

AeroBar[®] Ionizer

MODEL 5685

SIMCO ION[™]
An ITW Company



The 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 the laminar flow. Ideal in 12-24 inch distance applications with laminar airflow, 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 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.

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, meets ISO 14644-1 Class 3 standard; Titanium for disk drive and other clean technology applications
- ✓ Ability to install in a multitude of hoods, workstations and mini-environment sizes

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

Model 5685	
Voltage	Input: 24 VAC ($\pm 10\%$), 50-60 Hz, 3.5W (max) Output: 7.5 kV (typ)
Discharge¹	25 sec or less for $\pm 1000V$ to $\pm 100V$ discharge @ 24" with min 60 fpm airflow
Balance	$\pm 50V$ @ 24" (61.0 cm) measured directly below two opposite polarity emitter points (Model 5685 must be mounted at least 6" (15.2 cm) away from grounded surfaces for optimum balance performance)
Ion Emission	IsoStat Technology
Emitter	Titanium or Single-crystal Silicon; replaceable
Cleanroom Class	ISO 14644-1 Class 3
LED Indicator	Green POWER
Airflow	60 fpm minimum required at bar for proper operation
Operating Env	59-95°F (15-35°C), nominal; 30-60% RH, non-condensing
Mounting	Two mounting clips provided, various clips and hangers available
Dimension	2.07"H x 1.16"W x 11.4 / 22.4 / 44.4 / 64.4"L (52.6 x 29.5 x 29.0 / 56.9 / 112.8 / 163.6 cm)
Weight	0.56 lb per foot of bar length (0.256 kg per 30.5 cm)
Warranty	Two year limited warranty
Certification	   
Transformer 33-1420-01	
Input Voltage	120 VAC $\pm 10\%$, 50 Hz
Output Voltage	24 VAC $\pm 5\%$ @ 500 mA
Dimension	3.2"H x 2.2"W x 1.9"D (8.15 x 5.65 x 4.85 cm)
Weight	0.9 lb (0.4 kg)
Certification	 
Transformers 33-1430-01 & 33-1433-01	
Input Voltage	230 VAC $\pm 10\%$, 60 Hz
Output Voltage	24 VAC $\pm 5\%$ @ 500 mA
Dimension	3.2"H x 2.2"W x 1.9"D (8.15 x 5.65 x 4.85 cm)
Weight	0.9 lb (0.4 kg)
Certification	 

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

Convenient Power Choices

The Model 5685 may be powered by either of these available transformers for 24 VAC:

- 120 VAC input, use the 33-1420-01 transformer
- 230 VAC input, use the 33-1430-01 & 33-1433-01 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 Model 5225 AeroBar.

Ordering Information

91-5685C-xxR	AeroBar with titanium emitter points in -11, -22, -44, -64" bar lengths
91-5685U-xxR	AeroBar with silicon emitter points in -11, -22, -44, -64" bar lengths
33-1420-01	Power Supply Kit, 120V/24 VAC 500 mA, interconnect cable with RJ-11 6P/4C plug, US
33-1430-01	Power Supply Kit, 230V/24 VAC 500 mA, interconnect cable with RJ-11 6P/4C plug, EU
33-1433-01	Power Supply Kit, 230V/24 VAC 500 mA, interconnect cable with RJ-11 6P/4C plug, UK



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