



Fail-safe

Automatic voltage regulator

with PWM precision

VRp model

4000-0235

4000 VA (max.)
4000 watts
input: 208/220/
230 or 240 vac
output:
230 vac +/-3%
single phase

Precision PWM Automatic Voltage Regulator for Copiers and Printers

Precision fast-PWM mains voltage correction

TSi Power's VRp automatic precision regulator line conditioner provides output voltage within plus/minus 3% of nominal, for input voltage that varies plus/minus 15%.

There is no switching of taps or otherwise a break in the power path thanks to continuous PWM switching of a buck-boost transformer.

Typical applications

Designed for applications that require absolutely stable, high-reliability power, without switching components in the power path.

Applications include, but are not limited to: high-throughput color printers and copiers, analytical equipment, radio/TV broadcast equipment, and mobile broadcast vans.

Key VRp-4000-0235 benefits

This light-weight, high efficiency VRp is easy to install in any environment. The automatic bypass assures that connected equipment will not shut down, even if VRp fails. VRp is compatible with all loads as it does not switch any components in the power path. VRp's ultra-low impedance assures stability even with the most demanding loads.

How the VRp Series works

The high frequency IGBT driven converter takes the incoming ac power, measures against the nominal voltage and adds or subtracts voltage, 20,000 times per second, to achieve the nominal output voltage +/- 3%.

The automatic bypass will be activated when there is a fault condition. Green LED indicates Normal (regulating mode operation), and the Red LED indicates a Fault condition.



Key features of the VRp Series

- Outstanding voltage regulation: under normal input range of nominal 172 to 276vac (60Hz), output regulation will be 230 vac +/- 3%.
- Failsafe: no switching of power path
- Fast regulation
- Automatic bypass
- Low impedance
- Low weight
- Quiet operation
- Two year warranty



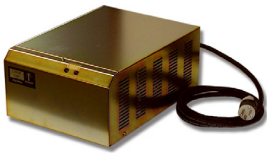
Power with a Precision Attitude™



TSi Power Corporation
1103 West Pierce Ave
Antigo, WI 54409 USA
800 874 3160 (USA only)
Phone +1 715 623 0636
Fax +1 715 623 2426
sales@tsipower.com
www.tsipower.com
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Precision automatic voltage regulator



Front-right view



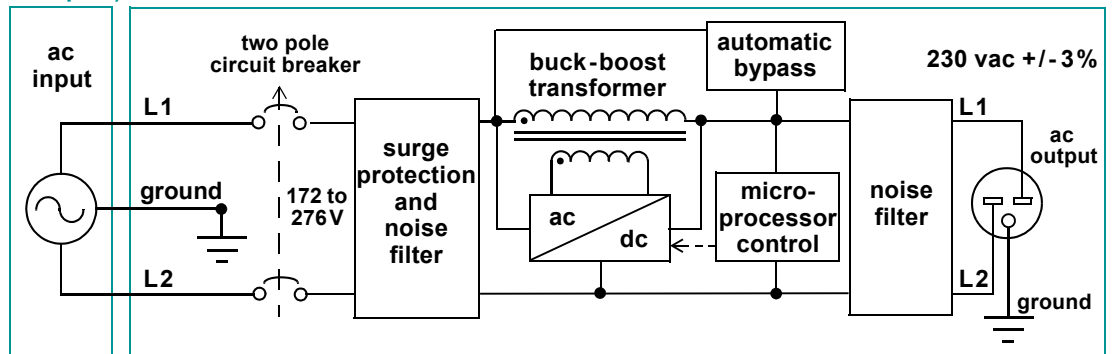
Rear view*

*Future models for the EU will be painted steel

TSi's ongoing product improvement process makes specifications subject to change. Other companies product names herein are for identification purposes only, and may be trademarks of their respective companies.

Specification	VRp-4000-0235
Electrical	
Capacity in VA (watts)	4 kVA (4000W) maximum
Regulator engine	High frequency 20kHz IGBT driven voltage regulation converter
Input	
Nominal voltage	208 volts ac single phase (220/230 or 240vac optional)
Operating voltage	172 to 276 volts ac
Nominal frequency	47 to 63Hz
Over-current protection	Magnetic circuit breaker
Circuit breaker rating	Two - 20 amperes
Input line cord/plug	6 foot long cord with NEMA 6-20P plug. (May be ordered configured with hardwired input terminals L1, L2, and ground. Extra charge will apply).
Output	
Nominal voltage	230 vac (Please specify at time of order).
Current and efficiency	16A (maximum) ~ 96% efficiency (typical)
Voltage regulation	Combined 3% maximum under 0 to 100% load and input of 172 to 276V
Automatic bypass	Automatic bypass will be activated when there is a fault condition.
Status indicators	System status LEDs provided as follows: Green LED indicates Normal (regulating mode operation); Red LED indicates Fault.
Surge test conditions	Per ANSI/IEEE C62.41-1991 6kV normal-mode injection
Surge let-through voltages	Category A3, Ring wave, 200A: L-N: 30V Category B3, Combination wave, 3000A: L-N: 200V Note: Unit should be installed as close as possible (within 30') of the neutral-to-ground bond at the service entrance, in order to minimize potential difference between neutral and ground. A separate isolation transformer is recommended for installations where distance exceeds above, or for grounding systems without a neutral-to-ground bond.
Ac output connection	One NEMA #6-20R Receptacle. (May be ordered configured with hardwired output terminals L1, L2, and Ground. Extra charge will apply).
Physical	
Dimensions	282mm(11.125")wide x 162mm(6.375")high x 377mm(14.875")deep
Weight	12 kg(27 lbs)
Wall/Floor mounting kit	MK-5019C (optional)
Safety	
Agency approvals	Designed to meet UL 1950 and cUL 1950 standards.
Environmental	
Ambient temperature	0° to +25°C (32° to +77°F). 10 to 90% RH non-condensing.
Warranty	
Warranty	Two year limited warranty, parts and labor.

VRp system architecture



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