

**A Three Phase,  
Multi-Shielded,  
Copper-Wound,  
Automatic Voltage  
Regulator...**



# Power Regulator

## Three Phase Voltage Regulator



- 15 to 1250 kVA
- UL Listed
- High Efficiency (>96%)
- Low Distortion
- Exceptional Reliability
- Single Point Grounding
- Zero Current Tap Switching
- Excellent Voltage Regulation
- NEMA 1 Indoor Cabinet
- Three Phase Regulating, Dual-Shielded, Computer Grade Transformer
- Common-Mode Noise Attenuation up to -152 dB
- Regulating Assembly and Input Filter
- Regulation/Isolation Only Switch (Bypasses Regulation Electronics)
- 2 Year Factory Warranty

**\*\*\*Ultra-Reg Version Combines Precision Regulation with Exclusive Shielding**

The Ultra-Reg version combines a wide regulation capability (+10% to -26% of nominal) and multi-shielding that achieves a minimum common-mode noise attenuation of -126 dB, with optional -140 dB, -146 dB, or -152 dB available.

*A Full Line Power  
Protection Company.*

### Exceptional Reliability

The Power Regulator is highly reliable, and the primary reason is the zero current tap-switching technology. A tap-switching Power Regulator regulates the voltage by switching electrical taps to either raise or lower the output voltage. Since these tap changes are made when the current is at zero, there is virtually no component stress. This innovative zero current tap-switching technique results in exceptional system reliability.

Another high reliability technique utilized by the Power Regulator is our unique distributed leakage reactance protection system. The electrical taps of the computer grade transformer are located in the center of the primary winding. When a high energy impulse occurs, which would damage other tap-switching regulators, the distributed leakage reactance attenuates the impulse before it reaches critical limits.

### Compensates to Maintain Load Power Factor

The power factors of most automated equipment (typ. 0.8 lagging) will lower the output voltage in a ferroresonant regula-

tor by as much as 6%. Power Regulators are not affected by the load power factor.

### Environmental

The Power Regulator is convection cooled ( $\leq 300$  kVA) and equipped with circulation fan for units 400 kVA and above. The Power Regulator fits well into utility closets and other out-of-the-way places. Operable over a wide temperature range, and with high humidity tolerance, the Power Regulator will go places where other power conditioners can't go.

### Wide Input Frequency Range

The Power Regulator operates within a broad input frequency range from 57 Hz to 63 Hz and is therefore unaffected by frequency fluctuations. Many other types of regulating devices are highly sensitive to routine input frequency variations.

### Negligible Harmonic Distortion

Harmonic distortion can adversely affect sensitive electronic equipment. Ordinary regulating devices can cause severe distortion of output waveforms and also on the input power line. The Power Regulator adds less than 1% total harmonic distortion to the line and load.

# Power Regulator Specifications

## Sizes (kVA):

15, 30, 50, 75, 100, 125, 150,  
175, 200, 225, 250, 300, 400,  
500, 625, 750, 875, 1000, and  
1250

## Input Voltage\*:

208 or 480 VAC, \*\*480Y/277

## Output Voltage\*:

208Y/120 or 480Y/277 VAC

## Frequency\*:

60 Hz  $\pm 5\%$

## Response Time:

1 cycle typical

## Harmonic Distortion:

1% max. added at switching

## Voltage Regulation Range:

Input: +10% to -26% of nominal  
Output:  $\pm 3\%$  typ.  $\pm 4\%$  maximum

## Common-Mode:

-120 dB. ( $\leq 300$  kVA)  
-140 dB -146 dB or -156 dB  
available

## Normal-Mode:

40 dB/decade

## Transformer Impedance:

3 to 5%

## Overload(Inrush):

200% of full load for 10 seconds  
1000% of full load for 1 cycle

## Transformer:

$\leq 300$  kVA; 3 phase computer  
grade, dual-shielded, isolation  
transformer

$\geq 400$  kVA; 3 phase, copper  
wound, buck-boost transformer

## Efficiency:

96% at full loads; 98.5% at light  
loads

## Load Power Factor:

0.3 leading or lagging to unity

## Audible Noise:

$< 35$  dB measured on Response  
Curve "A"

## Environmental:

Operating Humidity:  
10 to 90% non-condensing  
Operating Temperature  
32°F (0°C) to 104°F (40°C)  
Storage Temperature  
-4° to 140° F

## Standard Features

- NEMA 1 Indoor Cabinet
- Three Phase Regulating, Dual-Shielded, Computer Grade Transformer
- Common-Mode Noise Attenuation ( $< 300$  kVA): -120 dB standard, \*\*\*Ultra-Reg Version; -126 dB standard
- Regulating Assembly and Input Filter
- Regulation/Isolation Only Switch (Bypasses Regulation Electronics)

## Options

- K-Factor Ratings up to K-50
- Monitoring Panels
- Remote Monitoring
- Secondary Surge Suppression
- Input/Output Filter (-60 dB/decade Normal-mode)
- Special Paint
- \*\*\*\*"Ultra-Reg version": provides Common-Mode Noise Attenuation levels of -140 dB, -146 dB. or -152 dB.

kVA SIZE	INPUT VOLTAGE	MODEL NUMBERS***		WEIGHTS (LBS)	BTUs/HR	CABINET SIZES H" x W" x D"
		208Y/120 OUTPUT	480Y/277 OUTPUT			
15	208	PR015B0500T3	PR015B0900T3	400	2,040	32" x 26.5" x 17"
	480	PR015H0500T3	PR015H0900T3			
30	208	PR030B0500T3	PR030B0900T3	500	4,080	32" x 26.5" x 17"
	480	PR030H0500T3	PR030H0900T3			
50	208	PR050B0500T3	PR050B0900T3	700	6,800	40.5" x 31.5" x 22"
	480	PR050H0500T3	PR050H0900T3			
75	208	PR075B0500T3	PR075B0900T3	850	10,200	51.5" x 40.5" x 26.5" 40.5" x 31.5" x 22"
	480	PR075H0500T3	PR075H0900T3			
100	208	PR100B0500T3	PR100B0900T3	1,250	13,600	66" x 50.5" x 32" 40.5" x 31.5" x 22"
	480	PR100H0500T3	PR100H0900T3	1,000		
125	208	PR125B0500T3	PR125B0900T3	1,400	17,000	66" x 50.5" x 32" 51.5" x 40.5" x 26.5"
	480	PR125H0500T3	PR125H0900T3	1,100		
150	208	PR150B0500T3	PR150B0900T3	1,500	20,400	66" x 50.5" x 32" 51.5" x 40.5" x 26.5"
	480	PR150H0500T3	PR150H0900T3	1,200		
175	208	PR175B0500T3	PR175B0900T3	1,700	23,800	66" x 50.5" x 32"
	480	PR175H0500T3	PR175H0900T3	1,400		
200	208	PR200B0500T3	PR200B0900T3	2,000	27,200	66" x 50.5" x 32"
	480	PR200H0500T3	PR200H0900T3	1,500		
225	208	PR225B0500T3	PR225B0900T3	2,250	30,600	66" x 50.5" x 32"
	480	PR225H0500T3	PR225H0900T3	1,600		
250	208	PR250B0500T3	PR250B0900T3	2,450	34,000	66" x 50.5" x 32"
	480	PR250H0500T3	PR250H0900T3	1,800		
300	208	PR300B0500T3	PR300B0900T3	2,900	40,800	66" x 50.5" x 32"
	480	PR300H0500T3	PR300H0900T3	1,950		
**400	208Y/120 480Y/277	PR400O0500T3	PR400H0900T3	3,900	50,700	73" x 67" x 35"
**500	208Y/120 480Y/277	PR500O0500T3	PR500H0900T3	4,250	60,600	
**625	480Y/277		PR625H0900T3	6,500	70,400	73" x 100" x 35"
**750	480Y/277		PR750H0900T3	7,500	80,800	
**875	480Y/277		PR875H0900T3	8,500	90,600	73" x 100" x 35"
**1000	480Y/277		PR104H0900T3	9,500	99,600	
**1250	480Y/277		PR124H0900T3	10,500	105,000	

\* Other voltages and frequencies available - consult factory

\*\* Input and Output voltage must be the same

\*\*\* For "Ultra-Reg" version, consult factory.

Specifications are subject to change without prior notification.



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