



Failsafe

Automatic voltage regulator

with precision

VRp model

3000-02xx

3 kVA
3 kW
230 volts

5000-02xx

5 kVA
5 kW
230 volts

Precision PWM automatic 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 to 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.

Typical applications

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

Key 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 to 276V (47 to 63Hz), output regulation will be 230V +/- 3%.
- Failsafe: No switching of power path
- Fast regulation
- Automatic bypass
- Low impedance
- Low weight
- Quiet operation
- 2 year limited depot warranty, parts and labor

Power with a precision attitude™



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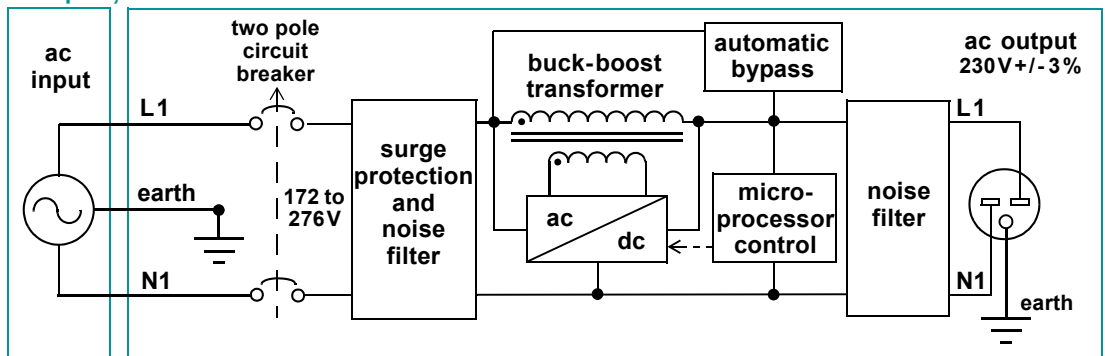
Precision automatic voltage regulator

Specification	VRp-3000-0228/ -0236/0238	VRp-5000-0228/0238/ -0239/0240/0241
Electrical		
Capacity in VA (watts)	3 kVA (3000W)	5 kVA (5000W)
Regulator engine	High frequency 20kHz IGBT driven voltage regulation converter	
Input		
Nominal voltage	230 volts ac, single phase	
Operating voltage	172 to 276 volts ac	
Nominal frequency	47 to 63Hz	
Over-current protection	Circuit breaker	
Circuit breaker rating	2 x 20A	2 x 30A
Input wire size for HW	Model -0228: 6mm ² (AWG 10)	Model -0228: 10mm ² (AWG 8)
Cordset and plug	Model -0236: L6-20P Model -0238: 6-20P	-0238: L6-30P -0239: 14-30P -0240: L14-30P -0241: L6-30P
Output		
Nominal voltage	230 volts ac, single phase	
Power efficiency	96% (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	Green LED indicates normal operation; yellow LED indicates temporary bypass during starting and over-current conditions.	
Ac output connections	Models with -0228: hardwired output terminals (L1, N1, and earth).	
Receptacle(s)	Model -0236: L6-20R Model -0238: 6-20R	-0238: L6-30R -0239: 14-30R -0240: L14-30R -0241: two L6-30R
Physical/environmental		
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 +25°C (32° to +77°F). 10 to 90% RH non-condensing.	
Safety		
ETL Intertek mark	ETL Intertek listed (UL 60950-1, 1st Edition).	
RoHS compliance	RoHS compliant per Directive 2002/95/EC. Unit does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE).	

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.



VRp system architecture



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