

VRP

VRP Model

7500-0230

7500 VA
7500 W
230 V \pm 3 %
single phase

10000-0230

10000 VA
10000 W
230 V \pm 3 %
single phase

15000-0230

15000 VA
15000 W
230 V \pm 3 %
single phase

Fail safe

Automatic voltage regulator

PWM precision

Precision PWM voltage regulator with automatic bypass

TSi Power's VRP automatic precision regulator line conditioner provides output voltage within \pm 3 % of nominal, for input voltage that varies between 184 - 276 V.

Typical VRP applications

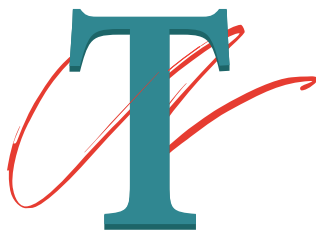
The VRP is designed for OEMs and exporters to countries with unstable AC mains. Typical equipment applications include CNC equipment, medical imaging, analytical / laboratory instruments, telecommunications, wireless sites, broadcast transmitters, semiconductor production, industrial automation and digital printing / graphics.

How the VRP series works

The high frequency insulated gate bi-polar transistor (IGBT) driven converter takes the incoming AC power, measures it against the nominal voltage and adds or subtracts voltage, 20,000 times per second, to achieve a precisely regulated 230 V output. The automatic bypass will be activated when there is a fault condition. Green LED ON indicates normal operation; yellow LED ON indicates start-up or overcurrent bypass; green LED OFF indicates a fault condition.



Top view showing the transformer, control board and surge protection/filter board components

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Features and Benefits

- Since the VRP does not switch components in the power path, it is compatible with most loads.
- Output voltage to within \pm 3 % is provided for superior regulation.
- Automatic bypass circuitry assures failsafe operation.
- Low weight makes for ease of installation.
- AC input overvoltage protection assures trouble free operation.
- Display circuit board monitors each phase independently and displays operational status by means of colored LEDs.
- AC input circuit breakers and system on/off switch prevent costly equipment damage.

SPECIFICATION	VRP-7500-0230	VRP-10000-0230	VRP-15000-0230
ELECTRICAL			
Capacity VA and Watts	7500	10000	15000
Regulator engine	High frequency 20 kHz IGBT driven voltage regulation converter		
INPUT			
Nominal voltage	230 V, single phase		
Operating voltage	184 - 276 V for $\pm 3\%$ regulation, maximum input range 160 - 330 V		
Nominal frequency	47 - 63 Hz		
Over-current protection	Circuit breaker		
Circuit breaker rating	2 x 40 A	2 x 50 A	2 x 80 A
Input wire size	AWG 8 (8 mm ²)	AWG 6 (15 mm ²)	AWG 4 (21 mm ²)
AC input connections	Hardwired input terminals (L1, L2 and ground)		
OUTPUT			
Nominal voltage	230 V, single phase		
Power efficiency	96 to 98 % (typical)		
Voltage regulation	Combined 3 % maximum under 0 to 100 % load and input of 184 - 276 V		
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, L2 and ground)		
PHYSICAL/ENVIRONMENTAL			
Dimensions	14.5" (368 mm) wide x 9" (229 mm) high x 19.67" (500 mm) deep		
Weight	80 lbs (36.3 kg)	100 lbs (45.4 kg)	110 lbs (49.9 kg)
Wall / floor mounting kit	MK - 5019C (optional)		
Ambient temperature	32° to + 104° F (0° to 40° C). 10 to 90 % non-condensing		
SAFETY			
Conformance	EN 60950-1		
WARRANTY			
Warranty	Two year limited warranty, parts and labor.		

TSi Power'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.



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VRP system architecture

