

StaticSmart™

TSN75-115 and -230 Static Neutralizing Power Supply



General Description

The Julie Static Control System consists of two parts:

- A high impedance, high voltage, lower power, constant voltage, Power Supply
- An "Applicator" (Air Ionizer in the form of a bar or rod, air blower, air gun, air nozzle, or air knife).

The system is designed to create an abundance of bipolar air ions in a "field" which tends to neutralize electrically charged materials (paper, plastic, glass, wood, etc.) that pass through it.

The Static Neutralizing Power Supply

The TSN75 Static Neutralizing Power Supply is a low power, high impedance, set-up transformer, potted with internal current limits to provide appropriate power to the "Applicator," and safety to the user. This unique power supply features a constant voltage transformer, which provides constant, stable output voltage despite line voltage fluctuations.

Inspect the Power Supply for visible damage that may have occurred during shipment. If the unit was damaged in shipment, please report it to your Receiver and contact us so that we may promptly send a replacement.

Caution: It is important that only qualified personnel familiar with handling high voltage electrical equipment be trusted to install, service, and troubleshoot this equipment. Feel free to consult the factory if you have any questions.

Locating the Static Neutralizing Power Supply

Locate the Power Supply as close as possible to the static bar using its mounting plate to securely fasten the unit in place. Choose a location free of oil, water

and gross contamination. Avoid areas where ambient temperature is continuously in excess of 120°F. Mount the Power Supply so that the High Voltage Output Ports are facing down or to either side to prevent entry of foreign material. Unless specified differently on the order, each static bar is equipped with a standard 72 inch length of high voltage cable inside a metal braid Alpha shield. This length of cable allows the installation of two static bars approximately 10 feet apart connected to one, centrally located power supply. If the high voltage cable is too long, you may coil it and secure it neatly out of harm's way. Because the cable is shielded, there will be no adverse effects such as excessive flux fields or noise that can result from unshielded cable.

Grounding the Static Neutralizing Power Supply

If the machine itself is properly grounded, securing the Power Supply tightly to the metal machine frame with metal screws will automatically ground the power supply.

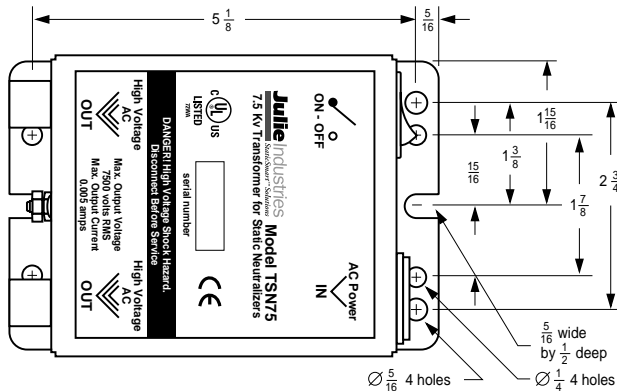
If you elect to mount the Power Supply to a wall or any other non-metal, non-grounded surface, you must attach an external ground wire. Attach one end to the ground stud located above and between the High Voltage Output Ports, and the other end to a suitable, confirmed good, electrical "ground".

Mounting the Static Neutralizing Power Supply

The base of the Power Supply contains four mounting holes and one slot on each end. Using the dimensions herein provided, drill and tap two or four holes (10-32 or 1/4-20 are adequate to secure the Power Supply in place) into the metal machine frame.

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Mount the Power Supply so that the High Voltage Output Ports are facing down. The second best mount would be to face the ports right or left...not up. This will prevent contamination from traveling down the cable and into the high voltage port and possibly causing a high voltage "short" circuit.

Power-Line Voltage 115Volts 50/60HZ (Optional 230Volts 50/60HZ)

The TSN75 is available in 115 and 230volts 50/60HZ. The dash numbers distinguishes them. TSN75-115 operates on 115volts 50/60HZ and the -230 on 230volts 50/60HZ.

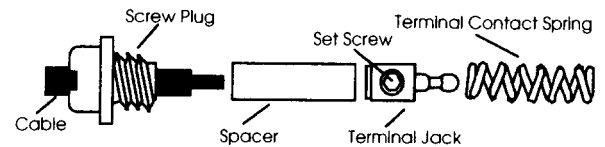
Both versions are equipped with a detachable (from the power supply) three-conductor line cord and a three-prong plug. When using the 115 volts unit, be sure to plug it into a grounded three-prong receptacle. When using the 230 volts version, you will likely be required to cut off the plug supplied and hard wire from the pigtail or change the plug to match your particular receptacle.

Remember: proper grounding of the Static Neutralizing Power Supply is essential to the safety of the user and proper operation of the equipment.

For added convenience and safety, these Power Supplies come equipped with a fuse and a lighted on/off switch.

Attaching the Connector Kit to the High Voltage Cable

After you have determined the locations of the "Applicator" and Power Supply and cut the cable to the shortest length between them, attach the High Voltage Cable Connector as follows:



1. Slide the retaining nut over the end of the cable with threads facing the cable end.
2. Slide the spacer onto the cable.
3. Carefully strip approximately 3/4 inch of insulation from the end of the high voltage cable exposing the conductors.
4. Twist the conductor strands, fold over to form double thick 3/8" lead and insert all of them into the hole in the end of spring retainer.
5. Tighten the set- screw in the retainer until the conductors are held firmly in place.
6. Remove the dust cover from the high voltage output port and insert the high voltage cable connector firmly in place.
7. While pushing to compress the spring, thread the retaining nut into the threaded output port and finger tighten firmly.
8. Secure ring terminal on green grounding lead to grounding stud between output ports on power supply.
9. After the static bar and power supply have been properly installed, positioned and *grounded*, plug the power supply line cord into a properly grounded 3-wire AC electrical outlet. Be sure the line voltage and frequency supplied matches that specified on the TSN75 nameplate. Do not remove the ground prong from the line plug or use a three to two prong adapter.

Note: For convenience, you may elect to hard wire the power supply directly to the machines' on and off controls.

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Connecting to the Static Neutralizing Power Supply

The TSN75 Power Supply is equipped with two High Voltage Ports internally threaded to accept the Julie High Voltage Connector Kit as well as most other manufacturer's similar high voltage connector kits.

These connectors consist of a Screw Plug, Plastic Spacer, Terminal Jack, and Terminal Contact Spring. Remove the dust cap from the High Voltage Output Port and fully insert the cable and connector assembly. Tighten the Screw cap (finger tight and secure) into the High Voltage Output Port.

Operation

Before turning the power on, be sure the Power Supply is secure in its mounting, all grounds and connections are proper and secure, line voltages and frequency are appropriate and that the "Applicator" is clean and correctly installed. Apply the line voltage and push the switch to the "on" position.

Maintenance

Both the Power Supply and the "Applicator" must be kept clean and free of water, oil, grease, solvents and other contaminants that would cause short circuits to them or any electrical device. Although this Power Supply is made with reliable, high quality components and great care, a contaminated, arcing, sparking, "Applicator" will shorten the life of both "Applicator" and Power Supply.

Troubleshooting

Only a qualified person familiar with handling high voltage equipment should attempt to troubleshoot and service this equipment.

- Turn the power off and disconnect all "Applicators".
- Confirm that grounds are proper and secure
- Confirm line voltage and frequency are appropriate and applied
- Confirm good fuse

- Confirm On Switch is "ON"
- Use an appropriate High Voltage Instrument and Test Probe to test voltage inside Output Port. Following the manufacturer's instructions, attach one cable of the test instrument to ground and insert the high voltage test "probe" into one followed by the other output port. Note and record the output voltage. It should be 7500 volts ($\pm 5\%$).

Please also note that some high voltage test probes give inaccurate readings when testing high impedance, low power, power supplies. For further assistance, please consult us at our factory. Phone: 978-988-8802 Fax: 978-988-8803

TSN75 Agency Listings

UL - Listed for United States and Canada. Static Neutralizing Power Supply. Control Number 72WA

CE - To standards EN55011 & EN50082-2. *Note: To meet CE requirements, the "Applicator" (Air Ionizer in the form of a bar or rod, air blower, air gun, air nozzle, or knife) must utilize a shielded cable to reduce high voltage interference with sensitive electronic control systems.*

Specifications

Type: High voltage, ferro resonant, AC, constant output transformer.

Input Voltage/Frequency:
115 v (230 available) 50/60 HZ

Output Voltage: 7.5 Kv

Input Current: 0.5 amp

Output Current: 0.005 amp

Line Cord: 72 inches detachable

Weight: 4.75 pounds

Dimensions:

width: 4 inches

height: 3.5 inches

length: 5.75 inches (including base)

Certifications:



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Additional Electrostatic Products and Services

- Instruments, Electrostatic Measuring: Miniature Handheld and Rack Mount, mV to kV Voltmeters, Fieldmeters, Monitors and Alarm; Resistivity / Resistance Meters (10^4 - 10^{14}); NanoAmmeters and Nanocoulombmeters; Faraday Cups and Charged Plate Analyzers.
- Equipment, Static Neutralizing: Ionizing Air Blowers, Air Nozzles, Air Guns, Air Knives, Grounding Bars and Brushes.

Static Neutralizing / Vacuum: Web Cleaners and Sheet Cleaners (Narrow and Wide)

Static Generating: Bars (4 to 120 inches); Spot Chargers.

Power Supplies: 110-220VAC, 50-60hz (4 to 7.5kV) 14-110VAC/DC (1 to 20kV), Constant Voltage - Constant Current Controllers

Work Furniture: Static Dissipating and Conductive Surface, Benches and Chairs.

- Materials, ESD: Flooring...Rubber, Carpet/Tile, Epoxy. Personal Grounding.
- Material Handling: Conductive and Static Dissipative Bins, Boxes, Trays, Bags, Carts and Trolleys.
- Services: Electrostatic (ESD) Audits, In-plant Surveys, Training, Consultation, and Application Engineering.

About Julie

At Julie, we've been providing StaticSmart™ Solutions to clients nationwide since 1973. We capitalize upon this wealth of experience to service our customers in a variety of ways. Whatever their needs, our comprehensive approach to controlling static translates into a much lower total cost of ownership solution for them.

Industrial Applications

For our customers, we provide a line of StaticSmart™ industrial products including static bars, power supplies, ionizers and WebVacs that we manufacture ourselves. These exceptional products address a host of common process problems including mis-feeds, poor lamination, jogging and stacking problems, shock to operators, jammed injection molds, particle contamination, fires and explosions.

To minimize your downtime, we offer immediate turnaround on many sizes—contact the factory about our 24-Hour Turnaround Program.

Julie Industries
StaticSmart™ Solutions
www.julieindustries.com

355 Middlesex Avenue
 Wilmington, MA 01887
 Tel: 978-988-8802
 Fax: 978-988-8803

