

Total Customer Satisfaction

ESD Control

www.interworldgroup.com



InterWorld[®]
Your Global Resource
www.interworldgroup.com

USA, Ireland, Thailand, Singapore, Malaysia, Philippines, India, Japan, Greater China (Beijing, Suzhou, Shanghai, Shenzhen, Tianjin, Hong Kong, Taiwan)

INTERWORLD : WE KNOW ESD

Electrostatic Discharge Control, Measurement and Management have increasingly become a major part of any modern manufacturing process, from electronics products manufacturing to food processing.

For over 16 years, InterWorld has been a leader in the static control industry, consistently providing a quick and effective one-stop solution to our customers' ESD control concerns. We have seen the ever-decreasing threshold of ESD sensitivity from the integrated devices in the 80s to the GMR heads today. We know your requirement.

InterWorld distributes globally top quality and patented ESD equipment and systems to help you, our customers, manage your ESD control program from your receiving dock to the packaging of your finished products.

Our comprehensive product lines include personal grounding products like wrist-straps and heel-grounders, work stations, instruments and work surfaces. Our ESD-safe packaging protects your semi-finished and finished products.

Our product offering also includes ionization systems for laminar airflow hoods, clean rooms and other critical space environments.

Our test and audit equipment allows you to evaluate and measure the effectiveness of your controls. This is an integral part of any ESD control program.

Trained InterWorld staffs in each location can perform an ESD audit for your facilities and to provide sound and tested solutions to your ESD problems.

TABLE OF CONTENTS

PERSONNEL ANALYZER	1
SmartLog™ and Accessories	
CONTINUOUS WRIST STRAP MONITORS	2-3
Zero Volt Monitor	
Resistive Loop Monitor	
IONIZATION PRODUCTS	4-6
Zero Volt Benchtop Ionizer / Overhead Ionizer	
Ionizing Airgun™	
E-Fans	
SCCN™ STATIC CONTROL COMMUNICATIONS NETWORK	7
SCCN™ Networking Hub	
SAM™ Software	
PERSONAL GROUNDING PRODUCTS	8-10
Single Wrist Strap and Assemblies	
Dual Wrist Strap and Assemblies	
Snap-one™ Series Dual Wrist Straps and Assemblies	
Heel and Toe Grounders	
ESD shoes	
TEST AND AUDIT EQUIPMENT	11-15
Wrist Strap & System Analyzer	
Conductive Footwear Tester	
Fieldmeters	
Handheld Electrostatic Voltmeter	
Surface Resistance Meter	
Electrostatic Monitor	
Electrostatic Sensor	
Charge Plate Monitor System	
WORK STATIONS	16-17
ESD Vinyl Mat	
ESD Rubber Mat	
ESD BAGS	18-19
Static Shielding Bags	
Moisture Barrier Bags	
ESD ACCESSORIES	20
Conductive Grid Tapes	
ESD Tutorials	
Label and Caution Tapes	

PERSONNEL ANALYZER

EN625 Smartlog™



10122-132

- An intelligent periodic wrist strap, footwear and garment analyzer that can save time and money, reduce operator errors and the ESD paper trail, all the while enhancing operator accountability.
- Automate your ESD logs, end periodic testing headaches and cut ESD auditing costs : a paperless periodic test system.
- Built-in magnetic card reader or a bar code reader (infrared or visible red). Other types of readers can be interfaced using the built-in serial port.
- Available in both 10 meg ohm and 35 meg ohm units.

SmartLog™ programming:

- Default test sequence
- User specific test sequence
- User prompts
- Date and time
- Relay time for door locking systems
- ID length and position

Data Converter

- Allows the user to utilize a standard RS232 serial port for the data acquisition from Smartlog™.



10122-132

Key Pad

- Allows the operator to manually enter their employee ID and begin the automatic test procedure.



10122-131

Software

- Allows the user to download and clear all test data acquired by the Smartlog™.
- Provides advance password protection, employee database, automatic data retrieval based on a selectable time interval, auto archiving, and auto network data posting.



10122-139

Part Number	Description
10122-132	Smartlog™, Personnel Analyzer with Barcode Reader, 10 meg ohm, 110V
10122-359	Smartlog™, Personnel Analyzer with Barcode Reader, 35 meg ohm, 110V
10122-134	Smartlog™, Personnel Analyzer with Magnetic Stripe Reader, 10 meg ohm, 110V
10122-360	Smartlog™, Personnel Analyzer with Magnetic Stripe Reader, 35 meg ohm, 110V
10122-139	RS485 to RS232 Data Converter, Smartlog™, Polling Software and RS232 Cable
10122-131	Keypad
10122-230	Handheld Scanner
10122-231	Proximity Card Reader Interface
10122-123	Limit Comparator for Smartlog™, 10 meg ohm
10122-368	Limit Comparator for Smartlog™, 35 meg ohm
10122-232	Power Supply

* 220V also available

Handheld Scanner



10122-230

- Allows the operator to read bar codes other than those printed on traditional ID badges.

Proximity Reader Interface

- Allows the user to integrate most standard proximity card reader with the Smartlog™.

Limit Comparators

- Available to verify crossover limits and proper function of the Smartlog™.

CONTINUOUS WRIST STRAP MONITORS



10122-101

ZVM1002 Zero Volt Monitor™

- The most advanced method of monitoring the ground path for operators, workstations and equipment.
 - Keeps the operator near zero voltage with reference to ground 100% of the time, while monitoring the resistance to ground 100% of the time.
 - Primary functions including charge detection, programmable resistance settings for operator HI and LO, as well as variable upper resistance limits for workstations and equipment grounds.
- ZVM-CAL allows the user to reprogram or calibrate the upper and lower resistance for the ZVM1002™ Zero Volt Monitor™.

Features:

- Monitors ESD ground for 2 operators and their workstations 100% of the time
- Charge detection for each operator
- Fingertip voltage: < 0.1V (typical)
- Workstation Voltage: < 0.45V (typical)
- 10' remote connection for each operator
- Monitors workstation even when operator not present
- Distinct audible and visible alarms for each operator and workstation
- Adjustable audible level
- Visible indicator for standby mode (no operator)
- Field programmable operator upper limits: (each operator independently programmable) upper limit: from 10 meg ohm series resistance (3meg ohms operator to ground) to 35 meg ohm series resistance (9.25 meg ohm operator to ground)
- User configurable Ground/Workstation upper limit: (each workstation independently configurable)
- SCCN compatible data output
- Size: 5.6" (W) x 4.7" (D) x 2.4" (H)
- Wall cube power supply 110 VAC/60 Hz input, 9-12 VDC/500mA output or 220VAC/50Hz input, 9-12 VDC/500mA output



10122-102

ZVM-CAL Zero Volt Calibrator/Programmer™

- Allows users to reprogram or calibrate the upper and lower resistance for the ZVM1002™ Zero Volt Monitor™.
- Sets operator upper limits independently (from 10 meg ohm to 35 meg ohm).
- Sets operator lower limits independently (from 400 K ohm to 1.9 meg ohm).



10122-103

SE872M Continuous Workstation Monitor

- Provides economical and reliable continuous monitoring of wrist straps and workstation ground path.
- Continuously monitors HIGH and LOW operator resistance, eliminating the costly need for daily wrist strap testing.

Features:

- Monitors two operators independently
- HIGH and LOW resistance
- Monitors two work surface ground paths independently
- Visual and audible alarms for each operator and workstation
- Two remote operator receptacles each with guest/cart grounds
- Monitors workstation even when operator is not present
- Upper limits of either 10 meg or 35 meg ohm series resistance available
- SCCN compatible data output

CONTINUOUS WRIST STRAP MONITORS



10122-203

SE900 Continuous Workstation Monitor

- Provides a combination of flexibility and economy to reliably monitor wrist strap and workstation ground paths.
- Continuously monitors HIGH and LOW operator resistance, eliminating the costly need for daily wrist strap testing.

Features:

- Monitors ESD ground for 2 operators and their workstations 100% of the time
- 10' remote connection for each operator
- Independent visual and audible alarms for SAFE, HIGH (resistance), LOW (resistance) and STANDBY (operator not present) for each operator
- Operator monitor resistance range: 1M to 35M, \pm 5% accuracy. User selectable.
- Ground monitor resistance range: 1.9M to 5M, \pm 10% accuracy
- Selectable and programmable operator resistance ranges
- The unit will be calibrated at the factory with 10M and 35M upper limits. The user will then be able to switch between these resistance ranges or program any unique level required between 10M and 35M
- Stainless steel case, 5.25"(W) x 3.75" (L) x 1.75" (H)
- Reduced and selectable test voltage (8V or 5V) resulting in minimal operator voltage
- SCCN data output of all status conditions
- Screw terminal for ground connections

EN445 Series Limit Comparators

- Available to verify crossover limits and proper function.
- Provide fast, simple verification of the proper function of Semtronics periodic testers and continuous wrist strap/work station monitors.
- Eliminates the need to remove the monitor from the workplace.
- Can be calibrated in-house and then used as transfer standards.



10122-124

Part Number	Description
10122-101	Zero Volt Monitor, ZVM1002™, 110 V
10122-102	Calibrator for ZVM1002™
10122-203	Resistive Loop Monitor, SE900
10122-166	Resistive Loop Monitor, SE872M, 10 meg ohm, 110 V
10122-103	Resistive Loop Monitor, SE872M, 35 meg ohm, 110 V
10122-124	Limit Comparator, for SE872M, 10 meg ohm
10122-125	Limit Comparator, for SE872M, 35 meg ohm
10122-232	Power Supply for ZVM1002™ and SE900
10122-167	Power Supply for SE872
10122-204	Black Wire Remote Assembly for ZVM1002™
10122-205	Gray Wire Remote Assembly for ZVM1002™
10122-219	Black Wire Remote Cable for ZVM1002™
10122-222	Gray Wire Remote Cable for ZVM1002™
10122-178	Black Remote with Guest Jack for SE872M and SE900
10122-221	Gray Remote with Guest Jack for SE872M and SE900

* 220V also available

IONIZATION PRODUCTS

ZVI5100/5600 Benchtop Zero Volt Ionizer™

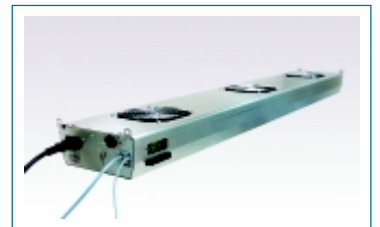


10122-361

- A small, compact single fan ionizer featuring Steady State DC ionization and Semtronics patented Sense Feedback balancing.
- New cleanroom-compatible version (ZVI5600).
- A class 100 or better rating, long term balance stability, high quality performance, state-of-the-art design and easy maintenance.
- Provides automatic balancing of the ionization system, essential for maximizing uptime and optimizing output.
- Reduced air velocity with increased coverage and no sacrifice to decay time.
- Offers user programmable maintenance & alarm levels.
- SCCN™ compatible data output providing performance data to be acquired remotely.
- Provides audible and visual indicators for "balance", "imbalance", and "maintenance required".
- Maintains ± 5 volts while decaying a 1000 volt charge in less than 2 seconds.
- Rapid Access Maintenance cleaning system (RAMcs) housing for fast, complete system maintenance.

ZVI8200/8600 Overhead Zero Volt Ionizer™

- Combines the effectiveness of steady-state DC ionization with a state-of-the-art micro-controller to produce a versatile and stable ionization system.
- Two or three fans versions provide extended ionization coverage.
- New cleanroom-compatible version (ZVI8600).
- Ideal for areas where bench space is limited.
- Adjustable fan speeds, individual balance and alarms via:
 - Menu buttons located on front of unit.
 - Hand-held remote control (ZVI-IR) - optional.
 - Computer using Semtronics Data Polling Utility (ZVI-DPU) - optional.
- Up to 128 units can be daisy-chained into one serial port (through RS485/RS232 converter).



10122-362

Features:

- Steady-state DC ion generation
- Three ionizing fan modules
- Independent Auto-Balance
- Independent alarm capabilities
- Maintenance and balance
- Individually programmable
- Maintenance on/off
- Balance alarm sensitivity
- Digital ionization balance pots
- Hand held programmer
- Balance each fan module
- Program alarm settings
- AC power feed through
- SCCN Compatible data output
- ± 5 volt balance performance
- Rapid Access Maintenance cleaning system (RAMcs')
- Simplified cleaning
- Modular replacement components

IONIZATION PRODUCTS

SE200 Ionizing Air Gun™

- Light weight, ergonomically designed Ionizing Air Gun.
- Eliminates static damage that occurs when drying up moisture or blowing dust off of electronic circuit boards.
- Uses high frequency AC ionization to eliminate peaks of the positive and negative ions that are a problem with 50/60Hz AC ionization.
- NiCad batteries which can be recharged without removing the batteries from the unit.
- Gives the user freedom to move around the work environment.
- An ionization "ON" indicator serves as an extra safety measure during use.



10122-365

Features:

- Technology: High Frequency AC
- Ion Balance: $\pm 10V$
- Operating Temperature: 0 ~ 50°C
- Storage Temperature: -10 ~ 50°C
- Storage Humidity: 20 ~ 90% RH
- Power Supply: DC 6V, 4 AA Batteries (Alkaline or Rechargeable)
- Size: 5.76"(W) x 7.09"(H) x 1.38"(D)
- Weight: 1.6 lbs.

ZVI5100-CAL Calibrator/Programmer

- Sets the program and/or disable the alarm settings for the ZVI5100.
- Can reprogram the ZVI5100 as often as desired.
- Balance the system quickly, and accurately.



10122-363

ZVI8200-CAL Calibrator/Programmer

- Sets the program and/or disable the alarm settings for the ZVI8200.
- Can reprogram the ZVI8200 as often as desired.
- Balance the ion output of each individual fan.
- Balance the system quickly, accurately, and remotely.



10122-364

Part Number	Description
10122-361	Benchtop Zero Volt Ionizer, ZVI5100™, Single Fan, 110V
10122-362	Overhead Zero Volt Ionizer, ZVI8200™, Three Fan, 110V
10122-363	Calibrator / Programmer for ZVI5100™
10122-364	Calibrator / Programmer for ZVI8200™
10122-365	Emitter Point Replacement for ZVI5100™ and ZVI8200™
10122-366	Ionizing Airgun, SE200
10122-290	Emitter Tip Point Cleaner, Pack of 20

* 220V also available

IONIZATION PRODUCTS

E-Fans™ Desktop

- InterWorld's very own economical compact desktop ionizer.
- Maintains a balance within ± 15 volts while decaying a 1,000 volt charge to 100V in less than 2 seconds.
- Available in stainless steel or powder coated casing.
- Ideal for backend operations where the ESD threshold is more tolerant and yet still critical to the product performance.



Features:

- Adjustable Fan Speed
- LED Balance Voltage Indicators: neutral, positive, and negative
- Ion Balance: ± 15 V
- Operating Temperature Range: 0 to 50°C (ambient)
- Power Supply: AC 110V/ 220V
- Size: 190mm x 225mm x 95mm
- Weight: 2.8kg

E-Fans™ Overhead



- Overhead version of the desktop E-fans.
- 2-fan and 3-fan versions are available.
- Each individual fan balance ion output.

Part Number	Description
20005-100	E-Fans, Benchtop Ionizer, Single Fan, 110V
20005-101	E-Fans, Benchtop Ionizer, Single Fan, 220V

STATIC CONTROL COMMUNICATIONS

NETWORK (SCCN)



10122-233

TR2000 SCCN Networking Hub

- A tool for communicating with Semtronic's SCCN compatible devices such as continuous monitor and ionizer to indicate any faults and/or status changes.
- Acquires all the data generated by up to 16 SCCN compatible devices.
- Able to connect up to 32 TR2000 in series building a network of as many as 512 ESD control devices per serial port.

SW2000 Semtronic Audit-Mate (SAM) Software

- Automates the auditing process required in any ESD control program by acquiring all data regarding the integrity and use of the ESD control items installed.
- Produces real-time reports that will help determine where the system needs improvement or eliminate potential problems from consideration.
- Incorporates active floor plans and icons to produce an easy to understand graphic representation of the area monitored.
- Provides the following features: database management, achieving, network posting, shift designation and data summaries such as percent performance, workstation utilization and alarm totals.
- The perfect partner for any company that needs to verify and prove the effectiveness of their ESD program.



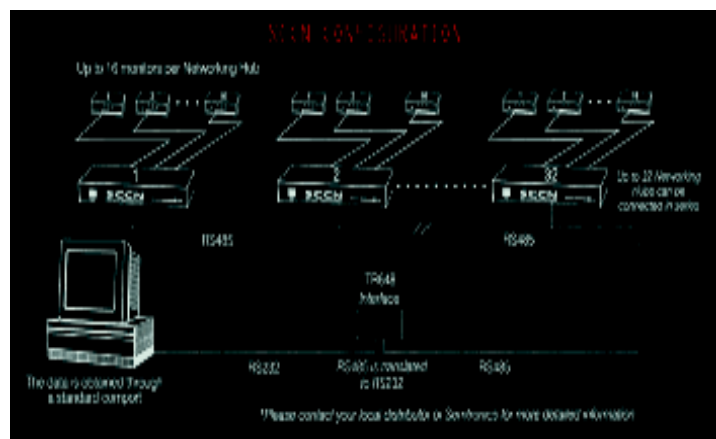
10122-234

Data Converter

- Allows the user to utilize a standard RS232 serial port for the data acquisition from SCCN™



10122-235



Part Number

Description

10122-233	Networking Hub, TR2000 for SCCN™
10122-234	SAM™ Software, SW2000 for SCCN™
10122-235	RS485 to RS232 Data Converter for TR2000

PERSONAL GROUNDING PRODUCTS

Single Wrist Strap Assemblies

- User comfort and reliability.
- Optional snap configuration provides compatibility with other manufacturer's ground cords.
- Patented elastic wrist band material.
- NEW Economy-grade wrist-straps available now!



Part Number	Description
Economy grade	Wrist Strap, Woven Adjustable Wrist Strap - NEW!
10409-101	Wrist Strap Assembly, 10mm Snaps, 6' Coiled Cord, Banana Plug
10409-102	Wrist Strap Assembly, 10mm Snaps, 12' Coiled Cord, Banana Plug
Ultra Comfort-Aid™	Woven Adjustable Wrist Strap
10122-305	Wrist Strap Assembly, 7mm Female Snaps, 6' Coiled Cord, Banana Plug
Silverado™	Woven Adjustable Wrist Strap
10122-170	Wrist Strap Assembly, 7mm Female Snaps, 6' Coiled Cord, Banana Plug
10122-147	Wrist Strap Assembly, 7mm Male Snaps, 6' Coiled Cord, Banana Plug
Speidel™	Stainless Steel Wrist Strap
10122-149	Wrist Strap Assembly, 7mm Female Snaps, 6' Coiled Cord, Banana Plug

* Please specify size when order

Dual Wrist Straps and Assemblies

- Dual wrist bands are available in several styles :
Speidal™ band in small, medium and large sizes, or adjustable
Silveron™ fabric wrist band with silver suffused monofilament conductive interior, using a patented weaving pattern.
- Cords - Available in right angle mono plug or straight mono plug.

Part Number	Description
10122-153	Wrist Strap Assembly, Dual Wrist Strap, SE5650 and Ground Cord, SE4030
10122-110	Wrist Strap Assembly, Dual Wrist Strap, SPR1100 and Ground Cord, SPR1106
10122-113	Wrist Strap Assembly, Dual Wrist Strap, SPR5663 and Ground Cord, SPR4033
10122-160	Dual Silveron™ Adjustable Wrist Strap, SE5650, 7mm Female Snaps
10122-280	Dual Speidel™ Steel Wrist Strap, SPR5663, 4mm Male Snaps, Small
10122-283	Dual Speidel™ Steel Wrist Strap, SPR5665, 7mm Female Snaps, Small
10122-251	Dual 6' Coiled Cord, SE4030, 7mm Male Snaps, Right Angle Mono Plug
10122-109	Dual 6' Coiled Cord, SPR1106, 7mm Male Snaps, Right Angle Mono Plug
10122-114	Dual 6' Coiled Cord, SPR4033, 4mm Female Snaps, Right Angle Mono Plug

* Please specify size when order

PERSONAL GROUNDING PRODUCTS

Snap-One™ Series Dual Wrist Straps and Assemblies



- A unique dual cord that includes a convenient park position for the mono plug at the wrist that eliminates cord dangling and tangling.
- The snap terminations molded into a single connector that provides a fast, simple and reliable means of connecting the wrist strap assembly.

Part Number	Description
10122-157	Wrist Strap Assembly, Dual Wrist Strap, SE5633 and 6' Ground Cord, SE4333
10122-162	Wrist Strap Assembly, Dual Wrist Strap, SE5330 and 6' Ground Cord, Small, SE4333
10122-271	Wrist Strap Assembly, Dual Wrist Strap, SE5330 and 12' Ground Cord, Small, SE4343
10122-193	Dual Silveron™ Adjustable Wrist Strap, SE5633, 4mm Male Snaps
10122-159	Dual Speidel™ Stainless Steel Wrist Strap, SE5330, 4mm Male Snaps, Small
10122-155	Dual 6' Coiled Cord, SE4333, 4mm Female Snaps, Right Angle Mono Plug
10122-261	Dual 12' Coiled Cord, SE4343, 4mm Female Snaps, Right Angle Mono Plug
10122-156	Dual 18' Coiled Cord, SE4353, 4mm Female Snaps, Right Angle Mono Plug
10122-202	Dual 6' Coiled Cord, SE4333, 4mm Female Snaps, Straight Mono Plug

* Please specify size when order

Heel and Toe Grounders

- Consist of two-layer rubber sole material with a conductive outer layer and a non-scuff insulative inner layer.
- Available in both reusable & disposable heel and toe grounders.
- Built in a one or two meg ohm resister for operator safety.
- The reusable heel and toe grounders providing safe and reliable grounding between personnel and conductive flooring.
- The disposable heel grounder providing economical grounding for visitors and transient personnel.



Part Number	Description
10122-175	Heel Grounders, FG8500, 1 meg ohm, Red Elastic, Black Velcro
10122-352	Heel Grounders, FG8505, 1 meg ohm, Black Elastic, Blue Velcro
10122-353	Heel Grounders, FG8550, 1 meg ohm, 2 Wear Surfaces, Black Elastic, Black Velcro
10122-358	Heel Grounders, FG8950, 1 meg ohm, Non Marking

* Toe grounder, Sole grounder and other types of Heel grounders also available

PERSONAL GROUNDING PRODUCTS

ESD Shoes - PVC Conductive Cleanroom Shoes



- Conductivity Resistance : 10^4 - 10^6 ohm/sq
- Bottom Sole : PVC with Carbon Fiber
- Middle Sole : EVA Foam
- Inner Sole : Polyester with Anti-Microbial Treatment and Conductive Fabric
- Upper Sole (Three layers) :
 - Outer Layer : PU Laminated
 - Middle Layer : PU Foam
 - Inside Layer : T/C Fabric
- Size : 220mm to 290mm
- Color : White & Gray

PVC Static Dissipative Cleanroom Shoes

- Conductivity Resistance : 10^6 - 10^9 ohm/sq
- Bottom Sole : PVC with Carbon Fiber
- Middle Sole : EVA Foam
- Inner Sole : Polyester with Anti-Microbial Treatment and Conductive Fabric
- Upper Sole (Three layers) :
 - Outer Layer : PU Laminated
 - Middle Layer : PU Foam
 - Inside Layer : T/C Fabric
- Size : 220mm to 290mm
- Color : White & Gray



PU Cleanroom Shoes

- Bottom Sole : PU
- Middle Sole : PU Foam
- Inner Sole : Polyester with Anti-Microbial Treatment and Conductive Fabric
- Upper Sole (Three layers) :
 - Outer Layer : PU Laminated
 - Middle Layer : PU Foam
 - Inside Layer : T/C Fabric
- Size : 220mm to 290mm
- Color : White & Gray

Part Number	Description
10271-119	PVC Conductive Shoes, White & Gray, 215mm
10271-134	PVC Static Dissipative Shoes, White & Gray, 215mm
10271-314	PU Static Dissipative Shoes, White & Gray, 215mm

* Other sizes also available

TEST AND AUDIT EQUIPMENT

EN425 Wrist Strap Tester

- A compact unit designed to test the effectiveness of wrist straps and/or ground cords independently.
- Easy to use system encourages frequent testing of wrist straps and ground connections throughout the day.



10122-121

- Can be used on a table top or wall mounted.
- Provides three LEDs to indicate Safe, Caution (fail LO), or Alert (fail HI) conditions with user selectable limits.

Part Number	Description
10122-121	Wrist Strap Analyzer, EN425, with Battery Operated
10122-291	Wrist Strap Analyzer, EN425AC, with AC Plug in Transformer
10122-206	6' Ground Cord
10122-292	Conductive Mat Contact Plate
10122-293	Wall Mount Bracket
10122-294	Limit Comparator for EN425

EN752 Dual Independent Footwear and Wrist Strap Tester

- Allows the user to test their wrist strap and ESD footwear for each foot simultaneously and independently.
- Uses an embedded micro-controller that allows for programmable test limits.
- Provides data output compatible with the Smartlog™ system, for complete paperless testing.



10122-227

Part Number	Description
10122-227	Footwear Tester, EN752, Dual Independent, 110V

* 220V also available



Fieldmeters

- Available in both Analog & Digital models.
- EN270 Analog Fieldmeter: a hand held unit featuring chopper stabilized technology for drift free measurements in ionized environments and providing direct readings of voltages up to ± 30 kv.
- EN272 Digital Fieldmeter: a portable, non-contacting static meter that indicates surface voltage and polarity on objects up to ± 20 kv at a spacing

of one inch with an accuracy of 5% of the displayed value.

Part Number	Description
10122-120	Digital Fieldmeter, EN272
10122-345	Analog Fieldmeter, EN270
10122-225	Charge Plate System, EN172, for Use with EN272
10122-346	Charge Plate System, EN170, for Use with EN270

- The Chart Plate Systems available for mounting to the Fieldmeters for quick evaluation of ionization equipment.

TEST AND AUDIT EQUIPMENT

Trek 520 HandHeld Electrostatic Voltmeters

- Provides accurate, noncontacting measurements of electrostatic surface voltage for ESD applications in either ionized or non-ionized environments.
- New measurement technique overcomes the disadvantage of the typical hand-held fieldmeter by providing surface voltage measurements.
- Provides a measurement system which complies with standardized calibration equipment traceable to the National Institute of Standards and Technology.
- A slender sensor probe design provides flexibility to make measurements in small surface areas.
- Model 520 measurement range: 0 to ± 2 kV DC
- Model 523 measurement range: 0 to ± 20 kV DC



10137-100

Part Number	Description
10137-100	Handheld AC Feedback Meter, 520-1-CE, without Analog Output Monitor
10137-101	Handheld AC Feedback Meter, 520-2-CE, with Analog Output Monitor
10137-120	Handheld AC Feedback ESVM, 523-1-CE, without Analog Output Monitor
10137-129	Carrying Case



10137-104

Trek152 Surface Resistance Meter (SRM)

- Precisely measure surface resistance on a wide variety of conductive, dissipative and insulative materials.
 - Complies with ESD Association standards concerning surface resistance measurements including S2.1 for garments, S4.1 for work surfaces, S7.1 for flooring, S11.11 for planar materials.
 - Features exceptional measurement accuracy and wide measurement of 10^3 to 10^{13} ohms using point-to-point probes or 10^4 to 10^{14} ohms using the Trek Concentric Ring probe.
- Concentric ring probe contains a preamplifier eliminating the usual noise, stray pickup, and long settling time.
 - Light-weight and portable, battery or AC line operated with automatic shutoff.

Part Number	Description
10137-104	Surface Resistance Meter, 152-CE, without Probe and Adapter
10137-107	Concentric Ring Surface Resistivity Probe, 152P-CR, 5 lbs.
10137-109	Point-to-Point Surface Resistivity Probes (pairs), 152P-5P, 5 lbs.
10137-117	AC Adapter/Battery Eliminator, 115V
10137-116	International AC Adapter, 90V-260V
10137-122	Carrying Case

Trek 540 Electrostatic Monitor



10137-121

- Monitors the performance of air ionizers that are used in critical operations to improve production yields and/or product quality.
- Provides a signal for a facility monitoring system or for use a feedback signal to control the ion balance of the ionizer.
- Features a DPM and a bar graph display for local presentation of the monitored voltage with maximum measurement range $\pm 100V$ DC.
- Provides audible and visual warnings when the monitored voltage exceeds present voltage thresholds, which can be set with 1 volt resolution for both positive and negative polarities.
- CE compliant.

Trek 541 Electrostatic Sensor

- Monitors critical operations to improve production yields and/or product quality from ESD damages.
- Utilizes a miniature electrostatic field chopper probe which can be remotely located and easily positioned within process equipment to provide highly accurate, noncontacting, DC stable, spacing independent, voltage measurements in ether ionized or non-ionized environment.
- Uses LCD screen to display the present voltage, and hold the most positive and the most negative measured values.
- Provides audible, visual, and external warning signals and alarms to indicate the detection of programmed surface voltage limits.
- Provides the optional 4-20 mA current loop output for interfacing to facility monitoring equipment and the RS-232 serial port for interfacing computer.
- Model 541-1 measurement range: 0 to ± 1 kV DC
- Model 541-2 measurement range: 0 to $\pm 100V$ DC



10137-102

Part Number	Description
10137-121	Electrostatic Monitor, 540-1, without Plate and Adapter
10137-102	Electrostatic Sensor, 541-1, without Probe and Adapter
10137-131	Electrostatic Sensor, 541-2, without Probe and Adapter
10137-111	Ion Collecting Plate, 1"x1"
10137-113	Side-View, Round Body Probe for Model 541
10137-114	End-View, Round Body Probe for Model 541
10137-132	Side-View, Square Body Probe for Model 541
10137-116	International AC Adapter, 90V-260V
10137-123	Adapter, 115V

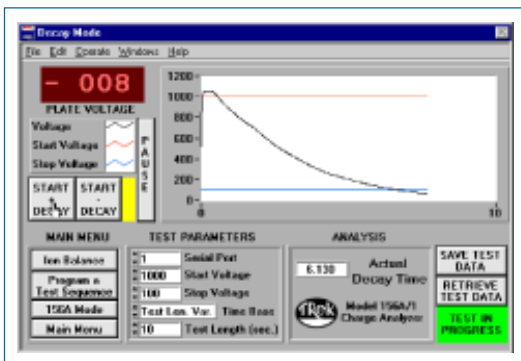
TEST AND AUDIT EQUIPMENT

Trek 156A Charged Plate Monitor System



10137-105

- An ultra high-impedance, high voltage follower circuit to monitor the ion collecting plate voltage.
- Measures periodically the decay times and the ion balance.
- Provides very high accuracy, stability and low zero offset for balance measurement.
- Simplicity makes it very reliable and completely portable.
- Features two modes of operation, a decay mode with easy-to-program start and stop voltages and a float mode, good for testing very sensitive devices like MR heads.
- Automate time-consuming testing using computer interface and applications software.



10137-128



10137-116

Trek 156A/1 Charged Plate Monitor Analyzer

- A new analysis option for its 156A Charged Plate Monitor System.
- Adds both a serial communications port and an applications software package to allow the Model 156A to interface to the computer.
- Automates all operating features of the charged plate monitor while graphically displaying the performance characteristics and test results of devices such as air ionizers.

Part Number	Description
10137-105	Charged Plate Monitor, 156A-CE, without Plate or AC Adapter
10137-106	Charged Plate Analyzer, 156A/1-CE, without Plate or AC adapter
10137-112	Ion Collecting Plate, 6" x 6"
10137-110	Ion Collecting Plate, 1" x 1"
10137-117	Adapter, 2.1mm Female Plug, 115V
10137-116	International AC Adapter, 90V-260V
10137-128	Carrying Case

Trek 158 Charged Plate Monitor System



- 0.1V plate voltage resolution.
- 0 to $\pm 1100V$ DC or peak AC.
- Start Voltage: Programmable from 1 to 1000V in 1V increments.
- Stop Voltage: Programmable from 0 to 999V in 1V increments.
- Unique color graphics display which permit viewing of discharge wave forms and offset voltage in the time domain.
- Able to store test data and waveforms for hundreds of tests.
- Compact, portable, and stores test results internally, permitting the operator to move freely about the facility to evaluate ionizers, unencumbered by heavy instruments.
- Line or battery operated.



Trek 323 Electrostatic Voltmeter



- Highly accurate, non-contacting measurement of electrostatic potentials of 0 to 100V over a wide range of probe-to-surface distances.
- Recommended for a variety of electrostatic applications including materials evaluation, electret studies, charge accumulation on disk drive assemblies, and other extremely sensitive ESD-sensitive components.
- Patented low impedance probes assure measurement accuracy essentially independent of probe-to-test-surface spacing, humidity conditions, and contamination such as air-borne dust, toner, ions and chemicals.
- Operates with a wide variety of Probes
- Measurement Range : 0 to 100V DC or peak AC
- Sensitivity : 5 mV
- Speed of Response : Less than 300ms for a 100V step
- Measurement Accuracy : Better than 0.05% of full scale
- Null Voltage Source : 10 volt nulling supply



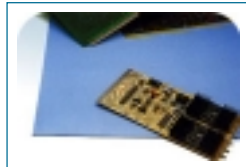
Part Number	Description
10137-154	Charged Plate Monitor, 158, without Plate or AC Adapter
10137-155	Electrostatic Voltmeter, 323, High Sensitivity, DC Stable

ESD Vinyl Mats

Work Surface Matting :

InterStat™

- Proprietary 3 layer constructions consisting of a conductive metalized fleece sandwiched between a solid vinyl top surface and a foam bottom layer.
- Available in Blue and Grey color, 1/8" thickness.



HR Mat™

- The ultimate in static dissipative, flexible work surfaces.
- Solid vinyl, homogeneous construction with a buried non-carbon conductive layer.
- Superior physical and consistent electrical qualities and virtually no voltage suppression.
- Available in Blue or Gray color, 3/32" thickness.



Compostat™

- Provides a static safe work surface where ESD control is required.
- A consistent, controlled static drain, with surpassed physical properties.
- Available in Blue, Gray or Brown, 3/32" thickness.

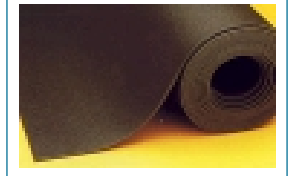


Flooring :

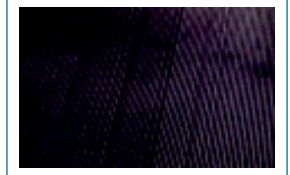
Homogeneous Compostat Floor Runners

- Available in both Non-Directional Emboss & V-Groove Emboss, Brown or Grey color, 1/8" thickness.
- Surface resistivity: 10^8 - 10^9 ohms.

Non-Directional Emboss



V-Groove Emboss



Anti-Fatigue Mat

- Identical in construction to anti-fatigue floor runners.
- Available in Brown or Grey color, 3/8" thickness.
- Surface resistivity: 10^9 - 10^{10} ohms.

Pebble Emboss



Part Number	Description
10105-100	Interstat Vinyl Mat, 3 Layer, 1/8" x2'x100', Blue
10105-101	Interstat Vinyl Mat, 3 Layer, 1/8" x2'x100', Gray
10105-116	Standard Compostat Vinyl Mat, 3 Layer, 3/32"x2'x50', Blue
10105-117	Standard Compostat Vinyl Mat, 3 Layer, 3/32"x2'x50', Gray
10105-140	HR Vinyl Mat, 3 Layer, 3/32"x2'x50', Blue
10105-141	HR Vinyl Mat, 3 Layer, 3/32"x2'x50', Gray
10105-148	Pop Vinyl Mat, 1/4"x18"x23", Blue
10105-151	High-Tech Pop Vinyl Mat, 3 Layer, 3/8"x18"x23", Blue
10105-154	ESD Anti-Fatigue Mat, 3/8"x2'x3', Gray
10105-166	Vinyl V-Groove, 3 Layer, 1/8"x3'x50', Gray

* Please specify sizes and color when order

ESD Rubber Mats

Single Layer ESD Floor Mat

- Utilizes the conductive material for a rapid discharge to ground.
- Excellent resistance to abrasion, oil, grease, and most common solvents.
- Tremendous resistance to high temperatures from hot solder and soldering irons, and excellent wear resistance.
- Color : Black
- Standard size : Thickness : 0.110" and custom
Roll width : 24", 30", 36", 48" trimmed
Roll length : 50'



ESD Sponge Anti-Fatigue Floor Mat

- Utilizes the conductive material for a rapid discharge to ground.
- Excellent resistance to abrasion, oil, grease, and most common solvents.
- Scientifically designed to reduce strain from standing on hard surfaces.
- Color : Black
- Standard sheet : 5/8" x 38" x 68"

Two Layer ESD HI-Temp Table Rubber Mat

- Excellent resistance to abrasion, oil, grease, and most common solvents.
- Tremendous resistance to high temperatures from hot solder and soldering irons.
- Color, top layer : Blue, Gray, Green, Brown, Beige, and custom colors available
Color, bottom layer : Black
- Standard size : Thickness : 0.050", 0.060", 0.078", 0.090"
Roll width : 24", 30", 36" and 48"
Roll length : 50'

Three Layer ESD HI-Temp Table Rubber Mat

- Excellent resistance to abrasion, oil, grease, and most common solvents.
- Tremendous resistance to high temperatures from hot solder and soldering irons.
- Color, top layer : Blue, Gray, Green, Brown, Beige, and custom colors available
Color, bottom layer : Black
- Standard size : Thickness : ≥ 0.080 "
Roll width : 24", 30", 36" and 48" trimmed
Roll length : 50'

Part Number	Description
10187-100	ESD Rubber Mat, Single Layer, 0.11" x 24" x 50', Black
10187-104	ESD Sponge Anti-Fatigue Rubber Mat, Single Layer, 0.625" x 38" x 68", Black
10187-105	ESD High-Temp Rubber Mat, 2 Layer, 0.06" x 24" x 50', Blue/Black
10187-165	ESD High-Temp Rubber Mat, 3 Layer, 0.08" x 24" x 50', Blue/Black

* Please specify sizes and color when order

STATIC SHIELD BAGS

SCC1000 Static Shield Bag



10130-186

- The bag of choice for IC and PCB protection.
- Transparent, metallized static shield bag.
- Over 100 stock sizes.
- Meet or exceed the electrical and physical requirements of:
 - MIL-B-81705C Type III
 - EIA 541, EIA 625
 - MIL-HDBK-263
 - MIL-STD-1686
 - EOS/ESD standards
- ZipTop bags also available (using dual track, antistatic, amine-free zipper material).

Part Number	Description
10130-120	Static Shield Bag, SCC1000, 5" x 7"
10130-121	Static Shield Bag, SCC1000, 8" x 12"
10130-125	Static Shield Bag, SCC1000, Zip Top, 4" x 6"
10130-126	Static Shield Bag, SCC1000, Zip Top, 6" x 8"

* Other sizes also available

SCC1500 Static Shield Bag / Metal - Out



10130-144

- A cost competitive equivalent to metal-out bags.
- The metal layer in SCC1500 bags is placed close to the surface for low resistance readings.
- Meet or exceed the electrical and physical requirements of:
 - MIL-B-81705C Type III
 - EIA 541
 - EIA 625
 - MIL-HDBK-263
 - MIL-STD-1686
 - EOS/ESD standards

Part Number	Description
10130-104	Static Shield Bag, SCC1500, Metal-Out, 10" x 12"
10130-105	Static Shield Bag, SCC1500, Metal-Out, 10" x 14"

* Other sizes also available

MOISTURE BARRIER BAGS

DS2000 Metalized Barrier Bag

- Strong, light weight, suitable for vacuum packaging & nitrogen flushing.
- Meets the electrical and physical requirements of:
EIA 583, EIA 541, EIA 625 and MIL-B-81705C, Type I.
- Static safe; dissipative inner and outer surfaces.
- Amine free, passes outgassing and corrosion tests.
- Used for packaging SMD's in trays, shipping tubes, and tape and reel.
- Heat Sealable.



10130-101

Part Number	Description
10130-148	Moisture Barrier Bag, Dri-Shield 2000, Metalized, 16"x18"
10130-187	Moisture Barrier Bag, Dri-Shield 2000, Metalized, Emboss seal, 15"x22"
10130-101	Moisture Barrier Bag, Dri-Shield 2000, Metalized, Hot stamped, 12"x25"

* Other sizes also available

DS2700 Metalized Barrier Bag

- Excellent moisture barrier.
- Maximum puncture resistance. Withstands the harshest vacuum packaging applications.
- Meets the electrical and physical requirements of:
EIA 583, EIA 541, EIA 625 and MIL-B-81705C, Type I.
- Static safe; dissipative inner and outer surfaces.
- Amine free, passes outgassing and corrosion tests.
- Used for packaging SMD's in trays, shipping tubes, and tape and reel.
- Heat Sealable.



10130-130

Part Number	Description
10130-128	Moisture Barrier Bag, Dri-Shield 2700, Metalized, 10"x20"
10130-129	Moisture Barrier Bag, Dri-Shield 2700, Metalized, 10"x30"

* Other sizes also available

DS3000 Nylon/Foil Barrier Bag

- Excellent moisture barrier.
- Suitable for vacuum packaging and nitrogen flushing.
- Meets the electrical and physical requirements of:
EIA 583, EIA 541, EIA 625 and MIL-B-81705C, Type I.
- Static safe; dissipative inner and outer surfaces.
- Amine free, passes outgassing and corrosion tests.
- Used for packaging SMD's in trays, shipping tubes, and tape and reel.
- Heat Sealable.



10130-133

Part Number	Description
10130-132	Moisture Barrier Bag, Dri-shield 3000, Metalized, Nylon/Foil, 10"x20"
10130-133	Moisture Barrier Bag, Dri-shield 3000, Metalized, Nylon/Foil, 16"x18"

* Other sizes also available

ESD ACCESSORIES

Conductive Grid Tape

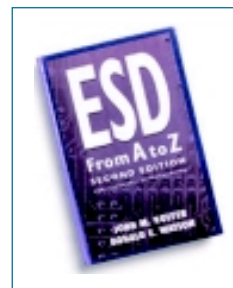
- Permanently conductive with excellent static shielding properties.
- Meets MTL-STD-81705B Static Decay Test.
- Size: 1/2", 3/4", 1", 2"
- Available in both paper core and plastic core.



Part Number	Description
10144-178	Conductive Grid Tape, Paper Core, 1/2"
10144-181	Conductive Grid Tape, Paper Core, 3/4"
10144-179	Conductive Grid Tape, Paper Core, 1"
10144-180	Conductive Grid Tape, Paper Core, 2"
10144-183	Conductive Grid Tape, Plastic Core, 1/2"
10144-264	Conductive Grid Tape, Plastic Core, 3/4"
10144-182	Conductive Grid Tape, Plastic Core, 1"
10144-265	Conductive Grid Tape, Plastic Core, 2"

ESD Tutorials

- Recommend 2 well-known ESD books.
 ESD from A to Z: A comprehensive, cost effective approach to all of your ESD control situations.
 ESD Program Management: a hands-on book to fight against ESD at the management level.



10122-212



10122-229

Part Number	Description
10122-212	Book, ESD from A to Z
10122-229	Book, ESD Program Management, a Realistic Approach

Labels and Caution Tapes



- Available in all popular styles.
- Labels are easy to use and provide the ESD symbol and warning message needed to complete your protective package.
- Caution tapes are warning tapes used to cordon off areas where ESD sensitive parts are being handled.

Part Number	Description
10122-367	ESD Caution Tape, 3"x36'

* Other sizes also available

Sales Office

InterWorld Network International, Inc.
InterWorld Headquarter
4161 Ingot Street, Fremont, CA 94538
United States of America
Tel : (1)510-226-6060; Fax : (1)510-226-6069
Email : interworld@interworldgroup.com
Web : www.interworldgroup.com

EPL Technology Pte. Ltd.
245 Macpherson Road,
#05-05, Setime Building,
Singapore 348578
Tel : (65) 6747-2500; Fax : (65) 6747-2500
Email : W5G@interworldgroup.com

InterWorld Technology (M) Sdn. Bhd.
(Kedah Office)
Plot 26, Jalan Makmur 2,
Kawasan Perindustrian Bukit Makmur,
05000 Sungai Petani,
Kedah Darul Aman,
Tel : 604-441-8500; Fax : 604-441-2600
Email : WML@interworldgroup.com

EPL Technology Sdn. Bhd. (Penang Office)
95 Persiaran Mahauli 2/4
Sunway Bayan
11900, Bayan Baru,
Penang, Malaysia
Tel : 604-441-8500; Fax : 604-441-2600
Email : WML@interworldgroup.com

EPL Technology Sdn. Bhd. (KL Office)
9, Jalan PU10/7C,
Taman Puchang Utama,
47100, Puchang, Selangor,
Kuala Lumpur, Malaysia
Tel : 603-8060-8137, 8068-3073;
Fax : 603-8060-7481
Email : WML@interworldgroup.com

EPL Technology Philippines Inc. (Manila Office)
Unit 1401 Richville Corporate Towers,
Madrigal Business Park, 1107 Alabang
Zapote Road, Alabang Muntinupa
City, 1750 Philippines
Tel : (63)2-807-9578; Fax : (63)2-807-9411
Email : WPH@interworldgroup.com

EPL Technology Philippines Inc. (Cebu Office)
P.C Sulco Street
Tabak, Mandave City
Cebu 6014 Philippines
Tel : (63)2-345-0894; Fax : (63)2-345-0894
Email : WPH@interworldgroup.com

Internet Technology (HK) Ltd.
Rm 1204, Trinity House
165-171 Wanchai Road, Hong Kong
Tel : (852)2635-9899; Fax : (852)2634-3636
Email : WHK@interworldgroup.com

InterWorld Japan Branch
301 Lions Mansion 2-7-17
Akatsuka-Shinmachi, Hobashi
Tokyo 175-0093, Japan
Tel : (81)3-5967-7464; Fax : (81)3-5967-7465
Email : WJP@interworldgroup.com

InterWorld Network (Thailand) Co., Ltd.
7/6, InterWorld Building, Kannayao, Kannayao,
Bangkok 10230, Thailand
Tel : (66) 2948-7122; Fax : (66) 2948-7125
Email : WTH@interworldgroup.com

InterWorld Shenzhen Office
Unit 16H, Building 8, South Ocean Center,
2071, DongMen Road, Central Shenzhen,
People's Republic of China
Tel : (86)755-8218-6910; Fax : (86)755-8218-6912
Email : WSD@interworldgroup.com

InterWorld Suzhou Office
6A, Wansheng Mansion, 120 San Xiang Road,
Suzhou City, PC 215004
People's Republic of China
Tel : (86)512-6655-1008; Fax : (86)512-6655-1974
Email : WSD@interworldgroup.com

InterWorld Shanghai Office
7E, Qi Tai Mansion, City Pent-Oil Metropolis
1089 Pudong Avenue, Shanghai 200135
People's Republic of China
Tel : (86)21-6853-7053; Fax : (86)21-6853-7548
Email : WSD@interworldgroup.com

InterWorld Tianjin Office
Wukuang Building 707
#47, Xianglong Road, Hei District, Tianjin PRC,
PC 300200 People's Republic of China
Tel : (86)22-2831-3440, 3441;
Fax : (86)22-2831-2995
Email : WTD@interworldgroup.com

InterWorld Taiwan Branch Office
No 37, Kuang Ming 5th Street, Chu-Bai City,
Hsin Chu County, Taiwan 900
Tel : 886-3-5539047, 9048; Fax : 886-3-5539049
Email : WTD@interworldgroup.com

InterWorld Network International, Inc.
India Branch Office
A5, Ceelora Prakash Building
41, 1st Main Road, Gandhi Nagar Adyar
Chennai 600020, India
Tel : (91)44-441-0007; Fax : (91)44-441-0020
Email : WIND@interworldgroup.com

InterWorld Network Ireland, Ltd.
Ballybit Upper Industrial Estate,
Moniva Road, Galway,
Republic of Ireland
Tel : (353)91-770-577; Fax : (353)91-755-135
Email : WIR@interworldgroup.com

Factory

InterWorld (Suzhou) Cleanroom Products Co. Ltd.
1, YueZhong Road, Yuexi, Wuzhong District,
Suzhou City, PC 215104
People's Republic of China
Tel : (86)512-6655-1606
Fax : (86)512-6655-1974
Email : ITSZ@interworldgroup.com

InterWorld Technology (Thailand) Co., Ltd.
130/141 Moo 3, Wangchula, Wangnoi
Ayutthaya, Thailand
Tel : (66)35-721-227
Fax : (66)35-721-225
Email : ITH@interworldgroup.com

InterWorld Technology (M) Sdn. Bhd.
Plot 26, Jalan Makmur 2,
Kawasan Perindustrian Bukit Makmur,
05000 Sungai Petani,
Kedah Darul Aman, Malaysia
Tel : 604-441-8500; Fax : 604-441-2600
Email : ITML@interworldgroup.com

InterWorld®
Your Global Resource