



# Modulated Pulse AeroBar®

## MODEL 5630

The Model 5630 AeroBar MP ionizing bar is a cost-efficient, high-performance ionizer specifically designed for FPD and semiconductor back-end applications where fast discharge times, low swing voltages and precision balance are desired. The Model 5630 utilizes patented MP technology, which combines a high-frequency sine wave and modulated pulses (MP) for optimal performance. MP technology produces lower swing voltages than other technologies, allowing AeroBar mounting in close proximity to the target. Using this breakthrough technology, the Model 5630 ionizing bar maintains peak performance for longer periods between cleanings, resulting in extended cleaning cycles compared with conventional pulsed AC products. The 450 mm and 600 mm lengths of the 5630 come with 50 mm emitter point spacing, while 850 mm to 2350 mm lengths feature 75 mm emitter point spacing. The Model 5630 comes standard with QTC27 TurobJet nozzles using titanium emitter points to provide lengthened cleaning cycles and high performance.

The Model 5630 is easy to adjust and features the ability to fine-tune voltage, frequency and balance for different environmental needs and product sensitivity requirements. Mounted in either horizontal or vertical orientations, the Model 5630 can be easily installed and optimized for a wide variety of applications, including in-tool mail-slot, conveyor, and load/unload applications.

### Features




- Modulated pulse technology
- Low swing voltages
- Fast discharge times
- Long-term performance stability
- Optional software with easy-to-use interface with wide adjustability
- Alarm output signal

### Benefits

- Precision performance with long-term stability
- Safe to use within 150 mm of product and work surfaces
- Effective static charge neutralization at fast conveyor and automation speeds
- Extended cleaning cycles reduce maintenance costs
- Fast setup and easy optimization in any environment
- Communicate to tool or facility monitoring system



## Specifications

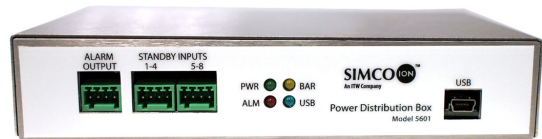
<b>Input Voltage</b>	24 VDC $\pm 10\%$
<b>Output Voltage</b>	13.5 kV p-p (max), adjustable
<b>Distance</b>	150-1000 mm distance to surface; application & customer specification dependent
<b>Frequency</b>	Default setting at 5 Hz; adjustable from 1-33 Hz
<b>Balance</b>	Auto balancing system $< \pm 20V$ over time and across the bar length (measured in a controlled environment at 24" distance)
<b>Ionization Performance</b>	TurboJet nozzle: $\pm 1000-100V$ in 3.5 sec or less @ 600 mm away (typ) when operating under a HEPA with 60 fpm of airflow and CDA flow of 3 lpm/nozzle; tested in accordance with STM3.1-2006 OpenJet nozzle: 15 sec (typ) with no air-assist, Vp-p Swing of 80 Vp-p; measured at 24" below an emitter center group of points
<b>Ion Emission</b>	Modulated pulse (MP) technology
<b>Emitter Points</b>	Titanium
<b>Emitter Pitch</b>	50 mm or 75 mm spacing between nozzles; 50 mm spacing only on the 450 mm and 600 mm lengths
<b>Cleanliness</b>	Meets ISO 14644-1 Class 3 standard (Fed. Std. 209e Class 1 equivalent)
<b>Air Supply</b>	Clean dry air (CDA) or nitrogen
<b>Airflow</b>	45 psi max gas pressure; 1-3.5 lpm/nozzle thru 8 mm OD one-touch fitting (optional)
<b>Ozone</b>	$< 0.05$ ppm
<b>EMI</b>	Below background level
<b>Operating Env.</b>	Temperature 15-35°C (59-95°F); humidity 30-60% RH, non-condensing
<b>Bar Settings</b>	DIP switches for general power settings; trim pots for fine tuning balance, frequency & power output or use serial output to 5635 MP Bar Control software for fine adjustments
<b>Enclosure</b>	ABS chassis, stainless steel rails on the outside of the bar
<b>Dimensions</b>	3.1H x 1.3W x 18/24/34/39/45/51/57/63/69/75/81/87/93L in. (78H x 34W x 450/600/850/1000/1150/1300/1450/1600/1750/1900/2050/2200/2350L mm)
<b>Certifications</b>	RoHS 2 Compliant  
<b>Model 5601 Power Distribution Box</b>	
<b>Input Voltage</b>	24 VDC for each bank of 4 bars; 5.6A total (0.7A max/port)
<b>Communication</b>	USB Serial Adapter to/from PC; individual bar standby inputs
<b>Alarm Output</b>	Relay closure to ground
<b>Output</b>	8 RJ-45 ports (1 for each 5635 bar)
<b>LED Indicators</b>	Green PWR, Yellow COM, Red ALM, Blue USB
<b>Weight</b>	15 oz (420g)
<b>Dimensions</b>	1.2H x 6.3L x 3.6W in (3.1H x 16.0L x 9.2W cm)
<b>Certifications</b>	RoHS 2 Compliant 

## Simple Installation

The Model 5630 ionizing bar can be quickly installed by simply plugging into a 24 VDC source and connecting an air line. Set the DIP switches for the distance from the bar to the product as defined in the user's manual to activate factory settings for a base discharge performance. Users can then fine-tune the control parameters from the bar or through the optional easy-to-use software package to optimize balance, swing voltage and discharge times for an application. An alarm connection in the Signal and Power Junction Box enables a status signal output to the tool controller or a central factory monitoring computer for FMS monitoring.

## Optional Power Distribution Box

The Model 5601 Power Distribution Box can be used to centralize power and software control for up to 8 MP AeroBars.



## Ordering Information

<b>91-5630-xxxx-yy-zzzzz-01</b>	xxxx (bar lengths): 450*/600*/850/1000/1150/1300/1450/1600/1750/1900/2050/2200/2350 mm; yy (nozzle spacing): -50 for 50 mm, -75 for 75 mm; zzzzz (nozzle type): OpenJet (QOC30) or TurboJet with a titanium emitter point (QTC27)
<b>33-5601-01</b>	Model 5601 Power Distribution Box, 24 VDC; powers up to 8 MP AeroBars
<b>14-21241</b>	24 VDC Power Supply for Model 5601 Power Distribution Box (power cord ordered separately)
<b>92-5635-001</b>	AeroBar MP Remote Serial Adapter Kit (converts RS-232 to USB communications)
<b>25-0540-xx</b>	CAT-5 with RJ-45 Ethernet Cable in 6, 10, 15 ft lengths, white
<b>28-6370</b>	Flat mounting clips. Recommended usage: 450-1150 mm, 2 clips; 1300-2050 mm, 3 clips; 2200 mm and above, 4 clips
<b>32-22210</b>	Horizontal rotatable mounting bracket. Recommended usage: 450-1150 mm, 2 clips; 1300-2050 mm, 3 clips; 2200 mm and above, 4 clips
<b>32-22220</b>	Vertical rotatable mounting bracket, requires 2 brackets for each ionizer bar to hold one at the top and one at the bottom
<b>33-21491</b>	Signal and Power Junction Box (for 1 AeroBar)
<b>33-25625</b>	24 VDC Power Converter with Power/Signal Junction Box Kit (for powering 1 AeroBar)
<b>33-5353</b>	Flat Mounting Clip with Active/Screw Fasteners (2) for AeroBar. Recommended usage: 450-1150 mm, 2 clips; 1300-2050 mm, 3 clips; 2200 mm and above, 4 clips

\*The 450 mm and 600 mm are only available with 50 mm nozzle spacing.

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