



Extreme Temperature Ionization System

MODEL 4612 PRECISION IONIZER
MODEL 4062E CONTROLLER
MODEL 550 ANTENNA

Simco-Ion's new Extreme Temperature Ionization System provides $\leq \pm 10V$ balance in extreme environments from $-58^{\circ}F$ to $302^{\circ}F$ ($-50^{\circ}C$ to $+150^{\circ}C$). The 4612 Ionizer, along with its 4062e Controller and 550 Extreme Temperature Antenna, use closed-loop control to ensure the ionizer's output is balanced at the critical location—the product location itself.

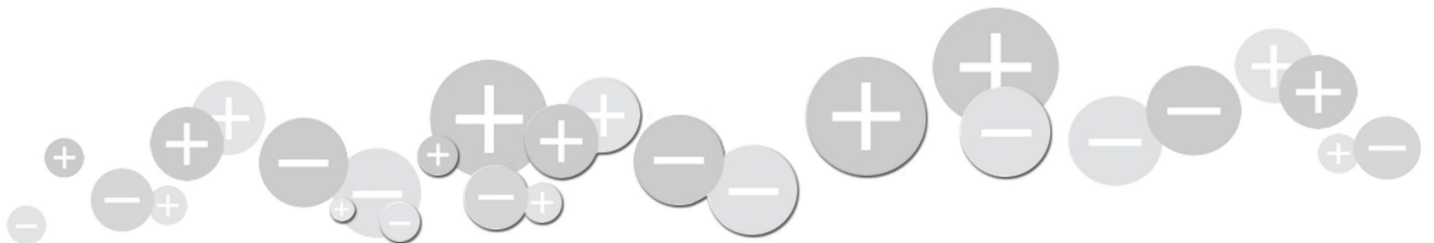
The compact size of the 4612 Precision Ionizer, 4062e Controller and 550 Antenna are the perfect answer to maintain tightly-controlled ionization in small test chambers with active robotics moving parts under extreme environments. The 4612 Precision Ionizer uses high voltage DC technology with tungsten emitters so it can be used in ISO 14661 Class 6 cleanliness environments.

Features

- Operates in temperatures as high as $302^{\circ}F$ ($150^{\circ}C$) and as low as $-58^{\circ}F$ ($-50^{\circ}C$)
- Balance control of better than $\leq \pm 10V$ standard meets the new stringent requirements for S20.20
- Manual gain adjustment capability
- Antenna Model 550 measures balance at the device location
- Optional feedback control using Novx Active Antenna with the Model 3362

Benefits

- Eliminates static charge in extreme environments that cannot sustain any other static elimination method
- Self-balancing ionization eliminates calibration in the tight confines of the test chamber
- Adjust sensitivity to hold a steady balance over a wide range of air velocity and sensor distances
- Ensures that balance is maintained at the target where it matters, not just at the ionizer itself
- Eliminates the need for two antennas for process monitoring



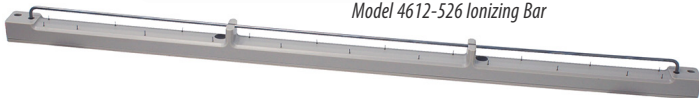
Specifications	
Input Voltage	+24 VDC, $\pm 5\%$ @ 0.25A, 6W (max)
Balance	$\pm 10V$ (typ) around initial set point
Discharge¹	10 sec (depending on environment) @ 12" (300 mm) with 100 fpm gas velocity (decay time for ± 1000 -100V)
Ion Emission	DC corona discharge
Cleanliness	ISO 14644 Class 6
Emitters	Tungsten
Gas	Clean dry air or Nitrogen with minimum purity 99.99%
Gas Velocity	100 fpm (min) velocity past 4612 Ionizer
Gas Supply Temp	302°F (150°C) max
Operating Temp	-58°F to 302°F (-50°C to +150°C) max
Alarms	Low input voltage; HV output fault; antenna signal too variable/noisy and/or out of range
FMS	Relay contact, rated ± 24 VDC @ 0.2A, max 4-20 mA Current output
Mounting	4612-210 Ionizer: (2) M4 holes, 4612-526 Ionizer: (4) M4 holes
Enclosure	4612 Ionizer: PEEK; 550 Antenna: PTFE and Stainless Steel
Dimensions	4612-210 mm Ionizer: 8.3"L x 0.8"W x 1.2"H (210 x 21 x 30 mm) 4612-500 mm Ionizer: 20.7"L x 0.8"W x 1.2"H (526 x 21 x 30 mm) 550 Antenna: 1.7 dia x 0.9"H (44 x 22 mm)
Weight	4612-210 mm Ionizer: 12 oz (365g) 4612-500 mm Ionizer: 18 oz (515g) 550 Antenna: 0.3 lbs (0.14 kg) including cables
Certifications	
Controller Model 4062e	
Input Voltage	24 VDC $\pm 5\%$ @ 1.0A to 4062 Controller (optional external power supply to convert from 100-240 VAC to 24 VDC)
Output Voltage	± 6.5 kV max, peak-to-peak
Operating Env	50-95°F (10-35°C); 30-60% RH, non-condensing
Controls	Balance adjust
Indicators	Green POWER, red ALARM (indicates instability or HV power failure)
Connections	RJ-11 connector for 24 VDC input; two HV connectors; RJ-9 connector for FMS output (relay closure & 4-20 mA); SMA connector for antenna
Mounting	(2) M4 holes
Enclosure	Stainless steel
Dimensions	7.9"L x 3.6"W x 2.2"H (201 x 91.5 x 56 mm)
Weight	2.4 lb (1.1 kg)
Warranty	Two-year limited warranty (4612 ionizer and 4062e controller)
Certifications	

1. Tested in accordance with ANSI/ESD STM3.1-2015.

Model 4612-210 Ionizing Bar

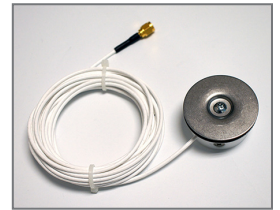


Model 4612-526 Ionizing Bar



Ionizer Balance Control

The 4062e Controller, when paired with the 550 Antenna and 4612 Precision Ionizer, will provide balance to within $\pm 10V$, following industry-standard ANSI/ESD STM3.1-2015 protocols in a steady-state environment. Changes in temperature, humidity, air composition, and/or moving mechanical components in the area will temporarily impact balance. The use of the 550 Remote Antenna and closed-loop control provide the fastest, most accurate corrections for such changes.



Balance Control & Decay Test Option

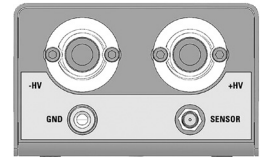
The standard Novx 3362 with its standard antenna's, can replace the 550 Antenna to monitor and control the extreme temperature. Using the Novx 3362 with the feedback control kit, will allow active feedback and control.

Gain Control

Model 4062e Controller with enhanced external gain control provide manual adjustment to hold a steady balance over a wide range of air velocity and sensor distances.

Compact Controller

The 4062e Controller is a physically small unit, to allow it to be mounted almost anywhere inside a tool within a few meters of the Precision Ionizer itself.



Ordering Information

91-4062e-02	4062e Controller
91-4612-210-01	4612-210 Ionizer with 4m cable
91-4612-210-6-01	4612-210 Ionizer with 6m cable
91-4612-526-01	4612-526 Ionizer with 4m cable
91-4612-526-6-01	4612-526 Ionizer with 6m cable
33-0550-4M-01	550 Antenna
33-1920-01	Tungsten emitter wires replacement (9)
33-1921-01	Tungsten emitter wires replacement (21)
33-2462-01	Novx 3362 to 4062e feedback control kit
33-5701-01	24 VDC Power Supply
25-20750	China Power Cord
25-20735	Europe Power Cord
25-20660	Northern America Power Cord
25-20710	UK Power Cord

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