



Digital Ceiling Emitter

MODEL 5511

Designed to provide uniform ionization throughout the open areas of a cleanroom, the Model 5511, powered by the Model 5580 or 5520 controllers with digital technology, features the first fully digital platform. The system enables either centralized control of individual emitters through bi-directional communication between the Model 5511 and 5580/5520 controllers, or direct field programmability of the ceiling emitters with the Model 5570 handheld infrared (IR) remote control.

Digital technology allows the flexibility to control and address the operational settings of the Model 5511 system including alarm sensitivity, ion output (down to percentage levels), ion pulse timing, and polling frequency. The Model 5511 offers flexible settings to fit any environment—any specification.

Features

- Fully digital technology
- Bi-directional infrared remote control with alphanumeric LCD display for emitter adjustment
- Available with single crystal silicon emitter points
- Pulse off-times separate positive and negative ion clouds
- Integrates with 5585 AeroBars on the same controller
- Addressable emitters
- Pulse polarity synchronization

Benefits

- Interactive digital communication platform for precise management of operating parameters
- Effortless calibration of individual emitter operating ion balance, timing, and ion output at point of use, in real-time
- Semiconductor industry standard, ultra-clean, silicon wafer compatible emitter point material
- Creates more efficient ion delivery with less recombination; extends emitter point cleaning intervals and life, due to reduced duty cycle
- Allows customized room system for any environmental or tool need
- Allows fast identification in case of alarm
- Optimizes ion delivery, reducing recombination in adjacent areas



Specifications

Input Voltage	24 VAC, 50/60 Hz, 1W (typ)
Output Voltage	0-20 kVDC, $\pm 10\%$ each polarity; pos/neg output levels adjusted globally or individually at controller or locally at each emitter with the 5570
Output Current	20 microamps, current and voltage limited to eliminate shock hazard
Control Signal	Output levels and timing are adjusted with the 5570 remote control or with the 5520/5580 controller RS-485 connection
Connectors	Telephone-type RJ-11 modular jack receptacle on each end of emitter
Regulation	Output and balance stability is achieved by independently regulating the ion emission current of each polarity at each ionizer
Timing	Precise timing (0-10 sec @ 0.1 sec revolution) generated by a local microcontroller; LEDs on each emitter indicate polarity of the ion emission
Operating Mode	Pulsed DC, steady-state DC, or standby
Emitter Points	Emitter Points Single-crystal silicon or machined titanium; all emitter points are replaceable
Cleanliness	Single crystal silicon ISO 14644-1 Class 1; Titanium ISO 14644-1 Class 3 (Fed. Std. 209e Class 1 or better) equivalent
Emitter Rods	2.5, 5, 10, 15, 24, 36, or 60 in. (6.4, 12.7, 253.4, 38.1, 61.0, 91.4, or 152.4 cm)
Alarm	Alarm operates when ionizer is no longer able to maintain preset ion output level; visual alarm red LED in the middle of the ionizer chassis flashes at a high rate to distinguish it from the output indicators; optional audible alarm sounds at the 5520/5580 controller when an alarm event occurs at any emitter; selectable with the 5571 handheld terminal
Preventative Maintenance	Annual, semi-annual, or quarterly emitter point cleaning depending on process sensitivity and presence of AMCs in environment
Ozone	<0.005 ppm
EMI	Below background level
Operating Temp	59-95°F (15-35°C), nominal
Humidity	20-60% RH, non-condensing
Dimensions	1.2H x 1.4W x 17.5L in. (3.1H x 3.6W x 44.5L cm)
Weight	16.4 oz (465 grams)
Warranty	Two year limited warranty
Certifications	SEMI F47 Compliant RoHS Compliant



Ordering Information

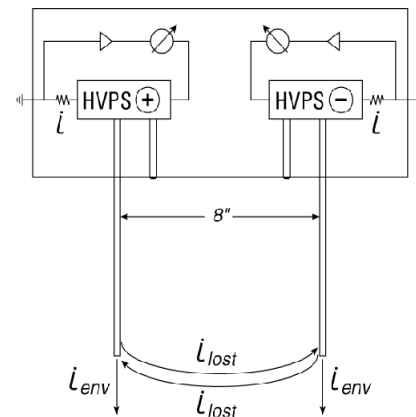
91-5511C-xxSDLR	Emitter with titanium emitter points in 2.5, 5, 10, 15, 24, 36, or 60 inch rod lengths
91-5511U-xxSDLR	Emitter with silicon emitter points in 2.5, 5, 10, 15, 24, 36, or 60 inch rod lengths
91-5520R	Digital Controller, supports up to 20 ionizers
91-5580R	Digital Controller, supports up to 80 ionizers
91-5570	Infrared Remote Controller
91-5571	Handheld Terminal for 5520/5580 Controller

Advanced Feedback Technology

The Model 5511 enhanced ion emitters provide an unprecedented level of control and protection, using a Self-Regulating Air Ionizing Apparatus sensing method. This feedback system assures the tightest feedback control available, unique in offering sensing, feedback and alarm capabilities at every emitter point in the system.

Simco-Ion uses a proprietary feedback circuit in the Model 5511 emitter. Each emitter has sensing circuits that accurately monitor the ion emission current from both the positive and negative emitter points. These circuits produce a signal proportional to the total ion production at each emitter point.

By monitoring and controlling every point of emission, the ionization system is able to consistently deliver highly accurate ion levels throughout an entire area. Each emitter can be fine-tuned to its local ionization requirements.



Simco-Ion design for maintaining stable ion current flow despite fluctuating environmental conditions, point erosion and point "agglomeration" (+HVPS Alarm - level set at factory).



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