

VRP

Fail-safe

PWM automatic voltage regulator

With precision

VRP Model

VRP-2100-02xx

2100 W
230 V \pm 3%
9 A
Single phase

VRP-3000-02xx

3000 W
230 V \pm 3%
13 A
Single phase

VRP-3500-02xx

3500 W
230 V \pm 3%
16 A
Single phase

VRP-5000-02xx

5000 W
230 V \pm 3%
22 A
Single phase

Precision PWM voltage regulator with automatic bypass

Precision fast - PWM AC mains voltage correction

The single-phase VRP is an automatic precision AC voltage regulator which allows trouble free operation of electronic equipment over a very wide mains AC voltage range of 184 - 264 V.

Typical applications

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.

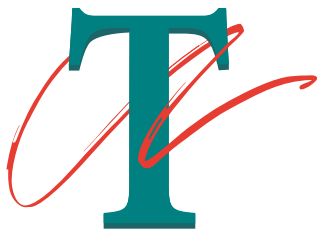
How the VRP Series works

The high frequency insulated gate bipolar 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 the nominal output voltage \pm 3%.

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 bypass; red LED ON indicates a fault condition.



Rear ISO view with cover removed.



TSi POWER

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Features and Benefits

- VRP's low weight makes installation easy.
- Connected equipment will not shut down even if the VRP fails due to the automatic bypass feature.
- Since the VRP does not switch any components in the power path, it is compatible with all loads.
- The ultra-low impedance of the VRP assures stability even with the most demanding loads.
- The quiet operation of the VRP makes the installation as unobtrusive as possible.
- Outstanding voltage regulation makes the VRP the choice for critical equipment.
- Input and output by means of either hardwire or NEMA receptacles provides flexible choices.
- Two-year limited warranty on parts and labor.

SPECIFICATION	VRP-2100-0228/0233	VRP-3000-0228/0236/0238	VRP-3500-0233	VRP-5000-0228-0238/0239/0240/0241
ELECTRICAL				
Capacity in VA (watts)	2.1 kVA (2100 W)	3 kVA (3000 W)	3.5 kVA (3500 W)	5 kVA (5000 W)
INPUT				
Voltage range	184 - 264 V			
Frequency	47 - 63 Hz			
Current	12 A	17 A	20 A	28 A
Overcurrent protection	Circuit breaker			
Circuit breaker rating	15 A	20 A	20 A	30 A
AC input connection	<u>Model 0228</u> : Hardwire input terminals <u>Model 0233</u> : 6' (1.8 m) cordset & NEMA L6-20P	<u>Model 0228</u> : Hardwire input terminals <u>Model 0236</u> : 6' (1.8 m) cordset & NEMA L6-20P <u>Model 0238</u> : 6' (1.8 m) cordset & NEMA 6-20P	<u>Model 0233</u> : IEC 60320-C20 Inlet w/ detachable power cord (P/N WD00025) Power cord is 8.2' (2.5 m) long w/IEC 60320 C-19 on one end and NEMA L6-20P on the other	<u>Model 0228</u> : Hardwire input terminals <u>Model 0238</u> : 6' (1.8 m) cordset & NEMA L6-30P <u>Model 0239</u> : 6' (1.8 m) cordset & NEMA 14-30P <u>Model 0240</u> : 6' (1.8 m) cordset & NEMA L14-30P <u>Model 0241</u> : 6' (1.8 m) cordset & NEMA L6-30P
OUTPUT				
Voltage range	230 V \pm 3 %			
Current	9 A	13 A	16 A	22 A
AC output connections	<u>Model - 0228</u> : Hardwire output terminals <u>Model - 0233</u> : NEMA L6-20R	<u>Model - 0228</u> : Hardwire output terminals <u>Model - 0236</u> : NEMA L6-20R <u>Model - 0238</u> : NEMA 6-20R	<u>Model 0233</u> : NEMA L6-20R	<u>Model 0228</u> : Hardwire output terminals <u>Model 0238</u> : NEMA L6-30R <u>Model 0239</u> : NEMA 14-30R <u>Model 0240</u> : NEMA L14-30R <u>Model 0241</u> : NEMA L6-30R (x2)
LED indicators: Green/Yellow/Red	Regulation / Bypass / Fault			
Power efficiency @ 230 V	98 %			
Power efficiency in max. Boost	96 %			
Surge voltage let-through	<300 V [Line-Neutral (or dual phase)] @ 1.2 x 50 μ s			
MECHANICAL				
Dimensions: in (mm)	6.149" (156.2 mm) H x 10.965" (278.5 mm) W x 14.899" (378.4 mm) D			
Weights: lbs (kg)	30 lbs (13.6 kg)	45 lbs (20.41 kg)	45 lbs (20.41 kg)	45 lbs (20.41 kg)
Wall / Floor mounting kit	MK-5000C (optional)			
ENVIRONMENTAL				
Ambient temperature	0° to +40° C (32° to +104° F), Humidity: 0 - 95 % Non-condensing			
Cooling method	Forced air			
SAFETY				
Safety	[Standard for Safety for Information Technology Equipment - Safety - Part 1: General Requirements (UL 60950-1, 2 nd Edition, Dated 03/27/07, Revised 10/14/2014) (CSA C22.2 No. 60950-1-07 2 nd Ed., Dated 03/27/2007; Including Amendment 1 Dated 12/19/2011, R201; and Including Amendment 2 Dated 10/14/2014)]			
WARRANTY				
Warranty	Two-year limited warranty covers 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

