



Fail-safe

Automatic voltage regulator

With precision

## VRp models

## 3000-0230

3000 VA  
3000 watts  
230 vac +/- 3%  
single phase

## 5000-0230

5000 VA  
5000 watts  
230 vac +/- 3%  
single phase

## Precision PWM voltage regulator with automatic bypass

### Precision fast-PWM ac 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 between 172 – 276 vac.

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

*Power with a precision attitude™*

### Typical applications

For OEMs and exporters to countries with unstable ac mains. Typical equipment applications include, but are not limited to, CNC equipment, medical imaging, analytical / laboratory instruments, telecommunications, wireless sites, broadcast transmitters, semiconductor production, industrial automation and digital printing / graphics.

### Key VRp benefits

The low-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 input voltage and adds or subtracts voltage, 20,000 times per second, to achieve the nominal output voltage +/- 3%.

The automatic bypass is activated when a fault condition has occurred. Green LED On indicates normal operation; yellow LED indicates start-up or overcurrent bypass; green LED Off indicates a fault condition.



### Key features of the VRp Series

- Outstanding voltage regulation: under normal input range of 172–276 vac, (47–63 Hz) output regulation will be 230 vac +/- 3%
- Fail-safe: No switching of the power path
- Fast regulation
- Automatic bypass
- Low impedance
- Low weight
- Quiet operation
- Two year limited warranty, parts and labor



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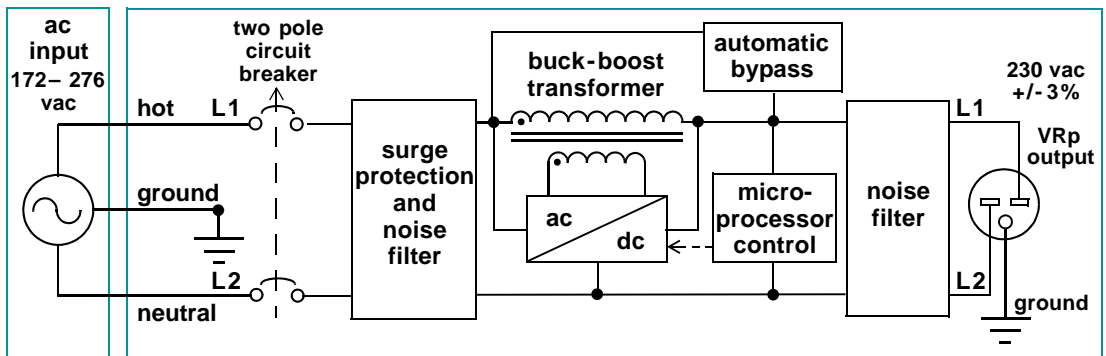
Rear view

Precision automatic voltage regulator

Specification	VRp-3000-0230	VRp-5000-0230
<b>Electrical</b>		
Capacity in VA (watts)	3 kVA (3000W)	5 kVA (5000W)
Regulator engine	High frequency 20 kHz IGBT driven voltage regulation converter	
<b>Input</b>		
Nominal voltage	230 volts ac, single phase	
Operating voltage	172–276 volts ac	
Nominal frequency	47–63Hz	
Over-current protection	Circuit breaker	
Circuit breaker rating	2 x 20A	2 x 30A
Input wire size	6mm <sup>2</sup> (AWG 10)	10mm <sup>2</sup> (AWG 8)
Ac output connections	Hardwired input terminals (L1, N1, and earth).	
<b>Output</b>		
Nominal voltage	230 volts ac, single phase	
Power efficiency	96–98% (typical)	
Voltage regulation	Combined 3% maximum under 0 to 100% load and input of 172–276V.	
Automatic bypass	Automatic bypass will be activated when there is a fault condition.	
Status indicators	Green LED indicates normal operation; yellow LED indicates temporary bypass during starting and over-current conditions.	
Ac output connections	Hardwired output terminals (L1, N1, and earth).	
<b>Physical/environmental</b>		
Dimensions	279mm(11")wide x 159mm(6.25")high x 378mm(14.9")deep	
Weight	18.2kg(40 lbs)	22.7kg(50 lbs)
Wall/floor mounting kit	MK-5019C (optional)	
Ambient temperature	0° to +40°C (32° to +104°F). 10 to 90% RH non-condensing.	
<b>Safety</b>		
Conformance	EN 60950-1	
<b>Warranty</b>		
Warranty	Two year limited warranty, parts and labor.	

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VRp system architecture



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