



# Ceiling Emitter

## MODEL 5509E

In a matter of seconds, the Model 5509(e) ceiling ionization system eliminates electrostatic discharge and particle contamination caused by electrostatic attraction. The 5509 ceiling emitters are designed to provide uniform ionization throughout the open areas of a cleanroom. Mounted onto the ceiling surface or inside a flush mount channel, Model 5509 ceiling emitters maintain aesthetics without disrupting cleanroom laminar airflow or compromising the integrity of operating class 1 cleanrooms.

Model 5509 ceiling emitters use pulsed DC ion emission with patented ion regulation<sup>1</sup>, making output and balance adjustments possible at each emitter. Depending on the amount of ionizers per room, the Model 5509 works with either the Model 5024(e) or 5084(e) controller. Timing and output can be controlled through the hand-held Model 5080 Input Module.





### Features and Benefits

- Low voltage operation (24 VAC)
- Safe, reliable operation
- Individually adjustable ion emission output
- Balance can be fine-tuned beneath each emitter
- Feedback with alarms available at each emitter
- Enhanced performance and stability
- Patented pulsed DC technologies with local and system-wide adjustment controls
- Optimizes ionization efficiency in varying airflows
- Available with single crystal silicon emitter points
- Industry standard, cleanest available emitter point material

1. US Patent Number 4,809127



## Specifications

Ceiling Emitter Model 5509E	
Input voltage	24 VAC, 50/60 Hz, 1.25 watt
Control signal	±10 VDC control signal from a 5024(e) or 5084(e) controller
Output voltage	0-18 kVDC, ±10% for each polarity; positive and negative output levels adjusted centrally at controller and locally at each emitter
Output current	<15 mA; current and voltage limited to eliminate shock hazard
Connectors	Telephone type RJ-11 modular jack receptacle on each end of emitter
Output control	Each emitter has controls that independently adjust both positive and negative output
Regulation	Output and balance stability is achieved by independently regulating the ion emission voltage of each polarity at each emitter.
Timing	Precise timing (0–10 seconds) is supplied by the controller. LEDs on each emitter indicate the polarity of the ion emission.
Ion emission	Pulsed DC
Emitter points	Single crystal silicon, machined titanium, or tungsten alloy. All emitter points are replaceable. Estimated emitter point life varies from 2–3 years depending on material used.
Calibration	Annually, semi-annually, or quarterly depending on manufacturing sensitivity
Ozone	<0.005 ppm. (24-hour accumulation)
EMI	Below background level
Alarm	Alarm operates when the emitter is no longer able to maintain preset ion output regulation. <i>Visual alarm:</i> red LED located in the middle of the emitter chassis indicates an alarm condition <i>Audible alarm:</i> sounds at the 5024e/5084e controller when an alarm event occurs at any emitter
Mounting	A variety of surface and flush mounting methods and brackets is available, including cleanroom-compatible interlocking self-adhesive mounts (3M TYPE SJ 3551)
Emitter rods	Available in 2.5, 5, 10, 15, 24, 36, and 60" lengths (63.5, 127, 254, 381, 609, 914, and 1524 mm)
Dimensions	1.25"H x 1.5"D x 17.5"L (3.2 x 3.8 x 44.5 cm)
Weight	1.4 lb (0.5 kg)
Required components	Model 5024(e) or 5084(e) Controller
Warranty	2 year limited warranty
Certifications	   

## Designed for Flexibility

The Model 5509 Ceiling Emitter's compact design is compatible with any cleanroom ceiling system, whether surface mounted or recessed. The ionizer's modularity, with removable emitter rods, makes it practical in today's cleanrooms, where equipment is periodically moved.

## Quality to Depend On

In addition to the advanced features mentioned above, the 5509 ceiling emitter represents the same quality and reliability people expect from Ion Systems. With more than 2.25 million square feet of class 10 or better cleanroom installations, the 5509 ceiling emitter incorporates tested features that have been used for years by Ion Systems customers in cleanrooms around the world.



The Model 5509 has several options for emitter rod size. Its modular design makes it easy to exchange one size for another to accommodate a variety of cleanroom conditions.

## Ordering Information

91-5509EU-	Ceiling Emitter
	- Choose 2.5, 5, 10, 15, 24, 36, or 60" emitter rod length
91-5024-CE	Model 5024 Controller, supports up to 4 emitters
91-5024E-CE	Model 5024E Controller with alarm, supports up to 20 emitters
91-5024E-CE-ALM	Model 5024E Controller with audible alarm, supports up to 20 emitters
91-5084E-CE	Model 5084E Controller with alarm, supports up to 80 emitters
91-5080	Model 5080 Handheld Terminal for Model 5084 Controller



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