SIMCO ION™
An ITW Company

AeroBar® Ionizer

MODEL 5685

Simco-Ion's AeroBar Ionizer Model 5685 is designed to control static charge in mini-environments, laminar flow hoods and workstations. The Model 5685 features a unique aerodynamic design that ionizes a local area without disrupting laminar flow. Ideal in 12-24 inch distance applications with laminar air flow, the Model 5685 utilizes steady-state DC ion emission and Simco-Ion's IsoStat® Technology. IsoStat technology guarantees intrinsically balanced ionization. No complicated feedback circuits are required to maintain balance and adjustment is never needed. The Model 5685 is available in four different lengths and installation is fast, using easy-mount clips. Plug and play, the ionizer provides balanced ionization upon power up.

Available with ultra-clean single crystal silicon emitter points, the Model 5685 meets ISO 14644-1 Class 3 standards (Fed. Std. 209e) Class 1 equivalent.

Features

- IsoStat technology
- Steady-state DC ion emission for high ion density
- Single-crystal silicon or titanium emitter points
- Multiple lengths, including short 11 inch AeroBars

Benefits

- Intrinsically balanced output of both positive and negative ions, making it ideal for any surface charge applications; low offset voltages; no calibration needed
- Fast discharge when combined with typical laminar air flows for ion delivery
- Compatible material choices for any process; silicon, the industry standard for semiconductor manufacturing, titanium for disk drive and other clean technology applications; ISO 14644-1 Class 3 standards (Fed. Std. 209e Class 1) equivalent
- Ability to install in a multitude of hood, workstation and mini-environment sizes

Ionization Solutions

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Specifications

Input Voltage	24 VAC (±10%), 50-60 Hz, 3.5W (max)
Output Voltage	7.5 kV (typ)
Indicators	Green power LED
Ion Emission	IsoStat steady-state DC
Emitter Points	Machined titanium or single-crystal silicon; replaceable every 2-3 years depending on environment conditions
Airflow	60 fpm minimum required at bar for proper operation
Discharge	20 sec or less for ±1000V to ±100V discharge at 24 in.[1] with min 60 fpm airflow
Balance	±50V @ 24", measured directly beneath two opposite polarity emitter points; the Model 5685 must be mounted at least 6" from grounded surfaces for optimum balance performance
Mounting	Two mounting clips provided, various clips and hangers available
Operating Environment	59-95°F (15-35°C), nominal; 20-60% RH, non-condensing
Dimensions	2.1H x 1.13W x 11, 22, 44, 64L in.) (5.3H x 2.9W x 27.9, 55.9, 111.8, 162.6L cm)
Weight	9 oz per foot of bar length (255g per 0.3m)
Warranty	Two year limited warranty
Certifications	RoHS Compliant CE c UL us
Transformer 14-1306	
Input Voltage	100 VAC ±10%, 50 Hz, 300 mA
Output	24 VAC, ±5%
Certifications	RoHS Compliant CE
Transformer 14-1310	
Input Voltage	120 VAC ±10%, 60 Hz, 270 mA
Output	24 VAC, ±5%
Certifications	RoHS Compliant c UL us
Transformer 14-1523	
Input Voltage	230 VAC ±10%, 50/60 Hz, 35W
Output	24 VAC, ±5%
Certifications	RoHS Compliant CE

1. Tested in accordance with ANSI/ESD STM3.1-2006.

Convenient Power Choices

The Model 5685 may be powered by one of any three available transformers for 24 VAC power. For 100 VAC input, use the 14-1306 transformer; for 120 VAC input, use the 14-1310 transformer; for 230 VAC input, use the 14-1523 transformer.

IsoStat Technology

Simco-Ion's IsoStat technology is the first balancing technology for ionizers to guarantee intrinsically balanced ionization and elimination of complicated feedback circuits. IsoStat is based on a law of physics, Conservation of Charge, which states that charge cannot be created or destroyed in an isolated system. By isolating the ionizer's emitter points from ground, IsoStat ensures equal numbers of positive and negative ions. Characteristics of IsoStat ionizers include:

- Ionizers never need calibration and require very little maintenance.
- Small size and operation without grounding wires.

The Model 5685 with IsoStat technology is recommended for use in open mini-environments, laminar flow hoods, and over open tools. It is not recommended for applications where grounded surfaces are in close proximity to the AeroBar, such as 300 mm semiconductor EFEMs. For those applications, we recommend our Models 5225 and 5585 digital AeroBars with adjustment capability.

Ordering Information

91-5685C-xxR	AeroBar with titanium emitter points in -11, -22, -44, -64 inch bar lengths
91-5685U-xxR	AeroBar with silicon emitter points in -11, -22, -44, -64 inch bar lengths
14-1306	100 VAC Transformer
14-1310	120 VAC Wall Transformer
14-1523	230 VAC Transformer

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