



*elite Full Rack (top);
elite Half Rack (bottom)*

elite™ Series RF Plasma Generator

13.56 MHz POWER SUPPLY

The elite™ Series of RF plasma generators provides state-of-the art technology in a compact air-cooled package. The elite is designed with high speed closed loop control, a class E RF deck and a switching modulator for superior output performance. The elite design utilizes a single printed circuit board assembly for the full rack product virtually eliminating all internal wires and connectors and thereby providing the highest reliability available. On board interfaces include RS232 and 25pin analog. Profibus or DeviceNet are available as customized options.

The elite series of products may be used as source or bias generators for continuous operation or as stand-alone batch tools. Elite is ideally suited for Solar, LED, MEMs and semiconductor applications.

Features & Benefits

Low Cost of Ownership

- Air-cooled for lower facilities cost
- High efficiency design, DC to RF efficiency of >85% for low power consumption
- Wide input range allows for world wide installation without the need for special transformers

Ease of Installation

- Air cooling does not require connection to factory cooling loop
- Compact half rack enclosure enables direct tool mounting
- Standard IEC input connector eliminates the need for special wiring harnessing
- Single phase, wide AC input range allows ease of installation in world wide markets with varying AC line voltages
- Fused for operation on single or two phase systems

Exceptional Reliability

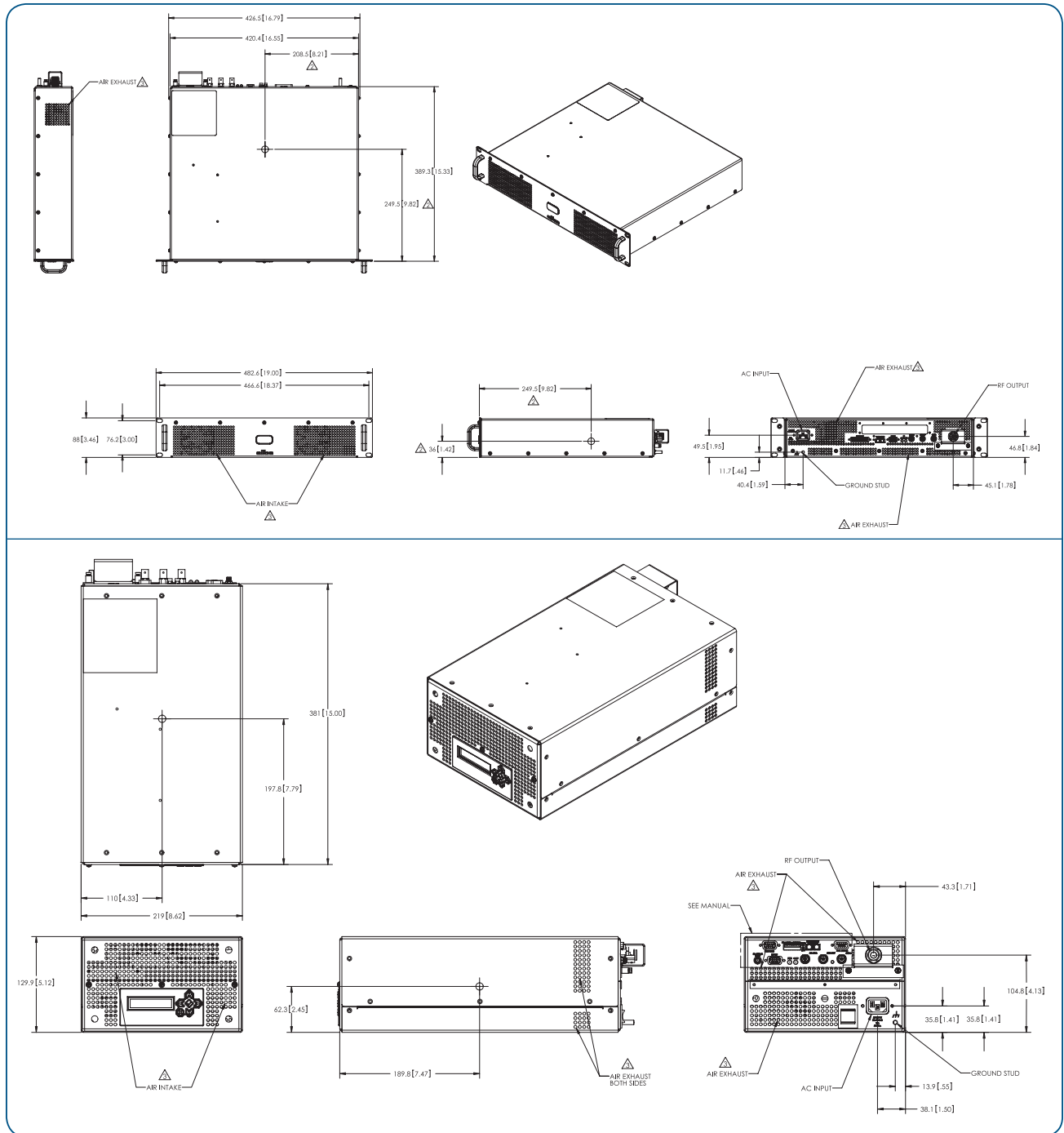
- Integrated single board design eliminates cables and connectors
- Patented inductive-clamp technology protects the generator from the most adverse VSWR load conditions and plasma fluctuations

Increased Value

- Field-Programmable Gate Array (FPGA) based control leads to fast control loop and generator protection from load transients
- Common Exciter (CEX) allows master slave operation and synchronization with other generators
- Optional LCD display and 6-button multifunction key pad allows local operation from the front panel



Dimensional Drawings



Dimensional Drawing — Full Rack (top) and Half Rack (bottom)

Note: Unless otherwise specified, dimensions are nominal values in millimeters (inches referenced).



Specifications

Model	elite 750	elite 600	elite 300
Frequency	13.56MHz	13.56MHz	13.56MHz
Frequency Stability and Accuracy	±0.005%	±0.005%	±0.005%
Compliance	CE	CE	CE
Available Output Power and Accuracy			
Dynamic Range	1 - 750W	1 - 600W	1 - 300W
Commanded Power Accuracy	± 2W (1-100W) ± 2% (101W - 750W)	± 2W (1-100W) ± 2% (101W - 600W)	± 2W (1-100W) ± 2% (101W - 300W)
Commanded Power Repeatability	± 1%	± 1%	± 1%
Load Dynamic Range (Worst Phase Forward Power)			
Watts nominal into 1.1:1	750W	600W	300W
Watts nominal into 1.5:1	600W	600W	300W
Watts nominal into 2:1	486W	486W	300W
Watts nominal into 3:1	384W	384W	300W
Watts nominal into inf:1	200W	200W	200W
Spurious and Harmonics at Full Rated Output Power			
Output Stability	-20dBc	-20dBc	-20dBc
PSU Switching Freq and Harmonics	-30dBc	-30dBc	-30dBc
Harmonic Output	-30dBc	-30dBc	-30dBc
AC Line Hum and Noise	-30dBc	-30dBc	-30dBc
Facility Requirements			
AC Input	Single phase 110VAC - 253VAC	Single phase 110VAC - 253VAC	Single phase 110VAC - 253VAC
Line Frequency	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz
Cooling	Air-cooled	Air-cooled	Air-cooled
Operating Ambient Temperature Range	5°C to 40°C	5°C to 40°C	5°C to 40°C
Interface			
Remote Digital Interface	RS-232 via DB9F	RS-232 via DB9F	RS-232 via DB9F
Analog Interface (standard)	25-pin DB25F	25-pin DB25F	25-pin DB25F
Setpoint Response Time - RS232 or Analog	<10ms	<10ms	<10ms
Configuration and Connectors			
Form Factor	2U, full rack	2U, full rack	-
Size	17"W x 15"D x 3.5"H	17"W x 15"D x 3.5"H	-
Power Switch - Front Panel	Front Panel Switch	Front Panel Switch	-
Form Factor	-	3U, half rack	3U, half rack
Size	-	8.5"W x 15"D x 5.25"H	8.5"W x 15"D x 5.25"H
Power Switch - Rear Panel	-	Rear Panel Switch	Rear Panel Switch
RF Output Connector	Type N	Type N	Type N
AC Input Connector	IEC Compliant Inlet	IEC Compliant Inlet	IEC Compliant Inlet
Common Exciter I/O	BNC	BNC	BNC
LED Indicators	PWR and STAT on rear panel	PWR and STAT on rear panel	PWR and STAT on rear panel
Weight	9.2 kg	9.2 kg	9.2 kg



Ordering Information

Optional Customization

- Programmable pulse mode 1Hz to 25KHz
- Power regulation through DC bias control
- Profibus® or DeviceNet™ interface
- Two line 16bit LCD display with 6-button multifunction keypad

Ordering Information

Contact your local account representative for pricing, availability, and applications guidance.



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