

Three Phase Precision Voltage Regulator (PVR)

High Frequency PWM Driven IGBT Controlled Precision Voltage Regulator (PVR)



ETIPL's (Elcomponics Technologies India Pvt. Ltd.) automatic precision voltage regulator power line conditioner provides smooth output voltage $400V \pm 1\%$ or $415V \pm 1\%$, for input voltage that varies between 340-460 Vac or 300-500Vac (as standard configuration option). Also, ETIPL provide customized Input/Output voltage range solutions based on customer specific requirements.

Key Features

- Highest power to weight ratio
- No switching in power path
- Continuous output voltage
- Completely noiseless operation
- Lowest foot print (less space needed)
- Compatible for all kinds of loads
- Insulation Class H or better
- Fast regulation: corrects output voltage @2500 volt/sec (minimum)
- High efficiency (>99.8%) at nominal voltage
- Built in protections against: over / under voltage, over load, over temperature & short circuit, (additional customization also possible)
- System status indicator through LCD display for each phase
- Fast response time

How the PVR Works

In this IGBT based PWM type static voltage stabilizer only the difference voltage is switched through IGBT and is added or subtracted @2500v/sec (minimum) from the mains. This is done electronically without any step changing in voltage which occurs when the system regulates. This is achieved by a feedback control system using digital signal processor (DSP). The input voltage is sensed by DSP and corrections are made by varying the duty cycle of PWM.

Typical Applications

The unit is highly recommended where unstable mains is available and frequent voltage fluctuations are observed. Some of the popular applications are elevators, medical instrumentation, analytical/laboratory instruments, system calibrations labs, tele-communications, BTS units, Wireless sites, broadcast transmitters, semiconductor production, industrial automation, CNC machines & PLC based machines. PVR's ultra -Low impedance assures stability even with the most demanding loads.

Key Benefits

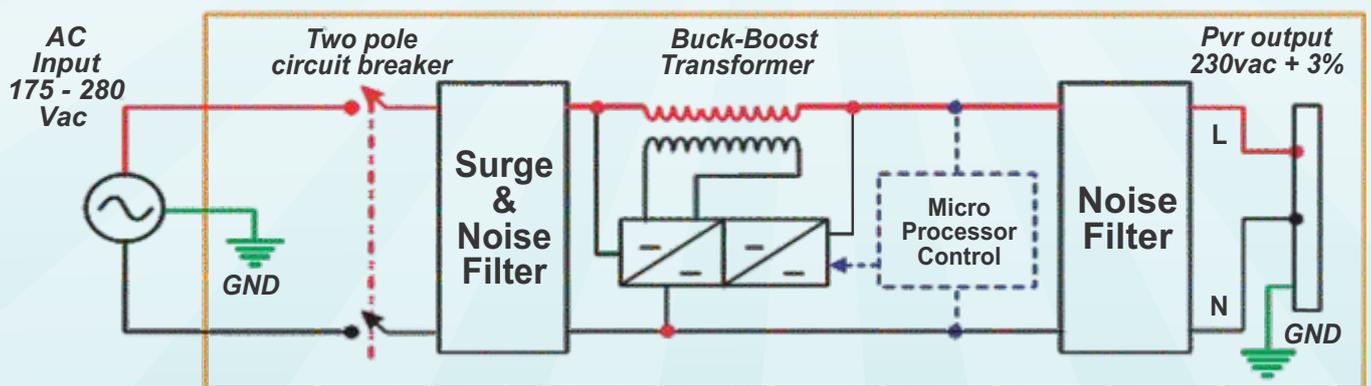
The lightweight, high efficiency PVR's is easy to install in indoor environments. The unit comes in a special designed IP20 rated enclosure with cooling fans. The automatic bypass assured that connected equipment will not shut down, even if the PVR's fails. In addition, a reduction in equipment down time and service costs can be expected. PVR is compatible with all loads as it does not switch any components in the power path. Maximum transformer and regulator performance, reliability and life time is achieved by a design with no moving parts.

Specifications

MODELS	PvR-9000-9313 to 30000-9313		PvR-40000-9313 to 150000-9313
Technology	High Frequency PWM controlled IGBT driven Line Voltage Conditioner		
Capacity	From 9KVa to 200 KVa		
INPUT			
Input Voltage Range	300-500 Vac(LL)*	340-460Vac(LL)*	360-440Vac(LL)*
Input Frequency	50/60Hz ± 5%		
Input MCB	20A to 63A	80A to 225A	
Input Connections	L1, L2, L3, N, G		
OUTPUT			
Output Connections	L1, L2, L3, N, G		
Output Voltage	400 Vac (LL)**		
Line & Load Regulation	Output factory set Voltage ± 2%***		
Frequency	Same as Input		
Correction Speed	2500V/Sec (Minimum)		
Response Time	50 microsecond		
Fully Load Efficiency	>99.8% at Nominal Input Voltage		
CONSTRUCTION DETAILS			
Cooling	Natural or Forced Air Cooled		
Ingress Protection Grade	IP 20****		
Weight	100 to 135 Kg	140 to 200 Kg	
Ambient Temperature	up to 45° C (113° F)		
Product Dimension	900mm (H) x 870mm (W) x 300mm (D)		

*Other ranges available on request ** For other Input/Output voltage consult factory/Sales ***For other regulation factor consult sales factory/Sales team **** IP55 cabinet is also possible on request

Pvr Block Diagram



Automatic By pass when overload and over temperature

Note: Unit should be installed as close as possible (Within 30") of the N to G bond at service entrance, in order to minimize potential difference between N & G. A separate isolation transfer is recommended for installations where distance exceeds above or for grounding system without a N to G bond.

Disclaimer : Due to constant quality improvement at our R&D center, specifications/models may change without prior notice.

To know more, visit our ELWORLD showroom at B-25, Lajpat Nagar-II, Delhi
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