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Ionization Solutions

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Digital AeroBar® with Software Control

MODEL 5225

Simco-Ion's Digital AeroBar with Software Control Model 5225 is designed to handle the demanding requirements of in-tool ionization. With high ion output providing fast neutralization of electric charge on wafers, E78 compliance can be achieved at the most stringent levels.

An aerodynamic design and cleanroom compatible materials allow the Model 5225 to deliver complete and efficient ionization in mini-environments without disrupting laminar airflow.

The AeroBar is easily integrated with your tool, using either pre-compiled routines or open-source code examples. Seamless integration with tool interfaces means a less costly solution to ionization, in addition to the benefits of reduced maintenance cost and better alarm handling. System alerts and messages are displayed at the tool controller for easy notification. Alternatively, simple FMS alarm output is available.

Features

- Complete integration with the tool control system
- Fully adjustable parameters for each AeroBar
- Ion current monitoring
- Several lengths available including 3 specifically designed for EFEMs
- Single-crystal silicon emitter points or titanium emitter points are also available

Benefits

- Setup, operation, & maintenance are controlled using an existing tool or IonMonitor software GUI
- Fine-tune ionization for individual process requirements in each area of the tool
- More consistent ion output & stable performance
- Flexible lengths mean versatility for a variety of application designs
- Industry demonstrated cleanest emitter material, with no risk of wafer contamination from dopants or metals

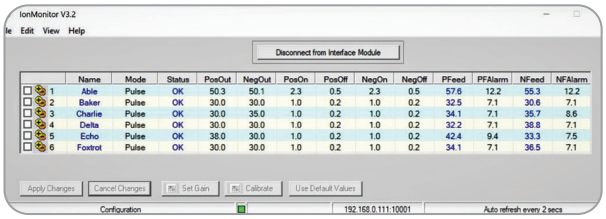
Specifications	
Input Voltage	24 VAC, 50/60 Hz, 1W (typ), received from the Interface Module
Output Voltage	0-20 kVDC, ±10% for each polarity on an individual AeroBar; positive or negative output levels can be adjusted separately through GUI
Output Current	<15 µA, current and voltage limited
Control Signal	RS-485 from the Interface Module
Connectors	RJ-11 modular jack receptacles
Regulation	Output and balance stability is achieved by independently regulating the ion emission current of each polarity at each ionizer
Timing	Both on and off timing for each polarity are settable from 0-10 sec @ 0.1 sec increments; LEDs on the bar indicate the polarity of the ion emission
Operating Mode	Pulsed DC, steady-state DC or standby
Alarm	Alarm activates when the bar is no longer able to maintain the preset ion output level; alarm is displayed visually by a red LED in the middle of the ionizer chassis as well as on GUI; settable threshold alarm limits for predictive maintenance
Emitters	Single-crystal silicon or titanium replaceable emitter points
Preventative Maintenance	Annual, semi-annual or quarterly emitter point cleaning depending on process sensitivity and presences of AMCs in environment
Ozone	<0.005 ppm
EMI	Below background level
Cleanliness	ISO 14644 Class 1
Indicators	Individual red LEDs flash on for each polarity; middle red LED flashes rapidly when in alarm, all 3 LEDs blink at once when communication occurs; alarm relayed to tool GUI
Dimensions	2.1"H x 1.2"W x 22.4, 28.4, 35.7, 44.4, 55.6, 64.4, 75.5, 84.4"L (53 x 30.5 x 569, 721, 907, 1128, 1412, 1636, 1918, 2144 mm)
Weight	1.5 lb (1.02 kg) for a 22" (56.9 cm) bar (approx. 6 oz per additional ft/0.17 kg per additional 30 cm)
Enclosure	ABS plastics, fire retardant
Warranty	Two-year limited warranty
Certifications	SEMI-F47
Interface Module Model 5200-IM6T	
Input Voltage	24 VDC, 1.0A, ±5%
Communication	Ethernet (RJ-45) or serial (RS-232/DB9)
Alarm Output	FMS, relay closure to ground (available on V4.0 and above)
Output Ports	Six RJ-11 ports connect to up to six Model 5225 AeroBars
Dimensions	2.9"H x 2.8"W x 12.4"L (7.4 x 7.1 x 31.5 cm)
Weight	4 lb (2 kg)
Indicators	Green POWER ON, yellow COMMUNICATION, red ALARM LEDs
Certifications	

Intelligent Integration

Simco-Ion's specially developed software eases integration into your system. Three different components are available to best suit your needs:

- A fully documented Application Programming Interface (API) minimizes integration time and cost.
- The library file provided in C/C++ can be used in developing your tool control software or can be used as a stand-alone application on your tool controller or laptop.
- An ionizer hardware simulator allows for easy software development in the absence of ionizer hardware.

Simco-Ion's powerful software provides complete control over the ionization system. Settings include adjustments for operating modes (including pulsed DC, steady-state DC or standby), synchronization, on-times, off-times, power output levels, and alarm thresholds for both positive and negative emitters, with independent control over each AeroBar. Sophisticated alarm and maintenance detection mean less downtime and costly diagnostic activity.



Simco-Ion's industry-first GUI centralizes all control and monitoring operations, simplifying operation and saving valuable time.

Ordering Information

91-5225U-xxR	AeroBar with *silicon* emitter points in (xx =) -22, -28, -36, -44, -56, -64, -76, -84" bar lengths
91-5225U-xx-SUPR	AeroBar with *silicon* emitter points in (xx =) -22, -28, -36, -44, -56, -64, -76, -84" bar lengths; single unit packaging
91-5225C-xxR	AeroBar with *titanium* emitter points in (xx =) -22, -28, -36, -44, -56, -64, -76, -84" bar lengths
91-5200-IM6T-V4.0	Interface Module Model IM6T with IonMonitor Software V3.2
91-5200-IM6T-V4-NFM	Interface Module Model IM6T without FMS
33-5200	100-240 VAC Transformer
33-5205	100-240 VAC Transformer for FMS alarm

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