



Gemini G3 Room Systems

The Gemini-G3 CleanRoom Ceiling Ionization System is SIMCO's most advanced and intelligent, member of the room ionization and ceiling emitter system family.

Features:

- ▶ **SIMCO's patented "Peak Reduction" Technology (Pulse Overlap) ***
- ▶ **Real-time metering, historic event logging and dynamic graphing of all metered values.**
- ▶ **E-mail notification of up-to 10 monitored alarm conditions reduces system down time.**
- ▶ **Available with ISO Class 1 Grade - CVD SiC Emitters**
- ▶ **Capable of storing historic metered values for up to 1500 emitters.**
- ▶ **3 Levels of password security**

Benefits:

- ▶ **SIMCO's "Peak Reduction" technology greatly reduces the offset voltage and discharge time in highly turbulent clean room environments. ****
- ▶ **Intelligent communication and control with integrated Ethernet networking of up to 10 controllers (1500 emitters) on a single I.P. address.**
- ▶ **Preemptive auto management and balancing of system output for an always optimized system.**

The G3 extends its performance lead in ionization by reducing the offset voltage and discharge times in turbulent open room manufacturing environments. Designed to integrate with Simco's next generation ionization software, G3PM, the G3 is the most advanced system on the market.

With the added intelligence to monitor and preemptively adjust to the changing condition of the environment, the G3 self corrects its emitter output to maintain optimized performance throughout the life of the product.

Simco's innovative "Peak Reduction" technology enables the G3 to reduce the offset voltage making it superior to traditional systems by allowing flexible "pulse-overlap" control of the ionizer's pulse cycles.



The G3's user friendly interface allows for complete management of each emitters parameters. This includes up to 9 independent zones of operation, user selectable alarm thresholds, ion output, pulse timing, and peak reduction settings.

Simco's G3PM software, features full system monitoring, control and built in trending capabilities of the entire system's historic and real time metered states of operation.

The G3PM software can be programmed to immediately notify an operator of critical fault conditions via email of up to 10 possible error conditions. This greatly reduces the need to perform periodic fab walk throughs¹ and reduces the operators response time in an alarm condition.

*patent #7,161,788

**patent #6,826,030

SPECIFICATIONS:

Gemini G3 System Specs

Input Power:	<28VDC, 2.0 W nominal.
Connectors:	8-pin RJ-45 modular jack receptacles for power and RS-485 communications.
Communications:	RS-485 bus.
Address Control:	User set to one of 100 available addresses
Output Control:	Performance maintained by real time feedback, and optimizing data comparison adjusted by microcontroller inside the module.
Operating Modes:	Pulsed DC and Peak Reduction, steady-state DC, or standby.
Timing:	Precise timing (0.125 to 6 seconds at 0.025 seconds resolution) initiated by microcontroller; LED's on each ionizer indicate polarity of ion production.
Regulation:	Output and balance stability is maintained by precise control of ion production of each polarity at each ionizer.
Alarm:	Alarm is activated when ionizer cannot maintain preset performance values; visual LED indicators on ionizer; alarm at Controller; RS-485 communication.
Output Current:	<5 μ A, each polarity.
Emitter Points:	Replaceable, CVD SiC (Silicon Carbide) or Tungsten.
Emitter Rods:	102, 152, 254, 356, 610, 915, or 1524 mm (4", 6", 10", 14", 24", 36", 60")
Operating:	Temperature: 59-95 F (15-35 C), nominal
Environment:	Humidity: 20-60% RH, noncondensing.

Dimensions:	17.5"L x 1.5"W x 1.25" D (449L x 38W x 32D mm dimensions)
Weight:	20 oz. (544g)

Gemini-G3 Controller Specification

Input Voltage:	100 to 240 VAC, 50/60 Hz, 15 Amp max.
Output Signal:	28 VDC and ground; 240W Max.
Capacity:	100 G3 CleanRoom Ceiling Emitters.
Display:	4 x 20 character LCD, 2"x 3" (20 x 84 mm), message language English.
Connectors:	8-pin RJ-45 modular jack receptacles for power and RS-485 communication to Emitter modules.
Controls:	Lockout key switch with STANDBY-SETUP-RUN modes. Two button menu scroll; two button function select/ad just; two button rotary switches select module address.
Communications:	RS-485 buss; data serial output port.
Dimensions:	16.25"L x 8.75"W x 4.5"D (417L x 224W x 115D mm dimensions).
Weight:	25 lbs. (11.3kg).

Gemini-G3 Remote Control Transmitter Specification

Communication:	Infrared signal; 36KHz carrier.
Controls:	Emitter module address; ion current; balance
Power:	9 VDC Alkaline Battery, type 1604.
Dimensions:	3.3" x 5.5" x 1.0" (84 x 139 x 24 mm dimens.)
Weight:	5.6 oz. (159 gms) w/bat.

SIMCO[®] Ionization for Electronics Manufacture

2257 North Penn Road Hatfield, PA 19440 USA

In USA: 800-538-0750 · Tel: 215-997-0590 · Fax: 215-997-3450 · Web: www.simcoION.biz · email: info@esimco.com



5201016