



SIMCO ION™
An ITW Company



Modulated Pulse AeroBar® with Feedback Control

MODEL 5645

Simco-Ion's latest Modulated Pulse (MP) Technology ionization bar is now available with active feedback/control through the Novx monitoring and feedback system. The AeroBar Model 5645 is designed to provide industry-leading balanced ionization performance for semiconductor, semiconductor back-end applications, especially advanced packaging, including the latest 3D technology, where fast discharge time, low swing voltages and precise balance are required. Our patented MP technology enables AeroBar placement to within 150 mm of the wafer, where proximity control is critical for smaller technology nodes.

When installed with the Novx monitoring and feedback system, the 5645 can maintain precise balance better than $\pm 5V$. The bar can easily adjust and fine-tune voltage, frequency and balance to meet environmental and product sensitivity requirements. For processes under weak laminar flow, the optional air-assist can help to accelerate ion delivery, providing faster discharge times and performance over longer distances.

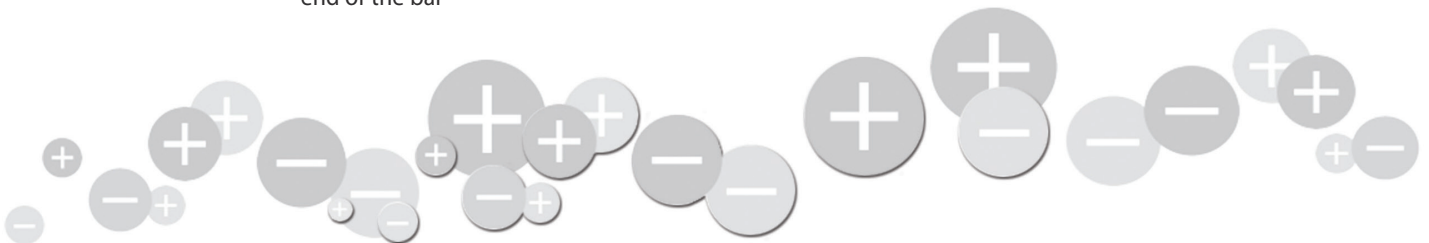
Available in 14 lengths, from 350-2350 mm, the AeroBar 5645 is the ideal in-tool ionizer for today's stringent cleanroom environment manufacturing process.

Features

- $\pm 5V$ with Novx monitoring and feedback system
- Compatible with ISO 14644-1 Class 3 or better
- Centralize power and control with widely adjustable software
- Sensor input, FMS connection, alarms, power and communications are located on the same end of the bar

Benefits

- Provides the active feedback/control on ESD protection with precise and stable balance
- Compatible with all device technology nodes
- Eliminating manual adjustment at the installed location
- Designed for overall ease of use and long maintenance cycles



Model 5645 AeroBar	
Input Voltage	24 VDC $\pm 10\%$, 0.7A (max)
Balance	$< \pm 5V$, Novx System; $< \pm 5V$, Novx Inside; $< \pm 20V$, Standalone
Discharge	15 sec (typ) with no air-assist measured @ 24" below AeroBar center
Ion Emission	Modulated Pulse (MP) technology
Frequency	1-60 Hz
Emitter Voltage	13.5 kV peak-to-peak, max
Emitters	Titanium
Pitch	50 mm spacing (350/450/600 mm lengths only) 75 mm spacing between nozzles on all other lengths
Cleanliness	Compatible with ISO 14644-1 Class 3 or better
Bar Settings	Adjustment made remotely via software controlled; no manual adjustment on the bar
LED Indicators	Green steady NORMAL OPERATION, green flashing STANDBY, red ALARM
Air Connection	8 mm tubing (OD) bulkhead, one-touch fitting; no daisy-chain capability
Airflow	Optional Open Jet 45 psi max gas pressure, 1-3.5 lpm/nozzle thru 8 mm OD one-touch fitting
Air Supply	Optional Clean Dry Air (CDA) or nitrogen (N ₂)
Ozone	< 0.05 ppm
EMI	Below background level
Operating Env.	Temperature 15-35°C (59-95°F); Humidity 30-60% RH, non-condensing
Enclosure	ABS chassis, stainless steel rail on the outside of the bar
Dimensions	3.1"H x 1.3"W x 14/18/24/34/39/45/51/57/63/69/75/81/87/93"L (78 x 34 x 350/450/600/850/1000/1150/1300/1450/1600/1750/1900/2050/2200/2350 mm)
Certifications	pending
Model 5601 Power Distribution Box	
Input Voltage	24 VDC for each bank of 4 bars; 5.6A total (0.7A max/port)
Communication	Ethernet (RJ-45) to/from PC; individual bar standby inputs
Alarm Output	Relay closure to ground
Output	8 RJ-45 ports (1 for each 5635 bar)
LED Indicators	Green PWR, Yellow COM, Red ALM, Blue USB
Weight	0.94 lbs (0.42 kg)
Dimensions	1.2"H x 6.3"L x 3.6"W (31 x 160 x 92 mm)
Certifications	CE RoHS

Ordering Information

91-5645-xxxx-yy-Q0C30	Model 5645 bar, Standalone version
91-5645A-xxxx-yy-Q0C30	Model 5645 bar, Novx Inside version with SMA connector
91-5645N-xxxx-yy-Q0C30	Model 5645 bar, Novx System version with RJ-11 connector
33-0504	Passive Sensor, 1.75" x 4" Tall with SMA-to-SMA Cable 5 ft/1.5m for Novx Inside
33-0521-5	Passive Sensor, 1.75" x 1" Tall with SMA-to-SMA Cable 5 ft/1.5m for Novx Inside
33-1620-xx	RJ-11 cable connecting to Novx 3352/3362 (xx = 6, 10, 20 ft length) for Novx System
33-25625	24 VDC Power Converter with Power/Signal Junction Box Kit
92-5635-001	AeroBar MP Remote Serial Adapter Kit (includes RJ-45 splitter, USB to serial adapter, RJ-45 to DB9 adapter)
33-5601-03	Model 5601 Power Distribution Box for max 8 bars, 24 VDC
14-21241	24 VDC Power Supply for Model 5601 Power Distribution Box
25-0540-xx	CAT-5 with RJ-45 Ethernet Cable in xx= 6, 10, 15 ft lengths, white (from 5645 bar to P/N: 33-25625 or Model 5601)
91-5645-SW-V13	MP Control Software for 5635 & 5645 standalone only
91-TBA	MP Control Software for both 5635 & 5645, all versions
32-22210	Horizontal rotatable mounting bracket.

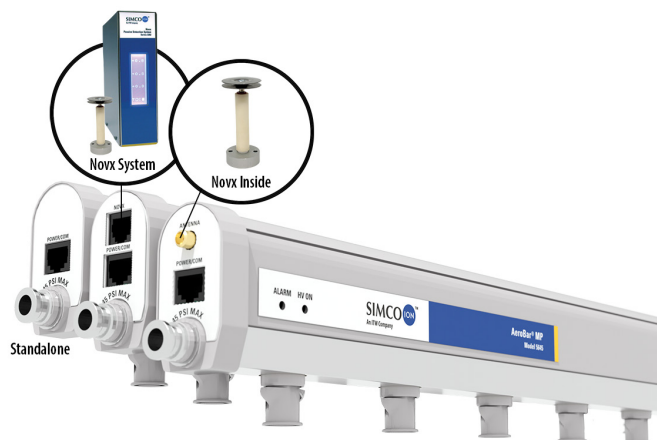
xxxx = bar length (350/450/600/850/1000/1150/1300/1450/1600/1750/1900/2050/2200/2350 mm)

yy = nozzle spacing (50 mm for 350, 450 & 600 mm bar length, all other are 75 mm)

Q0C30 (OpenJet nozzle type)

$\pm 5V$ Balance Performance

For $\pm 5V$ balance performance, Model 5645 is available with Novx System or with Novx Inside. Both options operate with the Novx to detect and automatically correct the balance. With the sensor placed at the target area, feedback is sent to the Model 5645 AeroBar internal control system, ensuring that your target maintains a $\pm 5V$ or better balance at all times.



Design Features

Simplified Interface: 100% remote controlled allows ease of adjustments via centralized software control.

Enhanced Cable Management: Locating the power/communication, 24 VDC, and NOVX connection all on the same side allows for better control of the cables and planning.

Flexibility: Optional use of CDA with push-to-connect coupling accommodates generic fittings such as quick disconnects, barbed, elbows and much more are all features to facilitate ease of use.

Simple Installation with MP Control Software

Model 5645 AeroBar is quickly installed by simply plugging into a 24 VDC source. MP Control Software accommodates one bar or multiple bars (8 max). Users can fine-tune the control parameters through the easy-to-use MP Control software for installations where optimized balance, swing voltage and discharge times are desired. An alarm connection in the Signal and Power Junction Box enables a signal output for FMS monitoring.

Power Distribution Box

The optional Model 5601 Power Distribution Box and MP Control Software can communicate, centralize powers with software control up to eight 5645 AeroBars.



SIMCO ION™
An ITW Company

DS-5645_x1 - 9/21
© 2021 Simco-Ion
All rights reserved.

Simco-Ion, Technology Group

1141 Harbor Bay Parkway, Suite 201
Alameda, CA 94502

Tel: +1 (800) 367-2452 (in USA)
Tel: +1 (510) 217-0460

ioninfo@simco-ion.com
www.simco-ion.com

w o r l d w i d e l e a d e r s i n s t a t i c c o n t r o l