

Modulated Pulse AeroBar[®] with Feedback Control

MODEL 5640

SIMCO ION[™]
An ITW Company



Simco-Ion's latest Modulated Pulse (MP) Technology Ionization Bar is now available with Low Profile Titanium Emitter Nozzles. This enhances the performance and also reduces its overall height to 2.6" (65.3 mm) for space constraint applications. The 5640 MP bar is designed to provide industry-leading balanced ionization performance for advanced electronic assembly, flat panel display, semiconductor back-end advanced packaging and test applications, where tighter and precise ion balance with fast discharge time is required.

When installed with Novx System or Novx Inside, monitoring and feedback control, the 5640 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. Model 5640 MP bar is available in 14 lengths, from 350-2350 mm.

FEATURES

- ✓ $\pm 5V$ with Novx System or Novx Inside version
- ✓ Low swing voltages
- ✓ Centralize power and control with widely adjustable MP Control software
- ✓ Novx antenna input, FMS connection, alarms, power, and communications are located on the same end of the bar

BENEFITS

- ✓ Provides active monitoring and feedback control on ESD protection with precise and stable balance
- ✓ Safe to use within 150 mm of product and work surfaces
- ✓ Eliminating manual adjustment at the installed location
- ✓ Designed for overall ease of use and long maintenance cycles

invisible problems
visible results[™]
Tackling Static & Particulate Contamination

| Model 5640 with Low Profile Nozzles | |
|-------------------------------------|---|
| Input Voltage | 24 VDC \pm 10%, 0.7A (max), supplied from one of the following sources: – 24 VDC tool's power line – Simco-Ion P/N 33-25625 24 VDC Power Converter – Simco-Ion 5601 Power Distribution Box for max 8 bars system |
| Discharge | 15 sec (typ) with no air-assist measured @ 24" (61.0 cm) below AeroBar center |
| Balance | \pm 5V, Novx System or Novx Inside; \pm 20V, Standalone |
| Ion Emission | Modulated Pulse (MP) Technology |
| Emitter | Point: Titanium Voltage: 13.5 kV peak-to-peak (max) Frequency: 0.3-60 Hz Pitch: 50 mm spacing (350/450/600 mm lengths only); 75 mm spacing between nozzles on all other lengths |
| Cleanroom Class | ISO 14644-1 Class 3 |
| LED Indicator | Green steady NORMAL operation, green flashing STANDBY, red ALARM |
| Bar Setting | Adjustment made remotely via software controlled with Model 5601 Power Distribution Box; no manual adjustment on the bar |
| Air Supply | Input: Optional Clean Dry Air (CDA) or Nitrogen Flow: OpenJet 45 psi max gas pressure, 1-3.5 lpm/nozzle Connection: 8 mm tubing (OD) bulkhead, one-touch fitting; no daisy-chain capability |
| Ozone | <0.05 ppm |
| EMI | Below background level |
| Operating Env | 15-35°C (59-95°F); 30-60% RH, non-condensing |
| Enclosure | ABS chassis, stainless steel rail on the outside of the bar |
| Dimension | 2.6"H x 1.3"W x 13.8/17.7/23.6/33.5/39.3/45.3/51.2/57.1/63.0/69.0/74.8/80.7/86.6/92.5"L (6.5 x 3.4 x 35/45/60/85/100/115/130/145/160/175/190/205/220/235 cm) |
| Certification | |
| Model 5601 Power Distribution Box | |
| Input Voltage | 24 VDC for each bank of 4 bars; 5.6A total (0.7A max/port) |
| LED Indicator | Green POWER, yellow COMMUNICATION, red ALARM, blue USB |
| Communication | Ethernet (RJ-45) to/from PC; individual bar standby inputs |
| Alarm Output | Relay closure to ground, max 24 VDC @ 100 mA, normal OpenCoded |
| Output | 8 RJ-45 ports (1 for each bar) |
| Dimension | 1.27"H x 6.95"L x 3.64"W (3.22 x 17.65 x 9.23 cm) with flange |
| Weight | 0.94 lb (0.43 kg) |
| Certification | |

Ordering Information

| | |
|-------------------------|--|
| 91-5640-xxx-yy-LPOC-01 | Model 5640 Bar, Low Profile Titanium Emitter Nozzle, Standalone Version |
| 91-5640A-xxx-yy-LPOC-01 | Model 5640 Bar, Low Profile Titanium Emitter Nozzle, Novx Inside with SMA connector |
| 91-5640N-xxx-yy-LPOC-01 | Model 5640 Bar, Low Profile Titanium Emitter Nozzle, Novx System with RJ-11 connector |
| 33-5601-03 | Model 5601 Power Distribution Box with Ethernet Port for 8 bars max, 24 VDC |
| 14-21241 | 24 VDC Power Supply for Model 5601 Power Distribution Box (per AeroBar) ¹ |
| 92-5635-001 | AeroBar MP Remote Serial Adapter Kit (includes RJ-45 splitter, USB to serial adapter, RJ-45 to DB9 adapter) |
| 33-25625 | 24 VDC Power Converter with Power/Signal Junction Box Kit ¹ |
| 33-0504 | Passive Antenna, 1.75" x 4" Tall with SMA-to-SMA Cable 5 ft/1.5m for Novx Inside |
| 33-0521-xx | Passive Antenna, 1.75" x 1" Tall w/SMA-to-SMA Cable (xx = 5, 10, 20 ft lengths) for Novx Inside |
| 33-0545-zzz-01 | SMA Rod Antenna Kit for Model 5640, zzz = mm in length, RoHS |
| 33-1620-xx | RJ-11 cable connecting to Novx 3352/3362 (xx = 6, 10, 20 ft lengths) for Novx System |
| 25-0540-xx | CAT-5 with RJ-45 Ethernet Cable in xx = 6, 10, 15 ft lengths, white (from Model 5640 bar to Model 5601 p/n 33-25625) |
| 33-5395-01 | Replaceable OpenJet Low Profile Nozzle with Titanium Emitter |
| 91-5635-SW-Vx.x | MP Control Software Version x.x |

xxx = 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).

zzz = 350, 450, 600, 850 (for 5640A bar length 850 mm or longer, use 850 mm Rod Antenna).

1. IEC power cord required, contact Sales Services for detail

\pm 5V Balance Performance

For \pm 5V balance performance, Model 5640 is available with Novx System or with Novx Inside. Both options operate with the Novx antenna to detect and automatically correct the balance. With the Novx antenna placed at the target area, feedback is sent to the Model 5640 AeroBar internal control system, ensuring that your target maintains a \pm 5V or better balance at all times.



In addition to the standard passive antenna, Novx Inside can be equipped with the optional Rod Antenna Accessory Kit for precise local feedback control.



Design Features

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

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.

Air-Assist Option: 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.

Simple Installation with MP Control Software

Model 5640 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 Power Distribution Box Model 5601 with MP Control Software can communicate with and centralize power up to eight 5640 AeroBars.



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