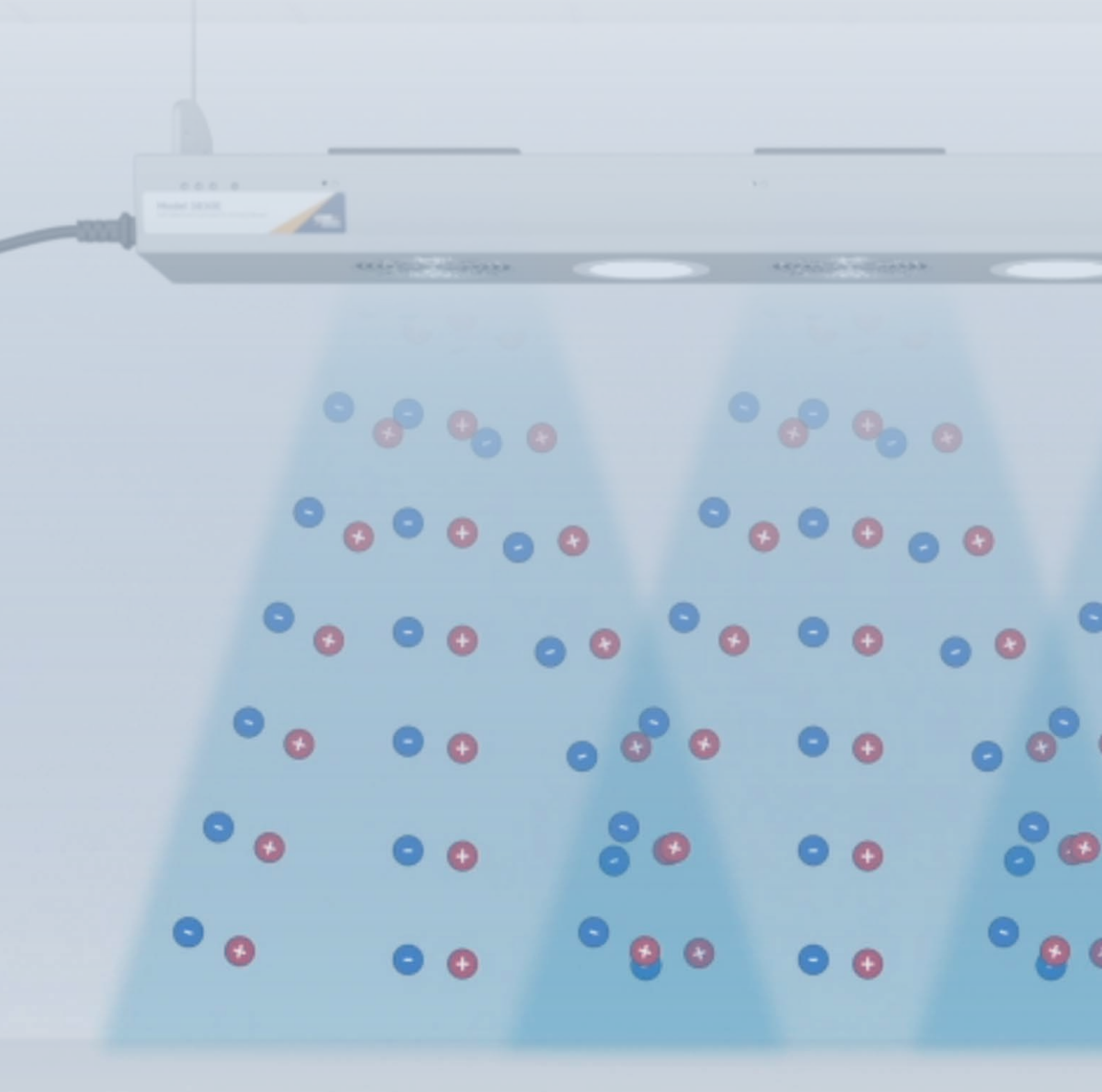
Specifications	
Ion Emission	Steady-State DC
Ion Balance	±5 V peak
Decay Time	Less than 10 sec at 1800 mm
Air Flow	165 CFM
Dimensions	422 x 190 x 107 mm
Compatibility	ISO 14644-1 Class 4



Product Information	
Model 3890	General Type
Model 3890E	Built-in Auto-Cleaning Brush Type

# Overhead

CoreStat® technology are developed for Class 0 device handling and all other common ESD control applications, such as semiconductor assembly and testing, and SMT/PCB assembly manufacturing processes. CoreStat® technology is an intrinsic self-balancing high-voltage power design technology that does not require any calibration and an easy to maintenance. Overhead Blowers are designed for large areas such as workbenches.



## Overhead Ionizing Blowers



### Self-Balanced and No Calibration

CoreStat® is a steady-state DC technology has internally connected positive and negative high voltage power units in circuit. Thus, it maintain same voltage output level with no calibration required.

### Remote Controller

Model 5331R Remote Controller can adjust fan speed of overhead and wide coverage blowers. Fan speed can locked by remote controller.

### Low Offset Voltage

As part of CoreStat® technology with mechanical design of all components in assembled, it maintain at very low peak offset voltage. This will not change offset voltage with no maintenance after a long operation time.

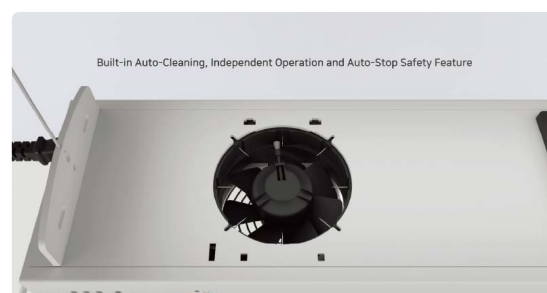
※ Remark : No maintenance will be a foreign material (FM) contamination issue.

### Auto-Cleaning

Auto-cleaning brush activate to cleaning emitter points when power down or press PWR button on remote controller. When fan motor loose power, brush built-in fan module get close to emitter points and provide cleaning. When press PWR button again, motor activate power and brush get further from emitter point and do not touching when normal operation.

### Daisy-Chained

Daisy-chained power plug & connector allows to use multiple overhead blowers from a single AC outlet. ※ Remark : Single AC outlet could be typically 15 - 16 Amps. Note there is other electrical equipment connected at the same power source.



## Class 0 & CDM Control Application

# Model 3700 Series

CoreStat® Self-Balanced Overhead Ionizer



Auto-Cleaning Brush



IR Remote Controller



### Cleaning Cycle Programmable

The Model 3700 Series, featuring CoreStat Self-Balance technology, is a Steady-State DC ionizer equipped with a high-speed fan, designed for use in various electronic manufacturing environments including Class 0 semiconductor assembly and PCB handling processes.

The Model 3700 Series is equipped with a one-touch automatic cleaning brush that makes discharge electrode cleaning simple and convenient to use as it requires no calibration.

When the top grill filter is opened or closed, power is automatically shut off, ensuring safety and convenience for maintenance work during internal cleaning. User-configurable automatic cleaning brush settings allow automatic cleaning to be performed at specified intervals and times.

The built-in MODBUS communication enables centralized monitoring of ionizer status and control of airflow speed and automatic cleaning functions via PC.

Specifications			
	3720	3730	3740
Ion Emission	Steady-State DC		
Ion Balance	±10 V peak	±5 V peak	±5 V peak
Decay Time	Less than 2 sec (450 mm)	Less than 1 sec (450 mm)	Less than 1 sec (450 mm)
Air Flow	165 CFM		
Dimensions	680 x 120 x 180 mm (with bracket)	1000 x 120 x 180 mm (with bracket)	1200 x 120 x 180 mm (with bracket)
Compatibility	ISO 14644-1 Class 4		

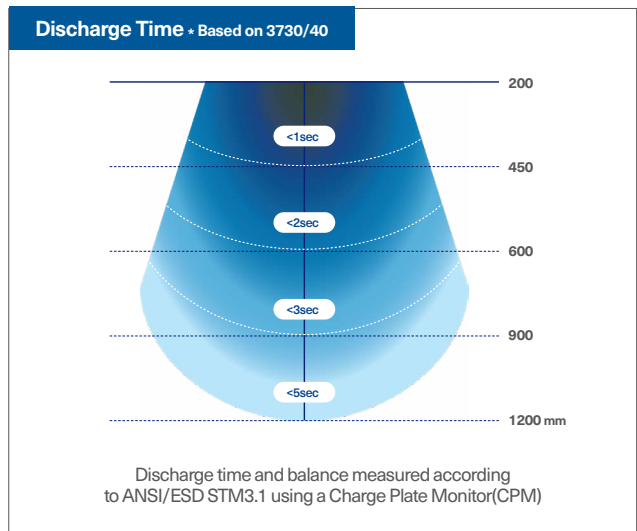


- FEATURES**
- Steady-State DC Ion Emission
  - Class 0 ESD Control Application
  - LED & Audio Alarm
  - ONE-Touch Auto-Cleaning \* Except 3890
  - 5 Step Fan Speed Control
  - Auto-Cleaning Button & Brush
  - MODBUS communication enabled

- BENEFITS**
- No Calibration
  - Low Offset Voltage
  - No High Switching Voltage
  - Easy Replacement of Emitter Points
  - Auto Stop Safety function
  - Slim Design
  - No Transient Noise Free



Product Information	
Model 3720E	2FAN / Power Alarm / Built-in Emitter Cleaning Cycle Programmable
Model 3720EL	2FAN / Power Alarm / Built-in Emitter Cleaning Cycle Programmable / Built-in LED Light
Model 3730E	3FAN / Power Alarm / Built-in Emitter Cleaning Cycle Programmable
Model 3730EL	3FAN / Power Alarm / Built-in Emitter Cleaning Cycle Programmable / Built-in LED Light
Model 3740E	4FAN / Power Alarm / Built-in Emitter Cleaning Cycle Programmable
Model 3740EL	4FAN / Power Alarm / Built-in Emitter Cleaning Cycle Programmable / Built-in LED Light



## Class 0 &amp; CDM Control Application

# Model 3800 Series

CoreStat® Self-Balanced Overhead Ionizer



Auto-Cleaning Brush



IR Remote Controller



The Model 3800 Series, featuring CoreStat® Self-Balance technology, is a Steady-State DC ionizer that can be used in various electronic product manufacturing environments including Class 0 component handling processes, semiconductor assembly processes, and PCB assembly processes. Discharge electrode cleaning is performed through an automatic cleaning system, and the high voltage power technology, which is the ionizer's core patented technology, is designed to require no regular calibration, making maintenance work simple.

The Model 3800 Series overhead ionizer can achieve static elimination within 3 seconds at a distance of 450 mm. The 8-terminal monitoring I/O ports enable monitoring of the ionizer's status and power input control. LED indicators and audio alarms provide more intuitive confirmation of the ionizer's ion balance and high voltage power abnormal conditions. The built-in discharge electrode cleaning brush performs automatic cleaning within 10 seconds through remote control, effectively reducing maintenance resources.

Specifications			
	3820	3830	3840
Ion Emission	Steady-State DC		
Ion Balance	±10 V peak	±5 V peak	±5 V peak
Decay Time	Less than 3 sec (450 mm)	Less than 1 sec (450 mm)	Less than 1 sec (450 mm)
Air Flow	150 CFM		
Dimensions	680 x 120 x 180 mm (with bracket)	1000 x 120 x 180 mm (with bracket)	1200 x 120 x 180 mm (with bracket)
Compatibility	ISO 14644-1 Class 4		

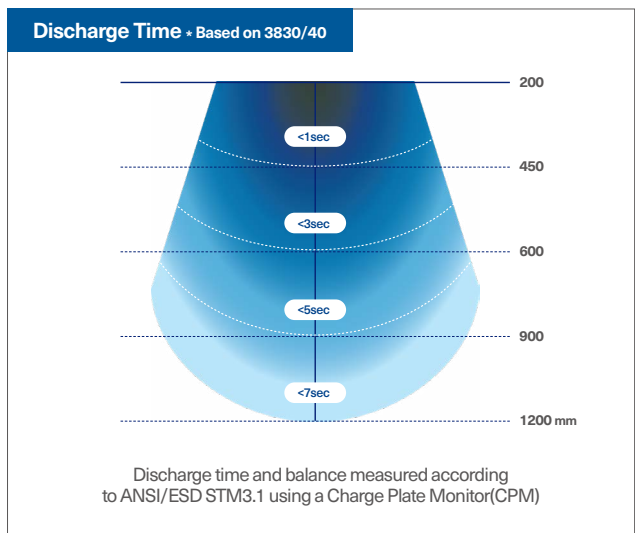


- FEATURES**
- Steady-State DC Ion Emission
  - Class 0 ESD Control Application
  - LED & Audio Alarm
  - 3 Step Fan Speed Control
  - Auto-Cleaning Button & Brush

- BENEFITS**
- No Calibration
  - Low Offset Voltage
  - No High Switching Voltage
  - Easy Replacement of Emitter Points
  - Auto Stop Safety function
  - Slim Design
  - No Transient Noise Free



Product Information	
Model 3820E	2 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning
Model 3820EL	2 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning / Built-in LED Lights
Model 3830E	3 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning
Model 3830EL	3 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning / Built-in LED Lights
Model 3840E	4 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning
Model 3840EL	4 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning / Built-in LED Lights



## Class 0 & CDM Control Application

# Model 3900 Series

CoreStat® Self-Balanced Overhead Ionizer



Auto-Cleaning Brush



IR Remote Controller



The Model 3940E Series, featuring CoreStat Self-Balance technology, is a Steady-State DC ionizer equipped with a high-speed fan, designed for use in various electronic manufacturing environments including Class 0 semiconductor assembly and PCB handling processes.

The Model 3940E Series is equipped with an automatic cleaning brush that makes discharge electrode cleaning simple and convenient to use as it requires no calibration. When the top grill filter is opened or closed, power is automatically shut off, ensuring safety and convenience for maintenance work during internal cleaning.

When the PWR button on the remote control is pressed, the automatic cleaning brush is activated to automatically clean the discharge electrodes. Additionally, when power is turned off, the built-in automatic cleaning brush performs automatic cleaning. The automatic cleaning brush does not contact the discharge electrodes during ionizer operation.

### Specifications

	3920	3930	3940
Ion Emission	Steady-State DC		
Ion Balance	±10 V peak	±5 V peak	±5 V peak
Decay Time	Less than 3 sec (450 mm)	Less than 1 sec (450 mm)	Less than 1 sec (450 mm)
Air Flow	165 CFM		
Dimensions	680 x 120 x 180 mm (with bracket)	1000 x 120 x 180 mm (with bracket)	1200 x 120 x 180 mm (with bracket)
Compatibility	ISO 14644-1 Class 4		



**FEATURES**

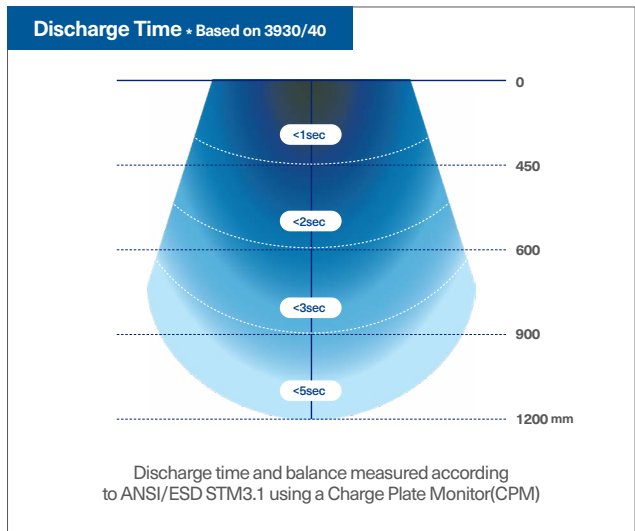
- Steady-State DC Ion Emission
- Class 0 ESD Control Application
- LED & Audio Alarm
- 3 Step Fan Speed Control
- Auto-Cleaning Button & Brush

**BENEFITS**

- No Calibration
- Low Offset Voltage
- No High Switching Voltage
- Easy Replacement of Emitter Points
- Auto Stop Safety function
- Slim Design
- No Transient Noise Free

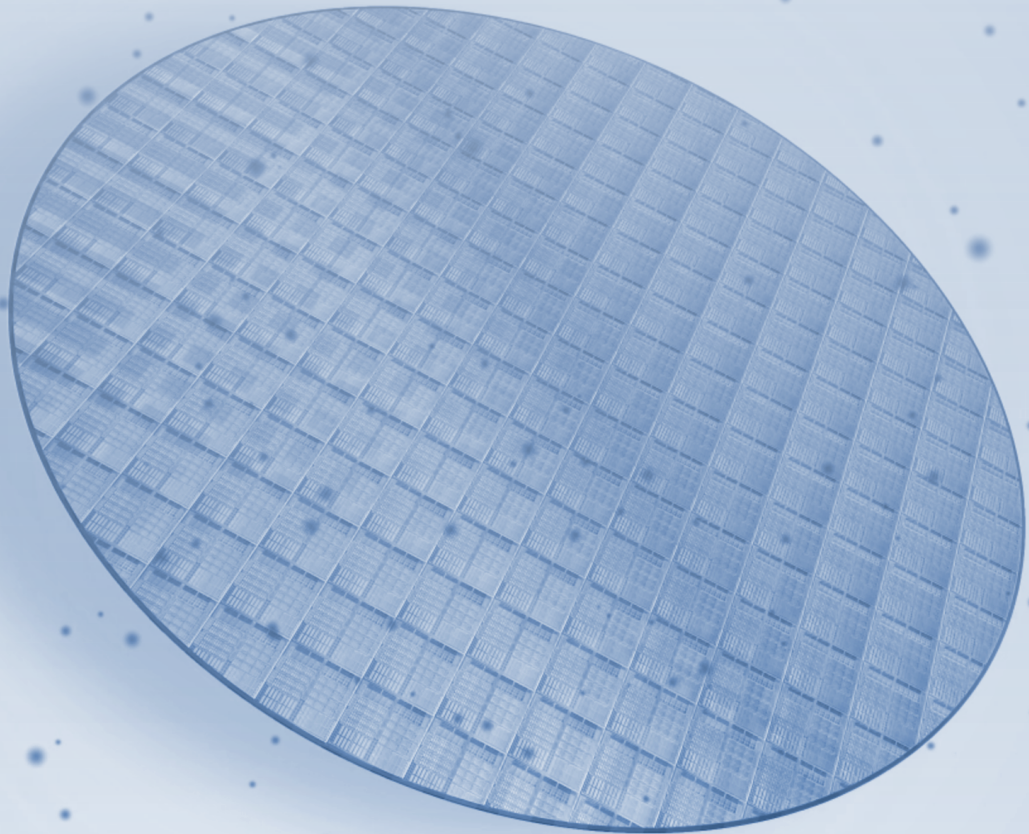


Product Information	
Model 3920E	High Speed 2 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning
Model 3920EL	High Speed 2 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning / Built-in LED Lights
Model 3930E	High Speed 3 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning
Model 3930EL	High Speed 3 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning / Built-in LED Lights
Model 3940E	High Speed 4 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning
Model 3940EL	High Speed 4 FAN / Power Alarm / Grill Filter / Auto Stop, Auto Cleaning / Built-in LED Lights



# Cleaning

CoreStat® technology are developed for common ESD and contamination control applications, such as semiconductor assembly and testing, and SMT/PCB assembly manufacturing processes. CoreStat® technology is an intrinsic self-balancing high-voltage power design technology that does not require any calibration and is easy to maintain. CoreStat® technology-based gun-type ionizer has been designed to remove foreign materials on the surface of wafers and substrates.



## Contamination Control Ionizer



### Self-Balanced and No Calibration

CoreStat® is a steady-state DC technology has internally connected positive and negative high voltage power units in circuit. Thus, it maintain same voltage output level with no calibration required.

### Cleanroom Compatible

Model 472A Gun Ionizer has built-in HEPA filter and filtering over 99% at 1 $\mu$ m particle and compatible to use particle removable in cleanroom. Model 470 Gun Ionizer has all-in-one designed for general use to remove particle on the surface of printed circuit board or plastic materials.

### Low Offset Voltage

As part of CoreStat® technology with mechanical design of all components in assembled, it maintain at very low peak offset voltage. This will not change offset voltage with no maintenance after a long operation time.

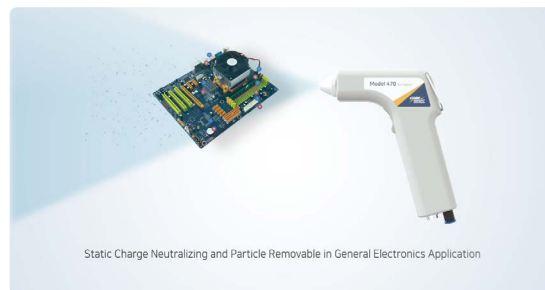
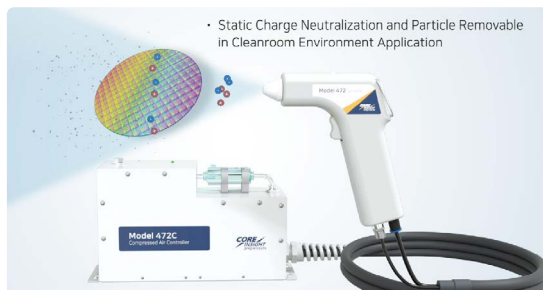
※ Remark : No maintenance will be a foreign material (FM) contamination issue.

### Ergonomic & Slim Design

Model 470/472 Gun Ionizer has ergonomic and comfortable design. Model 4110/4120 series of Nozzle Ionizer has very slim design and can be fit very limited space in-tool application.

### Various Options

Several nozzle options available such as urethane tubing, metal rigid tube and IR distance indicating sensor response to black/white targets.



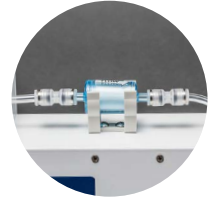
## Self-Balanced Gun ionizer

# Model 472A

CoreStat® Self-Balanced Air Ionizing Blower



LED & Audio Alarm



HEPA Filter Cartridge

### Micro-particle and ESD control for cleanroom environments

Model 472A gun ionizer is specially designed for cleanroom applications for semiconductor, flat panel display, hard disk and other high-tech industry. Strong ionized air force effectively removes attracted particles on the surface of the objects.

Model 472A gun ionizer does not require any calibration due to its intrinsic ability to maintain low peak offset voltage.

### FEATURES

- Steady-State DC Ion Emission
- Low Offset Voltage
- HEPA Filter Assembled Controller
- Air Speed Controller

### BENEFITS

- No Calibration Required
- Ergonomic Design
- Replaceable HEPA Filter

### Specifications

Ion Emission	Steady-State DC
Ion Balance	±15 V
Decay Time	Less than 1.0 sec
Air Pressure	0.1 to 0.5 MPa

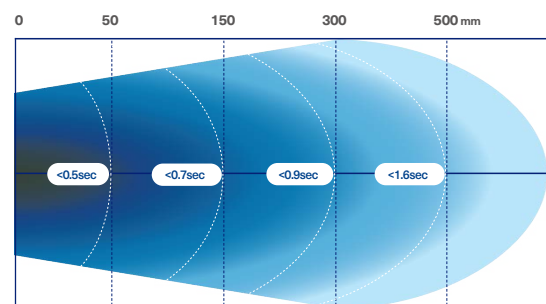
### Related Product

Model 5233ES	Single Crystal Silicon Emitter
Model 5360EP	Tungsten(99.99%) Emitter
Model 472C	Compressed Air Controller Model 472 Cleanroom Compatible Gun Only
Model 5470F	HEPA Filter for Model 472C



Control Box - Model 472C

### Discharge Time



Discharge time and balance measured according to ANSI/ESD STM3.1 using a Charge Plate Monitor(CPM)

## Self-Balanced Gun ionizer

# Model 470

CoreStat® Self-Balanced Air Ionizing Blower



Easy Nozzle Open



DC Power and Air Connection

### Micro-particle and ESD control for cleanroom environments

The Model 470 is optimally designed for cleanroom environments in advanced industries such as semiconductor, flat panel display, and hard disk manufacturing. It effectively removes particles attached by static electricity through strongly ionized airflow.

Due to its unique design, the Model 470 does not require periodic reference calibration and continuously maintains low peak offset voltage.

### FEATURES

- Steady-State DC Ion Emission
- Low Offset Voltage
- HEPA Filter Assembled Controller
- Air Speed Controller

### BENEFITS

- No Calibration Required
- Ergonomic Design
- Replaceable HEPA Filter

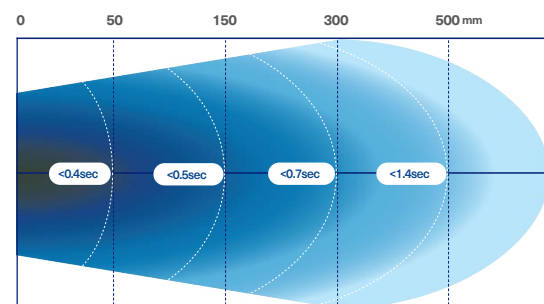
### Specifications

Ion Emission	Steady-State DC
Ion Balance	±15 V
Decay Time	Less than 1.0 sec
Air Pressure	0.1 to 0.5 MPa

### Related Product

Model 5360EP	Tungsten (99.99%) Emitter
Model 5147D	DC Adapter

### Discharge Time



Discharge time and balance measured according to ANSI/ESD STM3.1 using a Charge Plate Monitor(CPM)

## High Frequency AC Nozzle Ionizer

# Model 4110



### Particle Contamination & ESD Controls with Compressed Air

Electrostatic force is a typical source of micro particle contamination in printed circuit board handling and general electronics industry. It is very hard to remove particle once they attracted on the charged surface of materials. Charge neutralization is important for remove particles from the surface. High frequency AC technology based, Model 4110 nozzle ionizer is designed small package for space limited in automated process and general cleaning applications. Strong ionized air force is effective for removing particles attracted objects. Model 4110 nozzle ionizer does not required calibration, but just cleaning emitter points in regular based due to high frequency AC power designed. Visual (LED) and audible (buzzer) alarms operates when high voltage power supply fail.

#### FEATURES

- High Frequency AC Technology
- Versatile Application
- Low Offset Balance
- Alarm for HV Power Fail

#### BENEFITS

- No Calibration Required
- Audio & Visual LED Alarms
- Particle Contamination Cleaning

#### Specifications

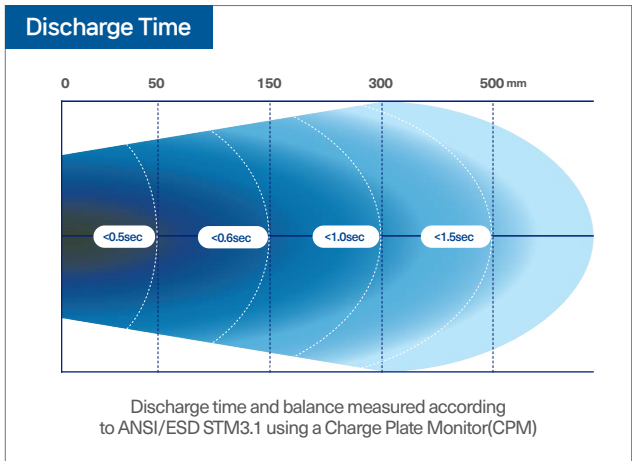
Specifications	
Ion Emission	High Frequency AC
Ion Balance	Less than $\pm 30$ V
Decay Time	Less than 1.0 sec
Air Pressure	0.1 to 0.5 MPa

#### Related Product

Related Product	
Model 4110	Normal
Model 4120	IR Sensor Integrated
Model 4110U	Uretane Airtube Nozzle
Model 4111	IR Sensor Option - with Model 4110

High Frequency AC Nozzle Ionizer

# Model 4120



# Industrial Application

Designed for automated equipment with limited space constraints in industrial work environments. Ideal for foreign particle removal and static electricity elimination applications.



**Shockless Static Ion Bar****Model 6100**

Industrial Ionizer



Model 620 Pulsed AC Power Supply

**Particle Removal and Static Control in Work Environments**

Core Insight's Model 6100 Shockless Designed Static Ion Bar is designed to neutralization solution for industrial applications such as web and roll-to-roll process to minimize static issue and particle contamination control. Capacitance coupled designed results electrical current limiting for personal safety.

Model 6100 Static Ion Bar Ionizer is specially suited for small and space limited environments such as winding and unwinding of films, paper and similar applications. Users can choose fixed output conventional AC Power Supply unit of output adjustable Pulsed AC Power Supply. Model 620 Power Supply unit have LED display and audio alarm features for high voltage failure and cleaning cycle.

**FEATURES**

- Shockless Design
- Conventional & Pulsed AC Optional
- Small Profile for Limited Space
- Neutralization for Industrial Applications
- Industrial Static Control

**BENEFITS**

- Fast Discharge Time
- Highly Reliable Quality
- Low Cost
- Roll to Roll Process

**Specifications**

<b>Ion Emission</b>	AC or Pulsed AC
<b>Output Voltage</b>	±7k V
<b>Enclosure</b>	Stainless Steel
<b>Emitter Point</b>	Tungsten 99.99%

**Model 620 Power Supply**

<b>Output Voltage</b>	0 to ±7 kV (Adjustable)
<b>Ion Emission</b>	Pulsed AC Technology
<b>Power Consumption</b>	500 ~ 2.7 Amps per Bar Length
<b>Enclosure</b>	Powder Coated Aluminum
<b>Timing</b>	1 ~ 50 Hz Frequency
<b>Alarm</b>	Visual & Audio alarm operates for power failures and cleaning cycle schedule
<b>Display</b>	3 Digit LED

## 2

# ESD Measurement

- Resistance Meter
- Resistance Probe
- Advanced Measurement
- Voltmeter & Fieldmeter
- Charge Plate Monitor
- Auditing Kit



# Resistance Meter

Measuring the resistance value of ESD control materials are key test requirement for evaluation and suitability test of electrical property of materials. Prostat's high-precision resistance measuring instruments has constructed all necessary features and functions such as constant voltage selection and electrification time.



## Resistance Measurement System

# PRS-801B



### EOS/ESD Diagnostic Instruments for Manufacturing Experts

The most important ESD Audit & Evaluation instrument is this wide range, constant voltage resistance meter. Use with many accessories & fixtures. Unique wide range portable, constant voltage ohmmeter with data logging, calculating and computer communication capabilities

- Resistance Range:  $0.01 \Omega$  to  $2.0 \times 10^{14}$
- Accuracy of  $\pm 2\%$  from  $1.00 \Omega$  to  $9.99 \times 10^{10}$
- Constant Test voltages 10V and 100 V
- Rechargeable Li-ion Battery Pack
- Approximately 8,000 Measurements on a Single Charge
- Uses Micro USB Cable for Charging and Downloading Data
- Charges in 2 Hours
- 2-year Limited Warranty on Main Instrument

### Resistance Fixtures & Electrodes

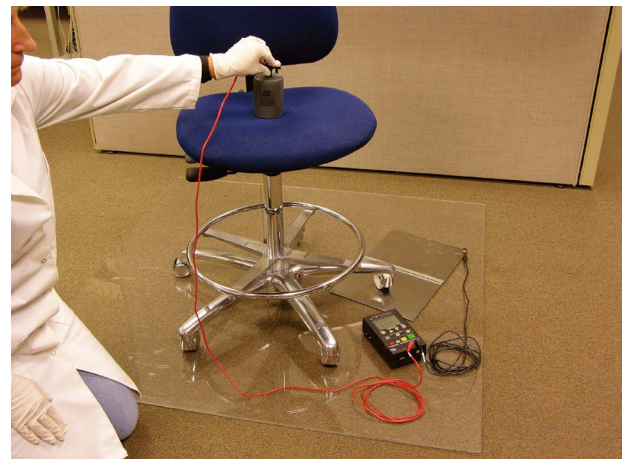
Use five-pound electrodes for measuring resistance of floors, worksurfaces, floor mats, etc.

### Measures

- Resistance Point to Point (RTT)
- Resistance to Ground (RTG)

### Evaluate

- Floors
- Worksurfaces
- Equipment
- Garments
- Production Aids



## Resistance Meter

# PRS-812B



### The ideal choice for the ESD Auditor

The PRS-812B Resistance Meter delivers the full-featured functionality and advanced measurement capabilities that ESD Auditors need. It puts a lot of testing power in your hands to quickly and efficiently measure Resistance Point-to-Point (RTT) and Resistance-to-Ground (RTG) of floors, worksurfaces, carts, garments, packaging, planar material in accordance with all of the ESD Association documents for resistance measurements, such as ESD TR53, ANSI/ESD S4.1, ANSI/ESD S7.1 and ANSI/ESD STM97.1.

### Fully automatic for peace of mind

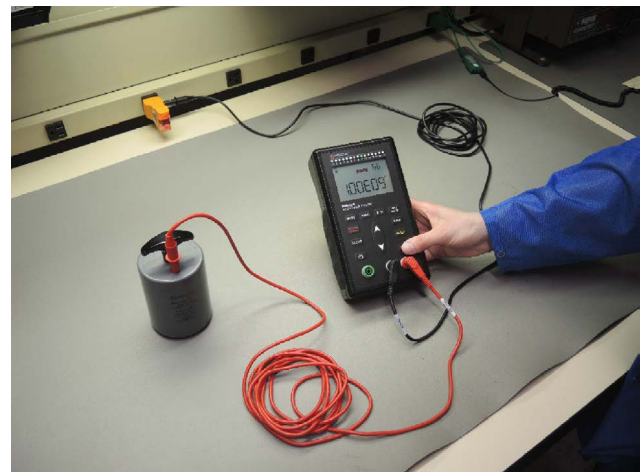
The PRS-812B uses 3 modes of measurements: Automatic, Manual and Auto-Manual. When measuring in Automatic mode, the resistance range and test voltage is automatically selected for you. Auto mode gives you peace of mind and saves you time.

### A very accurate resistance meter

The PRS-812B's wide range meter offers fast, accurate resistance testing using the included high quality 10 foot test leads. The low resistance range is designed to measure from 0.10 to  $1.0 \times 10^4 \Omega$ .

### Portable, precision resistance measurement for ESD Auditor

- Measures resistance from  $< 0.1$  to  $1.00 \times 10^{12}$  ohms with overall measurement accuracy of  $\pm 2\%$ .
- Records and stores up to 120 measurements.
- Constant voltages 10 V & 100 V
- Rechargeable Li-ion Battery Pack
- Approximately 8,000 Measurements on a Single Charge
- Charges in 2 Hours
- 2-year Limited Warranty on Main Instrument



## Wide Range Ohmmeter

# PAS-853B



### Compact Audit Kit for ANSI/ESD S20.20 Program and TR53 Compliance Verification Activity

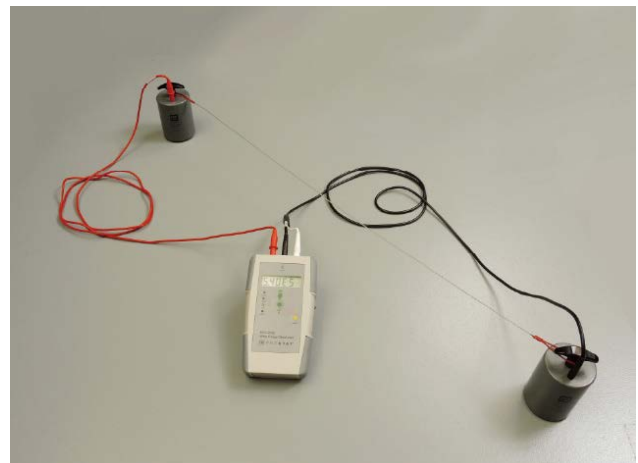
The PAS-853B is a wide range ohmmeter designed specifically for ESD Plant Auditors who must make many measurements quickly while supporting ANSI/ESD S20.20 Program Standard and periodic verification requirements. The PAS-853B performs in accordance with standard resistance measurement practices outlined in ANSI/ESD S541 Packaging and meets all audit requirements of ESD TR53

- <10 Volts Variable from 0.01 to  $9.9 \times 10^3$  ohms
- 10 Volts ( $\pm 5\%$  Constant Voltage) from  $1.0 \times 10^4$  to  $9.99 \times 10^5$  ohms
- 100 Volts ( $\pm 2\%$  Constant Voltage) from  $1.0 \times 10^6$  to  $9.99 \times 10^{12}$  ohms

The PAS-853B is a constant voltage wide range ohmmeter designed specifically for ESD Plant Auditors who must make many measurements quickly while supporting ANSI/ESD S20.20 Program Standard and periodic verification requirements.

### Wide Range Surface Resistance Ohmmeter Kit

- Surface Resistance Kit from 0.01 ohm to  $9.99 \times 10^{12}$  ohms
- Nominal Full Range Tolerance Averages  $< \pm 5\%$
- Fully Automatic Resistance Range, Test Voltage and Electrification Period control
- Determines if a surface is Dissipative, Conductive, or Insulative
- Measures Resistance Point-to-Point (RTT) and Resistance to Ground (RTG)
- Measures resistance of Static Control Floors, ESD Work Surfaces and Packaging Material
- Conforms to all ESD Association Standards for Resistive Characterization
- Includes 2 each Conductive Rubber Electrodes
- Packaged in a hard shell Carrying Case
- Certificate of Calibration Traceable to NIST included





# Resistance Probe

When testing the resistance of ESD control materials, using the proper electrode and probe for the application is crucial and important for data comparison and repeatability. Every probe has its own application and limitations.



## Concentric Ring Probe

# PRF-911

The PRF-911 Connect Ring is a low-profile test fixture conceived specifically for use with the Prostat PRS-801 Resistance System and PRS-812 Resistance Meter. It will measure surface resistance per ANSI/ESD STM11.11, and volume resistance per ANSI/ESD STM11.12 and ANSI/ESD STM15.1.

Its compact size allows the fixture to be inserted into small flexible containers, such as an ESD protective bag, without having to cut the package.

- FEATURES**
- Measure surface resistance per ANSI/ESD STM11.11
  - Measure surface resistance per ANSI/ESD STM11.12
  - Measure surface & volume resistivity per ASTM D-257
  - Incorporates a spring loaded, self-aligning center electrode feature
  - The included Dual Test Bed consists of an insulated test surface for ANSI/ESD STM11.11 surface measurements laminated to a steel test plate for volume measurements.

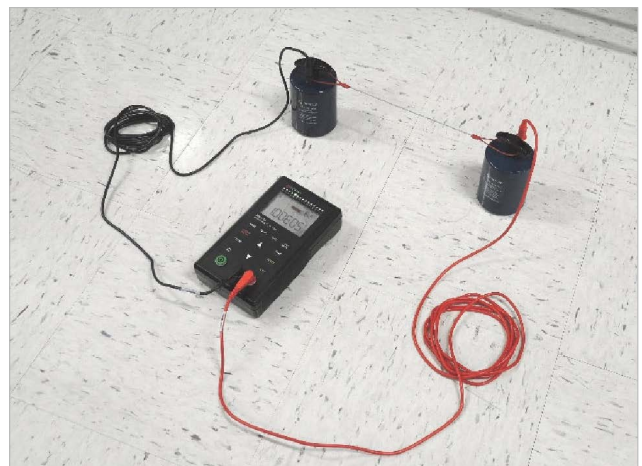


## Conductive Rubber Electrodes

# PRF-801-W

The PRS-801-W is a precision milled resistance probe with conductive rubber pad for use with any resistance meter. Used in point to point and point to ground resistance testing of floors, worksurfaces, floor mats or any flat object. The PRS-801-W produces repeatable measurements in accordance with ESD Association standards.

The PRS-801-W will work with any other resistance measuring meter for specification measurements.



## Miniature Concentric Ring Set

# PRF-912B

Compatible with PRS-801/812 and compact version of PRF-911 probe.

**All components available separately**

- Measurement Range: 0.1 ~ 1.0x10<sup>12</sup> ohms
- Measurement Size: 0.35" (8.89 mm)



What's Included
PRF-912B Miniature Concentric Ring
PRF-912C Connection Cable
BNC Adapter
1 each Spare Center Electrode Contact
2 each Spare Outer Contact Pins

Specifications	
Range	0.1 ~ 1.0x10 <sup>12</sup> ohms
Power	Resistance Meter
Test Lead	RG-174 BNC Coaxial Cable
Connections	BNC Type Terminal
Dimensions	150 mm Length, 12.7 mm diameter

## Miniature Two-Point Probe Set

# PRF-922B

Contact resistance measurement is critical due to semiconductor miniaturization and increased ESD sensitivity. Capable of measuring resistance of JEDEC IC trays, tweezers, and pick-up nozzles in equipment.

**All components available separately**

- Measurement Range: 0.1 ~ 1.0x10<sup>12</sup> ohms
- Measurement Size: 0.25" (6.35 mm)
- Compliance to ANSI/ESD STM11.13



What's Included
PRF-922B Miniature Two-Point Probe
PRF-912C Connection Cable
BNC Adapter
Probe cover
1 set Conductive Rubber Boots
1 each Spare Center Electrode Contact
2 each Spare Outer Contact Pins

Specifications	
Range	0.9 ~ 1.0x10 <sup>12</sup> ohms
Power	Resistance Meter
Test Lead	RG-174 BNC Coaxial Cable
Connections	BNC Type Terminal
Contact Area	Gold Plated Electrodes - 2.54 mm diameter, Rubber Boots - 3.18 mm diameter, Probe-to-Probe Space 6.35 mm
Dimensions	150 mm Length, 12.7 mm diameter

## Dual Verification Fixture

# PRV-913B

PRV-913B Fixture is used to verify the accuracy of PRF-912B or PRF-922B probes. It can confirm probe accuracy around the  $1.0 \times 10^6$  ohms reference standard.



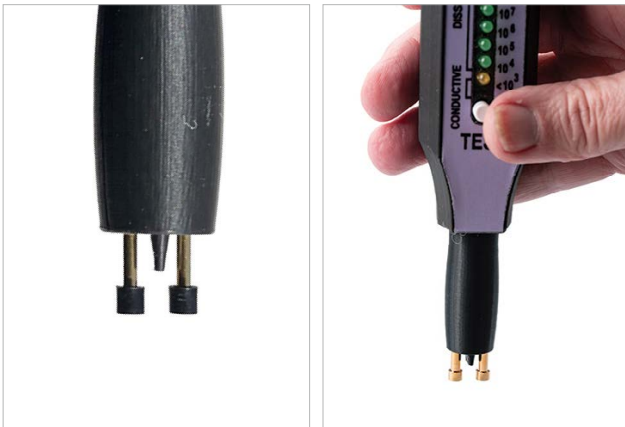
### Specifications

<b>Finish</b>	Black Anodized Body. Copper Substrate with Nickel and Hard Gold Plating
<b>Contact Pads</b>	Copper substrate with nickel and hard gold plating
<b>Color</b>	Black
<b>Diemsnion</b>	50.8 x 50.8 x 28.5 mm 2.0" x 2.0" x 1.12"
<b>Weight</b>	5.29 (150g)
<b>Warranty</b>	1 year Limited Warranty

## Two-Point Resistance Checker

# ACL-306

The ACL-306 integrated probe/meter design is a solution for measuring surface resistance of small areas and molded components. It can be used for incoming inspection and rapid measurement of multiple samples. Suitable for checking electrical characteristics of small structures like tape & reel and vacuum trays. Features LED indicators for resistance range measurement. Ideal for TR53 compliance verification.



### APPLICATIONS

- ESD packaging and trays
- IC tubes and DIP packaging
- Maintenance checks

### FEATURES

- Color LED display segments
- Measuring range:  $10^3$  -  $10^{12}$  ohms
- Measures 0.5" wide
- Conductive pogo pins
- Dimensions: 2.8" x 5.1" x 1.4"

## Powder Fixture Set

## PRF-930



The PRF-930 probe is used to measure the volume resistivity of powder and granular materials. After inserting the material into the space between electrodes, measurements can be taken using a resistance meter to verify electrical characteristics.

Results can be converted to ohm-cm units based on electrode volume.

The PRF-300 probe is designed to be compatible with the PRS-801B resistance meter or equivalent high-precision measuring instruments. The PRF-900 probe meets the requirements of NIOSH Technical Report NIOSH-TR-No. 42.

## APPLICATIONS

- Measure the resistance of powders and granulated materials
- Meets the requirements of NIOSH-TR-No. 42
- Includes caliper, spoon and brush
- Grounding accessories included
- Ideal for chemical, pharmaceutical, food and beverage industries
- Certificate of calibration traceable to NIST included

Specifications	
Upper Resistance Limit	Nominal $1.00 \times 10^{14}$ ohms $\pm 20\%$ @ 500 Volts, 71°F (21.7°C), 18% Rh, Clean, empty fixture. Note that most resistance measurements are made at 100 volts and below.
Dimensions	60 x 32 x 57 mm
Volume	15 cm <sup>3</sup>
Weight	350 g

## AC Circuit Analyzer

## CT70



The Extech CT70 AC Circuit Analyzer is a sophisticated measuring instrument that analyzes AC power wiring conditions at outlet points and assesses potential power quality hazards.

It can also easily and accurately measure ground impedance, verify ground adequacy, analyze GFCI protection circuits, and detect wiring errors.

## FEATURES

- Large LCD display
- AC Ground Impedance Measurement
- Checks 3-wire receptacle configuration
- True RMS measurements
- Voltage drop measurements on 12A, 15A, and 20A loads

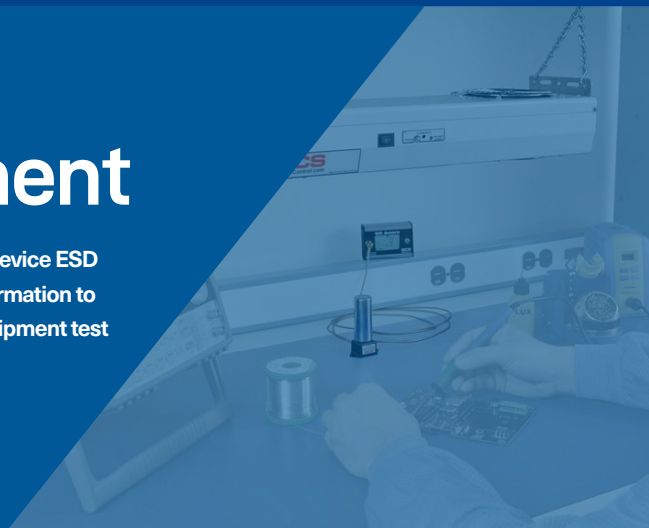


Specifications	
AC Voltage	90.0 to 240.0 V
Frequency	45.0 to 65.0 Hz
Peak Line Voltage	350.0 V
% Voltage Drop	0.1 to 99.9 %
Dimensions	203.2 x 71.1 x 50.8 mm
Weight	317.5 g



# Advanced Measurement

Accurate and Advanced measurement technique requires for ultra sensitive device ESD control applications. Basic research instruments provides highly valuable information to understand technical background and root cause analysis. Device testing equipment test results will give best information how to correlate device sensitivity for factory ESD control guideline.



## Contact Voltmeter Set

# CVM-780



### Professional ESD Auditing Measurements

Being a true electrostatic voltmeter, not a field meter means that it reads real voltage, without confusing it with electrostatic field strength, which can be distinctly different.

The CVM-780 Contact Voltmeter™ uses a unique active probe design which is fully guarded and shielded for minimal interference with the surrounding E-field.

The Contact Voltmeter™ is powered by rechargeable Nickel Metal Hybrid batteries and is a valuable ESD Analysis Tool.

### Compatible with the PGA-710 Autoanalysis System

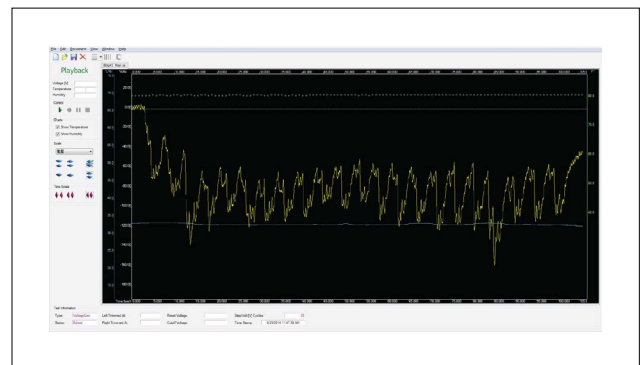
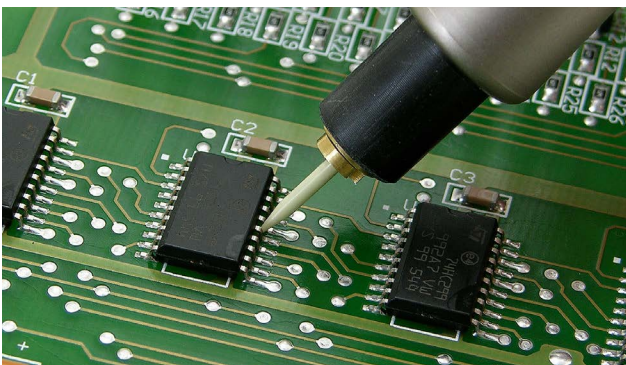
The CVM-780 is compatible with the PGA-710 Autoanalysis System® to record measurements for probability analysis and report generation.

### APPLICATIONS

Analyze process, devices and assemblies for causes of Charged Device Model(CDM) and isolated conductor losses.

Measure voltages on:

- Device Lead Frame Contacts
- Circuit Board Traces
- Automatic Test Contacts
- Conductors in process critical path
- Machine parts
- Handlers
- Production Aids
- Chairs
- Carts
- Personnel
- Trays
- Shelving
- Conductive Containers



## Autoanalysis System

## PGA-712



## Static analysis system for EOS/ESD professionals

- Connects to a Field Meter and Charge Plate Monitor
- Records Walking Voltages per ANSI/ESD STM 97.2 and IEC 61340-4-5
- Analyzes Offset and Decay Times of Ionizers per ANSI/ESD SP3.3 and ANSI/ESD STM3.1
- View Voltages in real time on your computer with the included Autoanalysis Software
- Professional Reports include Minimum, Maximum and Average of Voltage Generation or Decay Times
- Powered by USB
- Built-in temperature and humidity sensor



## APPLICATIONS

## • Anti-static footwear and flooring combination analysis

Measurement and analysis of human body charging based on combinations of anti-static footwear and ESD flooring

## • Mobile carts and ESD chairs

Analysis of charging in mobile carts and ESD chairs during operator seating and movement

## • Ionizers

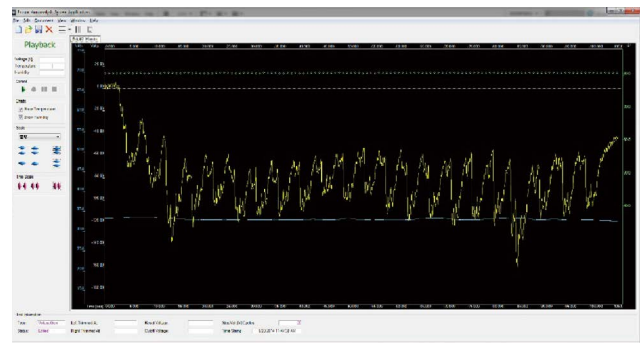
Evaluation and analysis reports on ionizer offset voltage and neutralization performance

## • Automated equipment

Measurement and monitoring of electrostatic charging inside/outside automated equipment with charge level mechanism analysis

## • Workbenches

Measurement and analysis of electrostatic field suppression on workbenches or work surfaces



## ESD Event Detector

# PED-718



### ESD Event Detector

The PED-718 is a portable indicator that will help you quickly detect ESD events in your process. If you're handling ESD sensitive devices, use the PED-718 to detect and count discharges as well as showing you the relative strength of each ESD event.

Settings give the user the ability to adjust the alarm threshold to detect and count only those discharges that exceed the threshold. The LED's will turn red if the discharge exceeds the threshold. There is a sound switch that can also be used to detect ESD events that exceed the threshold.

To confirm that your ESD protection is effective is to know whether you have ESD events in your environment, how strong they are and how many of them occur. The PED-718 is the right tool to show you the effectiveness of your ED program.

The PED-718 is capable of rejecting most non-ESD related EMI events by using a filter that separates and rejects signals that are different from classic ESD events.

Installing and maintaining an effective ESD program requires a wide range of measuring equipment. The PED-718 can help determine the source of potentially damaging ESD events and is an important part of every ESD coordinator's tool kit.

### FEATURES

- Display : Maximum 1,999 counts
- Frequency  
ESD Channel : 100 MHz  
CDM Channel : 3 kHz
- Power : 9 VDC Alkaline Battery
- Thresholds Adjustable
- Sound On/Off Switch
- 10 LED Bar Graph Display

### APPLICATIONS

- Electronics Assembly
- Semiconductor Device Manufacturing
- Disk Drive Manufacturing
- Medical Environments
- Military Aerospace
- Wherever sensitive components are being handled



## ESD Event Detector

**EM EYE**

The EM Eye ESD Event Detector enhances intuitive operation by displaying electrostatic discharge intensity and frequency on an LCD screen. Measurement parameters can be controlled through the touch screen interface. Data stored on a MicroSD card can be analyzed in Excel format on a PC. Audio output and earphone capabilities allow analysis while listening to discharge sounds.

**FEATURES**

- Touch screen - intuitive operation
- Automatic data storage and PC Excel conversion
- Audio output

**BENEFITS**

- Portable design for convenient field mobility
- Digital discharge level display
- MicroSD card storage

**Specifications**

<b>Recording Interval</b>	Storage time: 1 to 360 seconds
<b>Display</b>	Touch LCD
<b>Dimension</b>	65 x 32 x 105 mm



## ESD Event Continuous Monitor

# EM Aware



The EM Aware ESD Event Detector is a solution that enables long-term monitoring through dedicated SMP software. It is designed for monitoring ESD event occurrence and levels over extended periods via PC. The discharge level control switch allows adjustment of response thresholds. It can be installed inside automated equipment to assist with ESD risk analysis.

### Specifications

Specifications	
Audio Indicators	Audio Sounds Selectable
Display	TouchScreen LCD
Size	65 x 32 x 105 mm
Power	7.5 V DC
Network	RJ-45 Ethernet Terminal



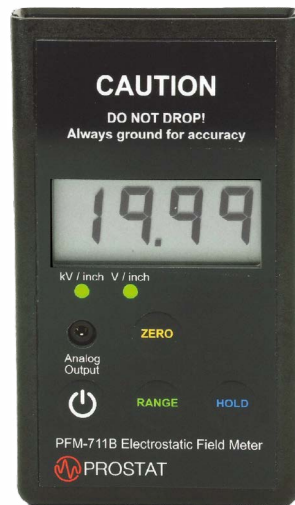
# Voltmeter & Fieldmeter

Charge measurement technique allows direct indication of ESD risk in processes especially CDM ESD control on isolated conductors and insulative materials in ESD protected areas.



## Static Field Meter

# PFM-711B



### Measurement of charge levels in isolated conductors and insulators within industrial processes

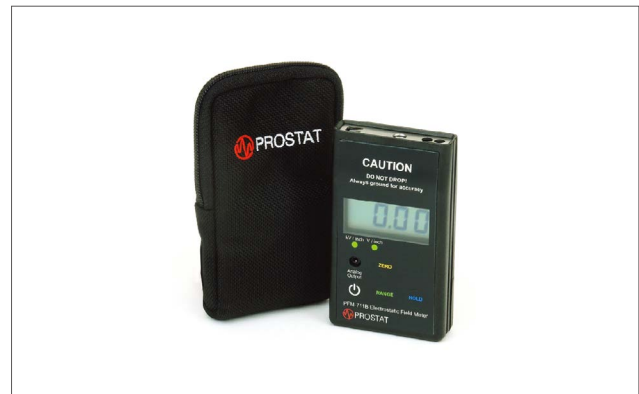
The PFM-711B Field Meter is an accurate electrostatic field measuring device. The PFM-711B circuitry is a digital, electronic chopper design, which allows the instrument to make electrostatic field measurements in areas where ionized air is present. For accurate, repeatable performance, the PFM-711B must be grounded during normal operations. Used by itself, the PFM-711B will measure electrostatic fields emanating from virtually any flat surface or object.

In the kV/Inch range, the PFM-711B will indicate electrostatic field voltage from 0 to  $\pm 20,000$  volts in 10 volt increments at 25mm distance from the charged surface. In the V/Inch range, the Field Meter measures field density from 0 to  $\pm 1,999$  volts in 1 volt increments at 25mm distance from the charged surface. The instrument is easy to use and its controls are designed for one hand operation.

- Measurement Range: 0 V to  $\pm 1999$  V (Low) or 0 V to  $\pm 19.99$  kV (High)
- Accuracy: Better than  $\pm 5\%$  of reading
- Display: 3.5 digits LCD
- Thresholds adjustable
- Resolution: 1 Volt (Low), 10 Volt (High)
- Power: 9 VDC Alkaline Battery
- Output:  $\pm 20.0$  kV meter reading equals  $\pm 2.0$  Volt output  
 $\pm 2,000$  Volts is equal to  $\pm 0.2$  Volts output
- Distance: 25mm  $\pm$  0.5mm LED distance indicator

### FEATURES

- Light weight, Portable
- Dual Range up to 2 kV or 20 kV
- LED Ranging lights help position
- Zero Button
- Hold Button for record
- Output Signal for data analysis



## Field Meter Set

# PFK-100B

The PFK-100 set includes Prostat's unique PFM-711A dual range field meter, CPM-720 charged plate monitor assembly and PCS-730  $\pm 1$  kV charging source.

With this instrument set you can measure electrostatic fields, analyze ionizer performance and assess the voltage generation of materials, equipment and personnel.



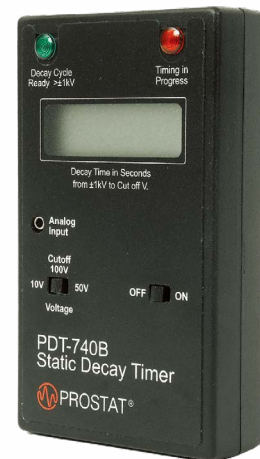
## Static Decay Timer

# PDT-740B

The PDT-740B Static Decay Timer is designed to measure the time required for a 1,000 volt charge to dissipate to less than 100, 50 or 10 volts in tenths of a second.

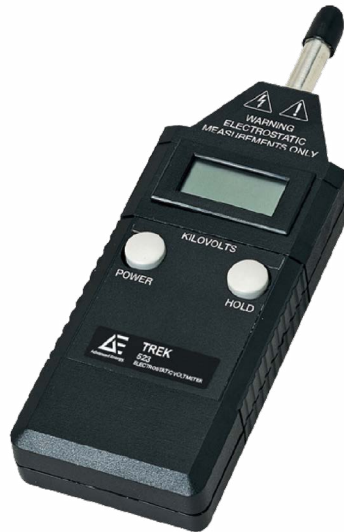
This extremely useful accessory is used with the Prostat PFM-711A Field Meter and CPM-720a Charge Plate Monitor to evaluate Ionizer Decay Time in accordance with ESD Association Ionization Standard SP3.3 and TR53.

The PDT-740B may be used to evaluate the static decay capabilities of materials, personnel, equipment and other products.



## Hand-Held Electrostatic Voltmeters

# Model 520



### Hand-Held Electrostatic Voltmeters for ESD Applications

The Model 520 ( $\pm 2$  kV) and Model 523 ( $\pm 20$  kV) hand held electrostatic voltmeters that utilize a measurement technique that overcomes the disadvantage of the typical hand held field meter by providing surface voltage measurements which are essentially independent of the sensor probe-to-measured surface spacing. The Model 520 is available in two versions. The 520-1 has a digital meter to display the measured voltage. The 520-2 has an analog output monitor in addition to the digital display. This analog output monitor can be used to record the measured voltage or to view it on an oscilloscope.

### FEATURES

- Accurately measures surface voltage at a wide range of spacings
- No need to maintain a fixed spacing
- Chopper stabilized for drift-free operation in ionized environments
- NIST-traceable Certificate of Calibration provided with each unit

### Specifications

Specifications	
Measurement Range	0 to $\pm 2,000$ V
Measurement Accuracy	$\pm 5$ %
Speed of Response	400 ms

### APPLICATIONS

- Measurement of electrostatic surface charge build up
- Manufacturing processes
- Electronic assembly testing
- Semiconductor material testing
- Dissipative material testing
- Automotive electronics testing
- ESD Auditing and troubleshooting

## Non-Contacting, Hand-Held Electrostatic Voltmeters

# Model P0876



### Non-Contacting, Hand-Held Electrostatic Voltmeters

The Model 876 ( $\pm 2$  kV) and Model 884 ( $\pm 20$  kV) hand held electrostatic voltmeters provide accurate, noncontacting measurements of electrostatic surface voltage for ESD applications in either ionized or non-ionized environments.

These two voltmeters utilize a measurement technique that overcomes the disadvantage of the typical hand held field-meter by providing surface voltage measurements which are essentially independent of the sensor probe-to-measured surface spacing.

### FEATURES

- Chopper stabilized for drift-free operation in ionized environments
- NIST-traceable calibration certificate provided with each unit
- Features 3.5 digit, liquid crystal display

### BENEFITS

- Accurately measure surface voltages
- No need to maintain fixed spacing
- Use in ionized or non-ionized environments

### Specifications

Operational temperature range	15 to 35
Measurement Range	$\pm 2,000$ V
Measurement Accuracy	$\pm 5\%$
Speed of Response	<50 ms
Communications Interface	USB and RS232

### APPLICATIONS

- Measurement of electrostatic surface charge build up
- Manufacturing processes
- Electronic assembly testing
- Semiconductor material testing
- Dissipative material testing
- Automotive electronics testing
- ESD Auditing and troubleshooting

## Non-Contacting Electrostatic Voltmeter

# Model 542



### Non-Contacting Electrostatic Voltmeter for EOS and ESD Processes

The Model 542A electrostatic voltmeter is configured with a miniature electrostatic field chopper probe. The probe can be remotely located and easily positioned within process equipment to provide highly accurate, non-contacting, DC-stable, spacing-independent voltage measurements in either ionized or non-ionized environments.

The unit's 20 x 4 alphanumeric LCD screen displays the present measured voltage, positive and negative peak voltage values, and additional menu information.

### FEATURES

- Chopper probe is DC-stable with or without incident airflow
- Analog voltage monitor output
- USB and RS-232 serial ports
- NIST-traceable calibration certificate provided with each unit
- Walking test adapter kit available

### BENEFITS

- Enable drift-free measurements
- Benefit from visual and audible alarms that activate when preset voltage-threshold levels are reached
- Remotely locate or easily position miniature field chopper probe
- Use in ionized or non-ionized environments
- Take spacing-independent voltage measurements

### Specifications

Specifications	
Voltage Range	0 to 10,000 V
Accuracy	5 %
Speed of Response	Less than 50 ms
Interface	USB and RS232

### APPLICATIONS

- Semiconductor
- LCD
- Electronic assembly
- ESD-sensitive processes

## Wrist Strap Auditor

## PWA-805



Add the capability of electrically testing your wrist straps according to ESD S1.1 Evaluation Testing Paragraph 5.1.

### FEATURES

- Chopper probe is DC-stable with or without incident airflow
- Analog voltage monitor output
- USB and RS-232 serial ports
- NIST-traceable calibration certificate provided with each unit
- Walking test adapter kit available

### Specifications

<b>Power</b>	Not applicable. Fixture powered by resistance instrument.
<b>Dimensions</b>	Case: (L x W x H) 4.6" x 2.75" x 0.95" (11.69 x 6.99 x 6.35 cm) Two (2) top mounted metal cylinders: 1 fixed, 1 adjustable for cuff size) Cylinder Diameter: 1.25" x 1" H (3.18 x 2.54 cm)) Adjustable cylinder equipped with knurled locking screw for positioning
<b>Controls</b>	Three position rocker switch: (1) Cuff Only [Resistance between Cylinders] (2) Cuff & Cord Assembly [Resistance from cord ground point to cuff cylinder] (3) Cord Only [Resistance from cord ground point to cuff snap connections]
<b>Connections</b>	Megohmmeter: 2 banana receptacles for meter leads Cord Groundable Point: 1 banana receptacle 2 Cord Cuff Snaps: 1 each 7mm diameter, 1 each 4mm diameter
<b>Weight</b>	4.5 oz



## Non-Contacting Electrostatic Voltmeter

# PHT-771



The Prostat PHT-771 Digital Psychrometer is a highly accurate, battery operated temperature and humidity indicating instrument. Its large LCD displays both temperature and humidity measurements simultaneously.

The PHT-771 provides several operational features such as "Data Hold", and selection of °F or °C. Two AAA batteries are supplied that provide up to 80 hours of operation.

It offers that same performance as models costing 2-3 times as much.

### Specifications

Humidity Range	10 to 90% RH
Humidity Accuracy	±3% RH (10 to 90%) @ 23°C
Temperature Range	-20 to 50°C
Size	178.5 x 48.8 x 25.2 mm
Weight	4.5 oz (128g)

### FEATURES

- Simultaneous display of %RH, Temperature and Dew point or Wet Bulb or Probe Temperature
- Calculates T1-T2 differential (Air Temperature-External Probe Temperature) using optional probe
- Unique sensor cap design twists to closed position for protection during storage
- Switchable °F/°C temperature units with 0.1° resolution
- Data Hold freezes current reading on display
- Max/Min readings

# Charge Plate Monitor

Charge plate monitor (CPM) is designed to measure and evaluation of ionization systems and also can be used for charge accumulation testing on personnel along with hand-held electrode. Based on the operational bandwidth, some CPM can't measure accurately AC ionizers due to response speed mismatch.



## Charge Plate Monitor

# Model 256

Voltage Following Technology Electrometer



Model 256 Charge Plate Monitor is designed to provide accurate ionization system measurement and evaluation for the advanced ESD control program such ANSI/ESD S20.20 standard.

Model 256 CPM has adopted innovative high voltage electrometer that known as voltage following technology for low voltage measurement.

Model 256 CPM can test all ionizers including room ionization systems, blowers, gun/nozzle and bar types. Model 256 CPM is the fastest precision charge plate monitor for testing DC, AC and Pulsed AC ionizers. Model 256 resolves 1 volt and high accuracy with extremely low offset and drift. Start and stop voltages are programmable in 5 volts increments. Model 256 is small and light weight for compliance verification by alone and over 8 hours of battery at 1 hour charging.

### FEATURES

- Compliance to ANSI/ESD STM3.1
- Fastest Response Speed
- Peak Offset Voltage Measurement
- Standard CPM Plate
- Configurable Parameter Adjustment
- Manual / Automatic Test Sequence

### BENEFITS

- Light Weight
- Long Battery Operation
- Large LCD Display
- Detachable 6" Plate

Related Product	
Model 256CPM	Charge Plate Monitor Kit
Model 256-INST	CPM Instrument
Model 256-150	Charg Plate 150 x 150 mm
Model 256-25	Charg Plate 25.6 x 25.6 mm

### Specifications

Bandwidth	DC to 200Hz at Large Signal
Start Voltage	Programmable $\pm 1000$ V by 5 V resolution
Stop Voltage	Programmable $\pm 100$ V by 5 V resolution
Display	40 x 70 mm
Size	74 x 190 x 248 mm
Weight	1.5 kg



- Three Position Toggle Switch that Select +Decay, -Decay and Balance Measurement Mode Selection
- Peak Offset Voltages and Average Display



- Main Switch in Rear Panel
- Low Noise Triax CPM Plate Connector
- 24V DC Input, Ground, Voltage Monitor BNC Output

## Charge Plate Monitor

# Model 288C



The Model 288C is an easy-to-use, charge plate monitor for manual or automated testing. All test parameters are programmable, allowing tests to be optimized and not dictated by equipment limitations. Once programmed, the Model 288C will perform a series of tests automatically:  $\pm$  decays, balance, balance peaks, temperature, humidity, time/date are stored and may be reviewed via the display or downloaded to a PC. The included software permits the user to define and name ionizer locations, test setups, and sequences and upload them to the CPM. All of these features result in a flexible, easy-to-use instrument that facilitates audits while minimizing errors.

## FEATURES

- Internal battery for portable operation
- Detachable 6 x 6-inch plate with optional 1 x 1 in and 3 x 3 in plates
- Built-in temperature and humidity sensors
- Auto-ranging to 0.1 V resolution below 100 V Meets ESD Association Standard ANSI / ESD STM 3.1
- CE compliant

## BENEFITS

- Perform manual and automated testing of decay and balance
- Store up to 1500 tests total (not for each location), 600 locations, and 4 test protocols
- Use the large, easy-to-read, high contrast LCD display
- Configure operating parameters
- Utilize soft keys for highly intuitive programming

## Specifications

Measurement	0 to 1200 V
Bandwidth	DC to 10 Hz (Measurement at 2 kVp-p, -3dB)
Start Voltage	Programmable $\pm 1000$ V by 1 V resolution
Stop Voltage	Programmable $\pm 100$ V by 1 V resolution
Display	240 x 64 Character / Graphic
Size	280 x 152 x 229 mm
Weight	5.7 kg

## What's Included

Model 288 Charge Plate Analyzer

Optional : Carrying Case, 1" x 1" Plate, KEY Soft Ware

## Charge Plate Monitor

# Model 157



The Model 157 combines patented precision charge measurement capability with features that drive down ionizer maintenance and performance testing costs. Enhanced features, such as those that enable the operator to store and retrieve data as data points or graphs and record operator comments for reference, make the Model 157 ideal for use in dissipative testing of materials and monitoring of static charge.

### FEATURES

- Greater bandwidth enables “true” responses to be observed by avoiding the masking of results
- Extremely low offset and drift ensures high accuracy, making it ideal for applications requiring critical ion balance such as GMR and TMR manufacturing areas
- NIST-traceable Certificate of Calibration provided with each unit

### BENEFITS

- Set custom measurement capacitance for assurance that ESD process needs are met in manufacturing
- Easily transport within a facility with the compact and lightweight design
- Use for ESD monitoring of sensitive manufacturing processes such as semiconductor, disk drive, and LCD

### Specifications

Specifications	
Measurement	0 to 1020V
Bandwidth	DC to 80Hz (Measurement at 2kV/p-p, -3dB)
Start Voltage	Programmable $\pm 1000$ V by 1 V resolution
Stop Voltage	Programmable $\pm 100$ V by 1 V resolution
Size	254 x 102 x 241 mm
Weight	2.0kg

### RIGHT OF PRODUCT

- Customizable measurement capacitance provides assurance that ESD process needs are met in manufacturing and that there is conformance to ANSI/ ESD-STM3.1 and IEC61340-5-1 standard test methods
- Greater bandwidth enables “true” responses to be observed by avoiding the masking of results which can occur with other vendors’ systems
- Extremely low offset and drift ensures high accuracy, making it ideal for applications requiring critical ion balance such as GMR and TMR manufacturing areas Compact and lightweight, for easy portability within a facility NIST-traceable Certificate of Calibration provided with each unit

# Auditing Kit

Prostat Corporation's ESD Assessment Kits are prepared for all kinds of ESD measurements compliance to ANSI/ESD S20.20 and beyond advanced process requirements.



## Process Analysis Kit

# PPA-400



### Complete Audit Kit

The PPA-400 ESD Process Analysis Kit is for advanced professionals who need materials testing, facility evaluation and process analysis capabilities all in one kit. This integrated kit has everything in one case for full evaluation of a companies' ESD program and process.

The PPA-400 includes all of the equipment in the PSK-310 Kit and adds the Prostat PGA-710B Autoanalysis System and the innovative CVM-780 Contact Voltmeter, miniature precision resistance fixtures and international adapters.

### PGA-712 Automatic Analysis System

The PGA-710B is a unique electrostatic data analysis device for use with Prostat's PFK-100B Fieldmeter / Charge Plate Monitor Set. It records, plots, analyzes and automatically constructs reports of body voltage generation, electrostatic decay, voltage retention, ionizer performance and other static measuring functions. Its analytical features document and automatically calculate projected levels of typical Human Body (HBM) voltages. It helps determine the risk of equaling or exceeding damaging or hazardous HBM discharge voltages in static sensitive facilities.

### CVM-780 Contact Voltmeter

The New CVM-780 Contact Voltmeter™ combines the ease of use of a digital voltmeter with the high input impedance and low input capacitance of a true electrostatic voltmeter in a small, portable, battery operated package.

Also included is the PRF-912B Miniature E12 Micro Probe Set accurately measures surface resistance of small areas up to  $1.0 \times 10^{12}$  ohms.

It consists of a PRF-912B Concentric Resistance Fixture, shielded cable equipped with BNC connectors, and a BNC to male banana instrument adapter.

### Carrier Case

The PPA-400 Process Analysis Kit is shipped in our new Program Manager Case which is a Hybrid, ultra light Polycarbonate and aluminum construction.

## ESD System Analysis Kit

**PSK-310****PSK-310 ESD System analysis kit**

The PSK-310 ESD system analysis kit is the choice of advanced professionals includes computer download capabilities

**FEATURES**

- Measure decay time
- Test footwear
- Analyze ionizer performance
- Measure body voltages
- Evaluate garments
- Measure wrist strap testers
- Measure electrostatic fields
- Balance ionizers
- Measure charge generation
- Measure temperature and relative humidity

**What's Included**

PRS-801B Resistance System
PFM-711B Electrostatic Field Meter
CPM-720B Charge Plate Monitor
PCS-730B Electrostatic Charger
PDT-740B Static Decay Timer
PFK-100H Instrument Holder
PHT-771 Digital Psychrometer
PGT-61-164 SureTest® Circuit Analyzer
PRF-911 Concentric Ring
PAR-809C Variable Resistance Reference
PRS-801W 5 lbs Conductive Rubber Electrodes (2)
PRS-800CS Cable Spacers Set - 36" & 10"
PWS-610M Fabric Band Wrist Straps (1)
PWS-620 Metal Band Wrist Straps (1)
Q007B Common Point Ground Connector (1)
PSC-010 Pony 3202 - 2 inch Spring Clamp
PK-375 SKB Carrying Case with Handle and Wheels
PAB-024 Accessories Box

## Basic Field Kit

## PFK-101



The PFK-101 Basic Field kit is an introduction to the portability and functionality of the prostat line

### FEATURES

- Measure Electrostatic Fields
- Record Temperature and Relative Humidity
- Measure Decay Times
- Balance Ionizers and Analyze Ionizer Performance
- Measure Body Voltages
- Measure Charge Generation

### What's Included

PFM-71 1B Electrostatic Field Meter

PCS-730B Electrostatic Charger

PCS-730BW 1kV Charging Rod

CPM-720B Charge Plate Monitor Assembly

PDT-740B Static Decay Timer

PFK-100H Instrument Holder

PHT-771 Digital Psychrometer

Q007B Common Point Ground Connector

PWS-610M Fabric Band Wrist Strap

PIK-110C Molded Carrying Case

## Professional ESD Auditing Measurement



### PFK-101 Basic Field Kit

An introduction to the Portability and Functionality of the Prostat Line



### PIK-110 Ionization Kit

Measure Ionizer performance with the upgradable PIK-110



### PRK-130 Advanced Powder Resistance Kit

For measurement of powder and granulated materials



### PRF-91 1PT Packaging Engineers Test Kit

Packaging Test Kit



### PGA-712 Autoanalysis System Kit

Measurement, recording, analysis, and reporting of electrostatic voltage generation and decay performance



### PRS-801 RM Resistance System Kit

Surface Resistance Meter System Kit



### PMK-152 Floor Resistance Test Kit

General Floor Audit and Resistance Measurement



### PRS-812RM Resistance System Kit

Surface Resistance Meter System Kit



#### **PAK-210 ESD Auditor's Kit**

Expand Your Measurement Capabilities by Downloading Data to your Computer. Designed for ANSI/ESD S20.20 Program Applications.



#### **PFC-252 Professional Floor Certification Kit**

Everything you need to certify a floor, or floor and footwear combinations.



#### **PAS-853BRM Digital Surface Resistance Test Kit**

The PAS-853BRM Digital Surface Resistance Test Kit is the ideal kit for the ESD Plant Auditor. It includes the PAS-853-B Wide Range Ohmmeter with 2 each PRS-801-W 5 lbs Conductive Rubber Electrodes.



#### **PSK-310 ESD System Analysis Kit**

The choice of advanced professionals includes computer download capabilities. Designed for ANSI/ESD S20.20 Program Applications.



#### **PSK-312 ESD Basic System Analysis Kit**

Includes PRS-812 Resistance Meter Set. Designed for ANSI/ESD S20.20 Program Applications.



#### **PPA-400 Process Analysis Kit**

The PPA-400 ESD Process Analysis Kit is for advanced professionals who need materials testing, facility evaluation and process analysis capabilities all in one kit.



# 3

## EMI Filter

- Measurement
- AC Power
- Ground
- Soldering
- Servo / VFD Motors
- DC Power
- Data

# Measurement



## EMI Noise can cause of EOS Failures

OnFilter's EMI interface adapters provide galvanic separation from high mains' voltages but a straight path for high-frequency signals so that you can connect your sensitive instrument to live power lines for analysis and quantification. We offer plug-in and hand-held adapters which can measure both differential ("normal") and common-mode noise.

## FEATURES

- Conducted Emission Measurement
- Compliant with SEMI E176 standard and IPC-A-610 EOS section
- EMI auditing, diagnostics, and troubleshooting
- PLC measurement capability
- Measurements independent of ground loops
- Signal measurements regardless of equipment grounding

## APPLICATIONS

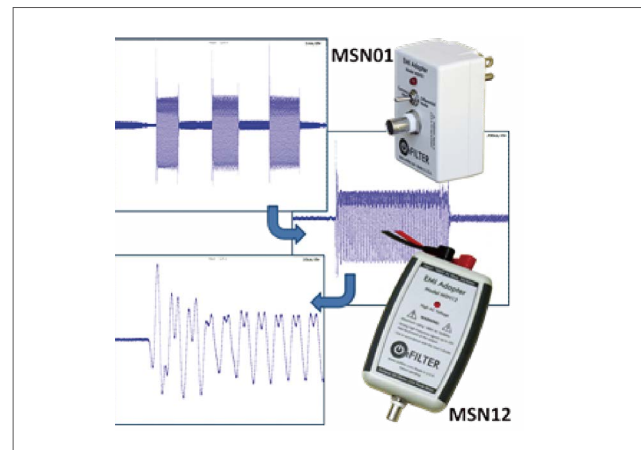
- Electronic manufacturing
- Semiconductor fabrication
- Test and measurements
- Power line communication (PLC)
- Data centers
- Industrial robotics
- Medical
- Military and aerospace
- Wherever EMI is an issue

## Specifications

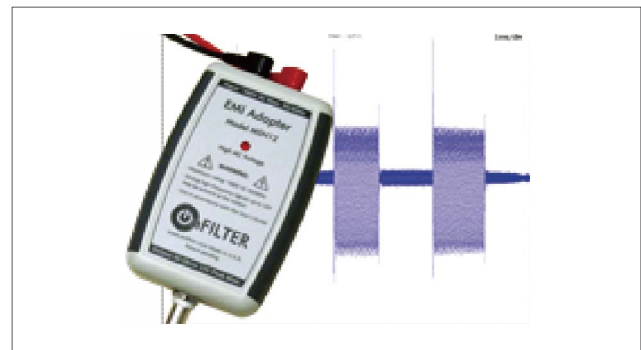
Input Voltage

Up to 380 V

## PLC Waveform Observation Using OnFilter's Power Line EMI Adapter



## Power Line EMI Adapter MSN-12



# AC Power



## EMI Noise can cause of EOS Failures

The CleanSweep® AC EMI Filter effectively reduces noise in critical working environments. While typical EMI suppression filters work well in EMC test laboratories, they may become less effective or even amplify EMI in real-world field conditions. CleanSweep® is a patented power line noise filter that blocks EMI from actual power lines (both common mode and differential mode) from reaching sensitive equipment including ground connections. It also reduces EMI "backflow" from noise sources generated in the AC power network. Not only is it highly effective at reducing EMI, but the CleanSweep® AC filter also provides a high level of transient surge protection that cannot be achieved with conventional MOV-based surge protectors. The CleanSweep® filter can be installed in minutes without an electrician using a 'plug and play' approach.

### FEATURES

- High-frequency noise elimination
- Noise on power and ground conductors
- Simultaneous effects at input and output
- Wide frequency band control

### BENEFITS

- Plug and play approach
- No separate maintenance required
- Easy installation and use

Related Product	
CleanSweep® AL Series	3A AC EMI Filters
CleanSweep® AL Series	10A AC EMI Filters
CleanSweep® AF Series	13...20A AC EMI Filters
CleanSweep® AF Series	30A AC EMI Filters
CleanSweep® AP Series	3A AC EMI Filters for Soldering

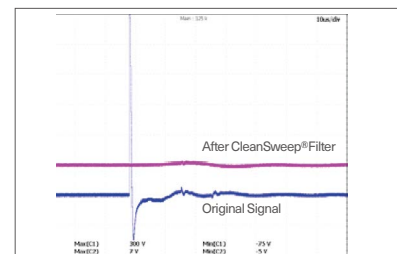
### Specifications

Input Voltage	110 to 250 V
Rated Current	3A, 10A, 20A and 30A
Attenuation	Differential Mode - 24 dB Common Mode - 20 dB*

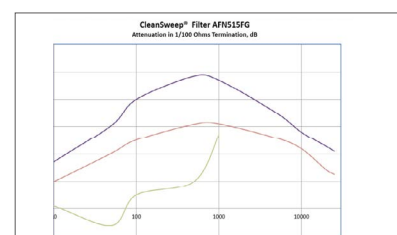
### Typical Transient Attenuation



### Typical Surge Attenuation

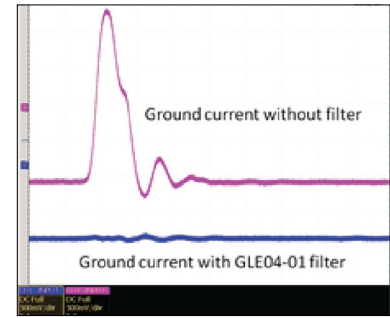


### Typical Frequency Response 0.1/ 100 Ohms Setup



## Ground EMI Filters

## Ground



## EMI Noise can cause of EOS Failures

High-frequency noise on ground is never good news. These high-frequency signals interfere with the normal operation of automation equipment and cause damage due to electrical overstress (EOS). Installing a high-efficiency ground EMI filter on such grounds can easily block EMI noise from the ground. OnFILTER's patented ground EMI filter provides very low impedance for DC and AC power while effectively blocking high-frequency noise currents throughout facility or equipment grounding. Ground filters comply with SEMI E176, ANSI/ESD S6.1, and ANSI/ESD S20.20 standards as well as safety standards.

OnFILTER provides ground EMI filters for facility and equipment internal grounding to offer comprehensive protection against EMI noise. Select ground EMI filters based on power lines or conductors within the facility.

## FEATURES

- High-frequency noise elimination
- Optimized noise removal from ground conductors
- Simultaneous effects at input and output

## BENEFITS

- Reduced equipment service time
- Applicable in various locations
- Easy installation

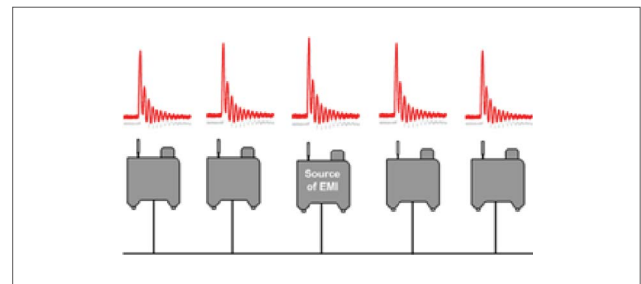
## Specifications

Specifications	
Max Current	30A (GLE30-1)
Frequency	50/60 Hz

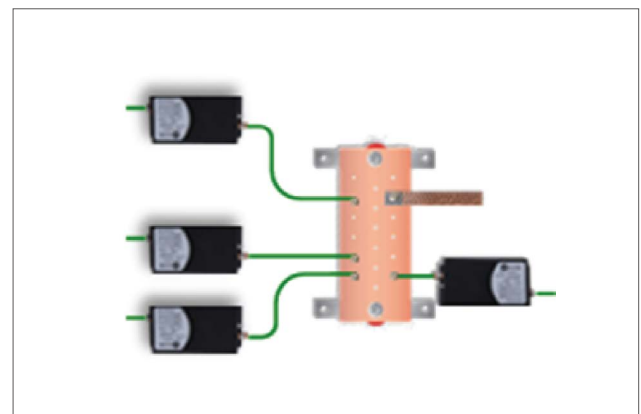
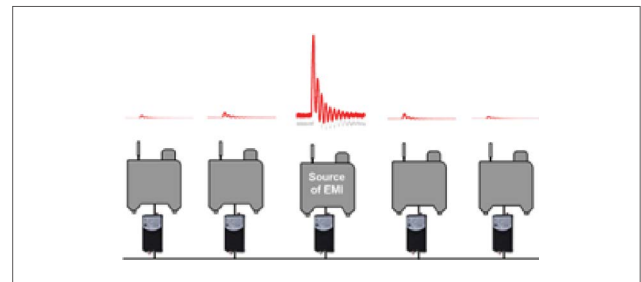
## Options

Options	
GLE30-1	30A EMI Filter to Facility Ground
GLE04-01	EMI Filters to Equipment Ground

## EMI noise propagation situation with typical equipment ground connections

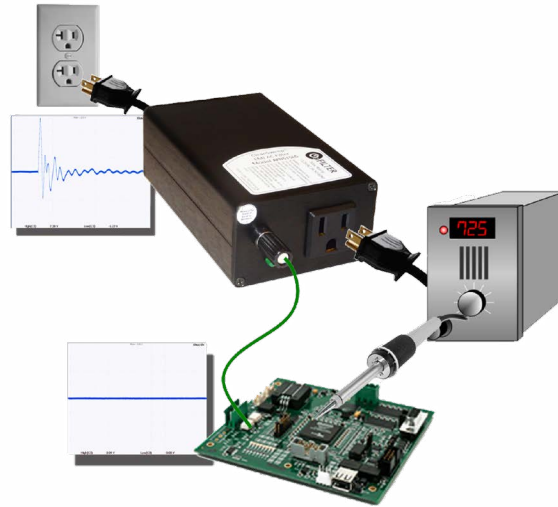


## EMI noise propagation control using GLE30-1 ground filter



## Reduce Electrical Overstress in Soldering Process

# Soldering



### EMI Noise can cause of EOS Failures

OnFILTER's patented soldering filters prevent EMI-caused electrical overstress (EOS) in soldering process – sometimes called EIPD (electrically induced physical damage). The filters block electromagnetic interference on both power lines and ground going to the soldering iron, plus they provide EMI-free ground for your workbench or a fixture which you would use as your ESD grounding.

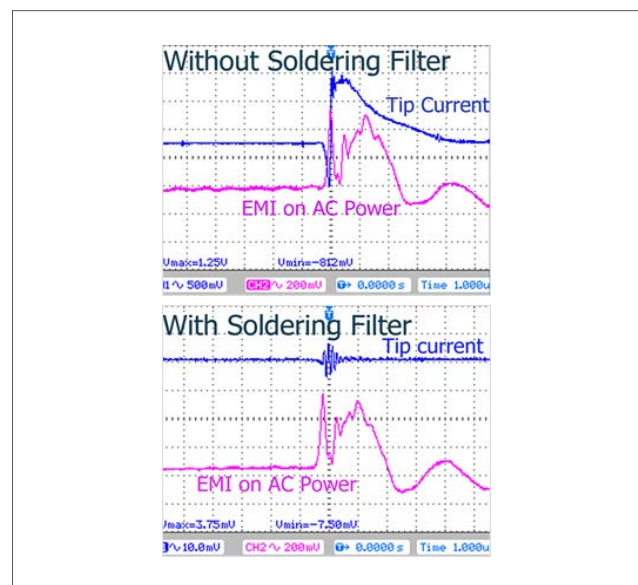
### Specifications

Specifications	
Rated Voltage, RMS	110...250 V
Rated Current, RMS	3A
Transient Voltage Attenuation	40 dB (100 times)
Transient Current Attenuation Standard models	<3.5 mA
Power Indication	LED
Dimensions	3.12"x1.85"x5.0" 80 x 47 x 127 mm

### FEATURES

- EMI blocking in power and ground lines
- Easy plug-and-play installation
- Reduces EMI noise "backflow" within AC power networks

### Current at soldering iron tip due to EMI from power and ground



# Servo/VFD Motors



## EMI Noise can cause of EOS Failures

The operation of PWM-driven motors (servo motors and variable frequency drives (VFDs)) causes multiple problems in equipment. These include motor bearing damage due to leakage currents (causing electrical discharge machining (EDM)), and motor insulation damage. PWM motors are also a major source of EMI in equipment.

OnFILTER's patented SF series filters significantly reduce high-frequency leakage currents in motors and wiring, supporting compliance with IEC60034-17/-25 requirements. They also reduce interference high-frequency noise within tools caused by PWM-driven motor operation.

SF series filters significantly reduce high-frequency currents in equipment ground and EMI throughout tools, lowering EOS (electrical overstress) risks and reducing errors in automation equipment and testers.

## FEATURES

- EMI shielding on PWM control and ground lines
- Individual EMI shielding on UVW lines
- Suppression of EMI noise generated by the motor

## BENEFITS

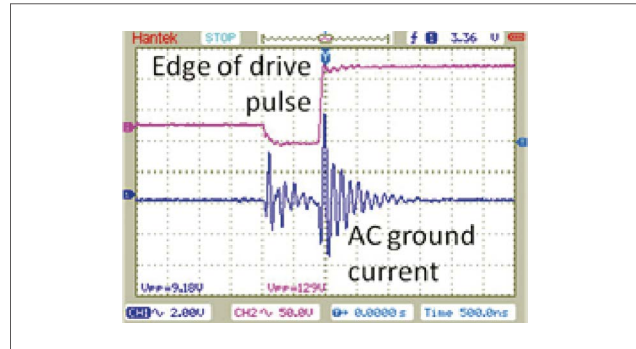
- Plug and play approach
- No separate maintenance required
- Easy installation and use

Related Product	
SF20031	3A Servo Motor EMI Filters
2SF20032	3A Servo Motor / AC Combo EMI Filters
SF20101	10A Servo Motor EMI Filter
SF20201	20A Servo Motor EMI Filter

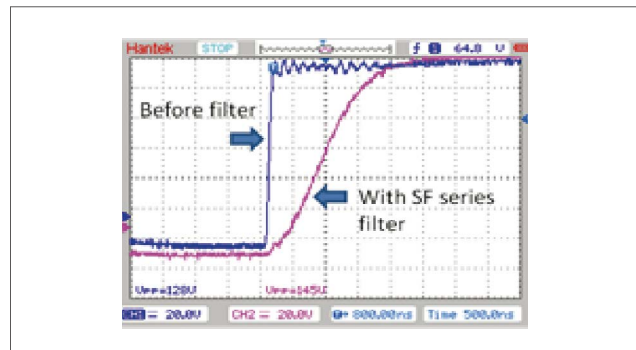
## Specifications

Drive Voltage	250 V
Max Current	3A, 10A and 20A
Rise / Fall Times	1.5 micro second

## AC ground current due to servo motor operation



## Typical edge modification of servo drive signals by SF series filters



Clean Power Free of High-Frequency Noise

# DC Power



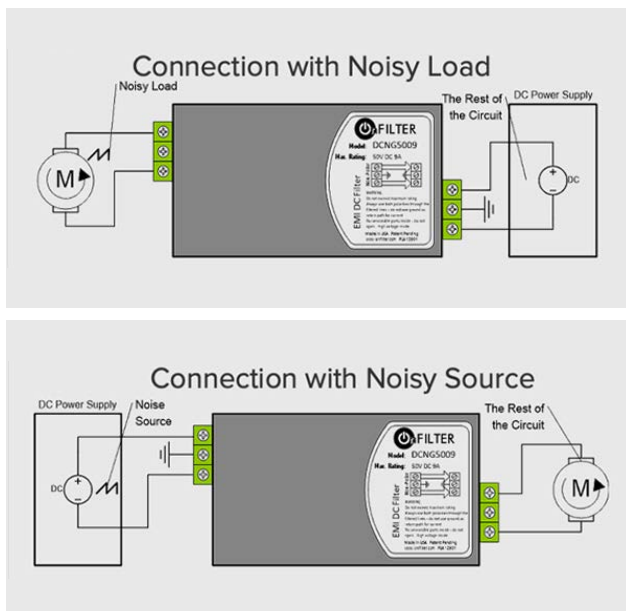
## EMI Noise can cause of EOS Failures

Clean DC power is essential for proper operation of electronics. Assure error-free uninterrupted operation of your electronics by providing it clean DC power with our DC filters. These electromagnetic interference filters help to reduce EMI from imperfect switched mode power supplies (SMPS) and protect your DC rails from EMI generated by other circuits connected to it.

## FEATURES

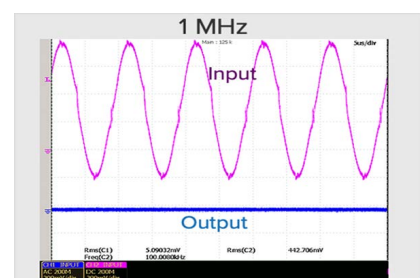
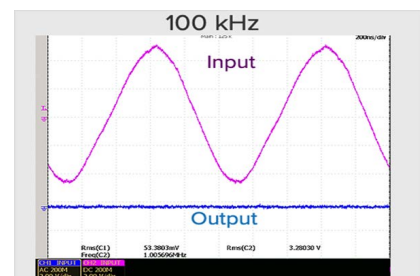
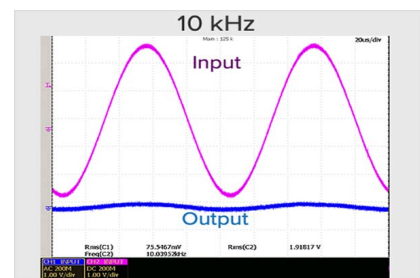
- Noise suppression for all DC power lines
- Plug-in terminal blocks for easy installation
- Rugged construction allows for use with a variety of industrial tools

## Main connection method guide



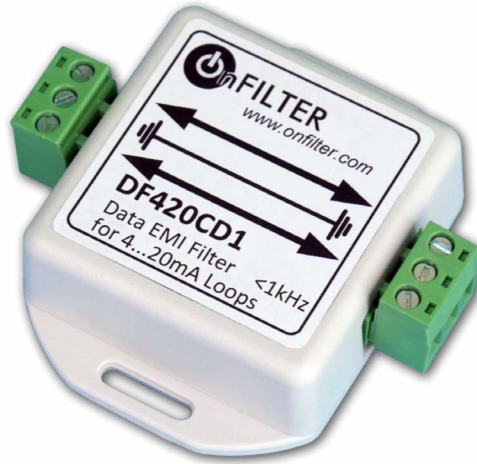
Specifications	
Rated Max. Voltage, DC	50 V
Rated Max. Current, DC	9A
Transient Signal Attenuation	30 dB
Termination	Terminal block
Dimensions	2.6"x5.3"x1.725" 66*135*43.8 mm

## DC Filter Performance



Protect integrity of your data from EMI

# Data



### EMI Noise can cause of EOS Failures

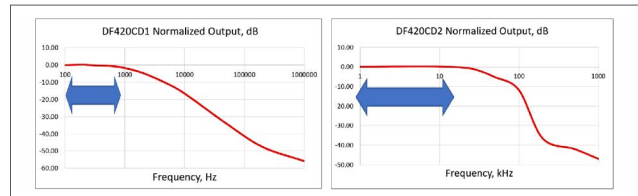
Long data lines from and to 4...20mA loop sensors and actuators “collect” plenty of noise which causes data misreading, errors and other malfunction. OnFILTER’ data electromagnetic interference filters for such analog lines block EMI on long cables while providing pass through for the data.

### FEATURES

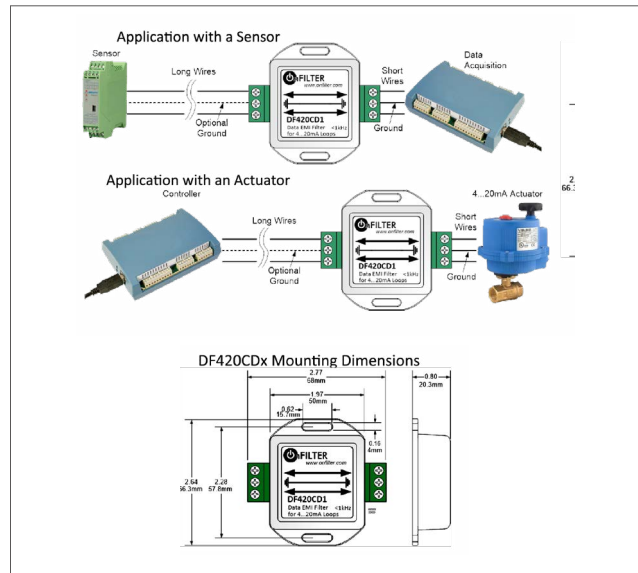
- Reduces electromagnetic interference (EMI) on data lines
- Suppresses differential mode and common mode EMI
- Easy installation
- Supports data bandwidths up to 10 kHz (higher bandwidth models also available)

Specifications	
Drive Voltage	250 V
Max Current	3A, 10A and 20A
Rise / Fall Times	1.5 micro second

### Recommended Data Pass Band



### Important: For Analog Data Only





## Global Ionization Leader **We Know ESD**

CoreInsight pursues excellence in the EOS/ESD business field and aims to practice knowledge management based on the challenging spirit and passion to overcome technological barriers and limitations.

We know **ESD**<sup>TM</sup>  
We provide ESD control, Not just solutions!

