Clean Ionizing Bar

scorpION3™

Simco-Ion's scorpION3 Ionizing Bar is designed to meet today's requirements for cleanliness and performance for the semiconductor front-end, semiconductor back-end, and general electronics markets. It's unique combination of available air assist, "Peak-reduction" technology, multiple emitter point materials and lengths make it suitable for a wide range of applications. It can be used to reduce charge on surfaces to minimize ESD events, as well as to reduce airborne particle contamination landing on product surfaces during manufacturing.

The scorpION3 is available with two different emitter point materials, single-crystal silicon (the standard for the semiconductor industry for its cleanliness) and tungsten (for general purposes where ISO Class 1 cleanliness is not required).

An Air-assist version is available for use in applications where laminar air flow is not present. By providing a stream of Compressed Dry Air (CDA) around each emitter point, ions can be delivered to product surfaces further away, as well as provide a "sheath" of clean air around the emitter points themselves to lengthen the cleaning cycle.

Features

- Air assist versions

- "Peak-reduction" technology

- Daisy-chain feature with "master/slave" capability

Benefits

- Provides longer working distances for applications where HEPA airflow is not present, as well as lengthening cleaning cycles
- Reduces swing voltages for pulsed-DC ionization applications that need good performance with minimal voltage offsets
- Allows one easily-accessed bar to direct and monitor the settings on other bars inside a tool
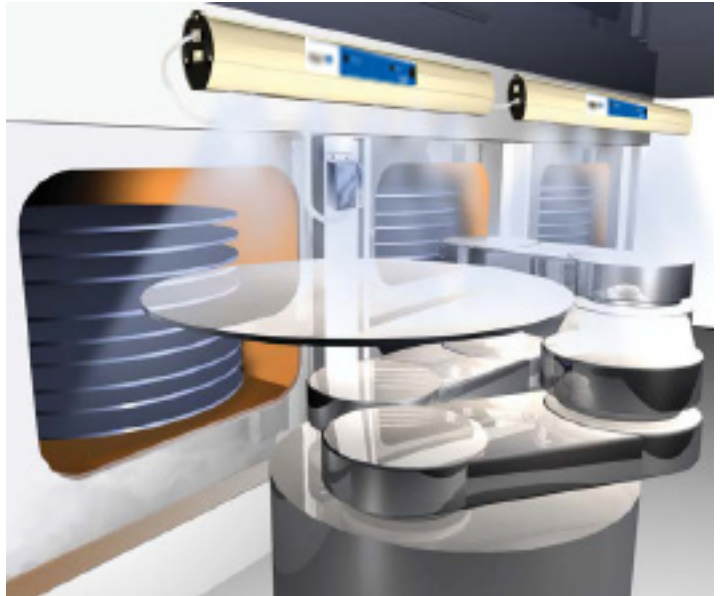
Specifications

scorpION3 Ionizing Bar	
Input Voltage	24 VDC, 200 mA per bar
Discharge	<10 sec (typ), 24" with 90 fpm unidirectional airflow[1]
Balance	<30V (typ), 24" with 90 fpm unidirectional airflow
Output Current	<15 µA, each polarity
Timing	0-10 sec @ 0.1 sec increments, adjustable
Connectors	6-pin RJ-11 modular jack receptacles provide power and RS-485 communications
Communications	RS-485
Address Control	Each bar can be set to one of 10 unique addresses
Output Control	Performance stability is maintained using real time feedback, comparison to a value stored in the bar and adjusting via a micro controller located in the bar
Operating Modes	Steady state DC, Pulsed DC, Peak Reduction; peak reduction overlap adjustable 0-90%
Mode Control	Each bar in a series can be set to operate independently or under control of a Master (Slave mode). Independent bars can be set to any operating mode
Fault Interface	1/8" (3.5 mm) phone jack, opto-isolated transistor can be set to normally off or normally on
LED Indicators	Flash on with POS/NEG power supplies; green NORMAL & PULSE DURATION; red FAULT; communicated through RS-485 interface; rapid simultaneous flashing identifies bar address
Emitter Points	Replaceable Ultra-clean Silicon or Tungsten
Cleanliness	ISO 14644-1 Class 1 (Ultra-clean Silicon), ISO 14644-1 Class 4 (Fed. Std. 209e Class 10) (Tungsten)
Operating Env.	Temperature 15-35°C (59-95°F) recommended; relative humidity 20-65%
Ozone	<0.020 ppm
EMI	Below background level
AC Adapter	Universal 100-240 VAC 50/60 Hz input, (IEC320); powers up to 3 bars max, any length
Option	Air assist model available; computer interface RS-485 or Ethernet capable
Mounting	Stainless steel brackets, adjustable mounting centers
Enclosure	ABS chassis
Dimensions	18, 24, 36, 44, 64, 74, 84L x 2.95H x 1.89W in. (45.7, 61, 91.4, 111.8, 162.6, 188, 213.4 x 75H x 48W cm)
Weight	0.8 kg (1.8 lb), 1 kg (2.1 lb), 1.3 kg (2.8 lb), 1.5 kg (3.2 lb), 2.0 kg (4.3 lb), 2.2 kg (4.9 lb), 2.5 kg (5.5 lb)
Warranty	Two year limited warranty
Certifications	CE c(UL)us RoHS 2 Compliant

scorpION3 MMI Module Remote	
Power	9 VDC Alkaline Battery, Type 1604
Communication	IR (infrared) and wired RS-485
Connections	RJ-11 modular jack receptacles provide power and RS-485 communications
Display	4-line LCD; menu driven interface
Controls	Up/Down Arrow, Left/Right Arrow, Enter
Power	ON/OFF Slide Switch
LED Indicators	Green TRANSMIT, red RECEIVE
Dimensions	4.40H x 7.70W x 1.25D in. (110 x 196 x 32 mm)
Weight	0.75 lb (0.34 kg) with battery

1. Tested in accordance with ANSI/ESD STM3.1-2006.

Ordering Information

4011546-4011552	scorpION3 Ionizing Bar, Tungsten (W) emitters in 18" (7), 24" (7), 36" (11), 44" (15), 64" (19), 74" (19), 84" (19) bar lengths
4015454-4015460	scorpION3 Ionizing Bar, Ultra-clean Silicon (SCSi) emitters in 18" (7), 24" (7), 36" (11), 44" (15), 64" (19), 74" (19), 84" (19) bar lengths
4011560-4011566	scorpION3 Ionizing Bar w/Air Assist, Tungsten (W) emitters in 18" (7), 24" (7), 36" (11), 44" (15), 64" (19), 74" (19), 84" (19) bar lengths
4015461-4015467	scorpION3 Ionizing Bar w/Air Assist, Ultra-clean Silicon (SCSi) emitters in 18" (7), 24" (7), 36" (11), 44" (15), 64" (19), 74" (19), 84" (19) bar lengths
5051328-5051330	scorpION3/3/3S Power Supply Kit (120V 60 Hz; 230V 50 Hz, EU or 230V 50 Hz, UK
4011574	scorpION3 MMI Module Remote
4371327	scorpION3 Replacement Ultra-clean Silicon (SCSi) emitter point
5051248-5051251	scorpION Replacement (W) emitter kit (7, 11, 15, 19 emitters)

Reducing In-tool Particles

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