

Single Phase Precision Voltage Regulator (PvR)

High Frequency PWM Driven IGBT Controlled Line Voltage Conditioner



ETIPL's (Elcomponics Technologies India Pvt. Ltd.) automatic precision line voltage regulator (Power line conditioner) provides output voltage within $\pm 2\%$ of nominal, for input voltage that varies between 175-280 VAC*.PvR is compatible with all loads as it does not switch any components in the power path. There is no electrical motor used for slow correction of output voltage and possibility of over-voltage by system itself.

SINGLE PHASE MODELS

3KVA PVr-3000-9111	5KVA PVr-5000-9111	10KVA PVr-10000-9111	15KVA PVr-15000-9111	20KVA PVr-20000-9111
25KVA PVr-25000-9111	30KVA PVr-30000-9111	40KVA PVr-40000-9111	50KVA PVr-50000-9111	70KVA PVr-70000-9111

Key Features

- Fast regulation: corrects output voltage @ 2500 V/sec minimum
- High power to weight ratio
- High efficiency (>99%) at nominal voltage
- Fail safe design: automatic bypass in over load & over temperature condition
- No switching in power path
- Continuous output voltage control
- Cabinet are designed for low floor area
- Low impedance & quiet operation
- Compatible for all kind of loads
- Protection against over/under voltage, over load / short circuit & over temperature
- PvR is easy to install in any environment
- 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 will be added or subtracted @2500 V/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

Where highly unstable mains is available and frequent voltage fluctuations are observed. Popular applications include, but are not limited to, air conditioners, textile machines, 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.

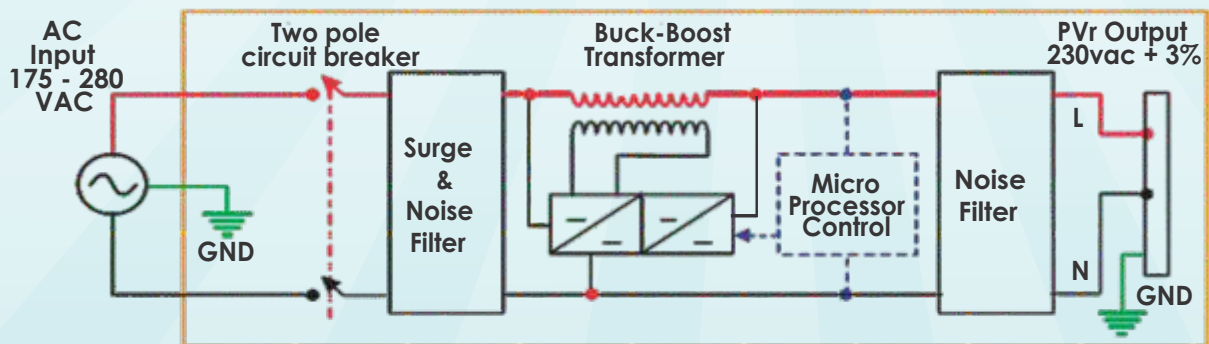
Specifications

INPUT	
Input Voltage Range	175-280 VAC Nominal*
Input Frequency	50/60 Hz, $\pm 5\%$
Input MCB	upto 400 A
Class of Insulation	Class H
Waveform	Sinusoidal
Input Connection	(P, N, G) (L, N, G)
OUTPUT	
Output Connection	(P, N, G) (L, N, G)
Output Voltage	230 vac (factory set) Nominal*
Line Regulation	Output factory set voltage $\pm 2\%^{**}$
Load Regulation	Output factory set voltage $\pm 2\%^{**}$
Frequency	Same as input
Correction Speed	2500V/Sec Minimum
Response Time	50 microsecond
Capacity	upto 70 KVA
Efficiency at Full Load	> 99% at nominal voltage
Technology	High frequency PWM controlled IGBT driven Line Voltage Conditioner
PROTECTION AND DISPLAY	
Indication	LCD Display, Showing system, Status
By Pass	Automatic bypass when over Load & over temperature condition Note : Unit should be installed as close as possible (within 30') of the neutral-to-ground bond at the service entrance, in order to minimize potential difference between neutral and ground. A separate isolation transformer is recommended for installations where distance exceeds above, or for grounding system without a neutral-to-ground bound.
CONSTRUCTIONAL DETAILS	
Cooling	Forced air cooled
Ingress protection	IP 20
Weight	Approx 30 Kg for 5KVA
Dimensions	365mm(14.4")wide x 195mm(7.07") high x 500mm (19.7") deep, upto 10 KVA
Paint Shade	Black/Gray
Ambient Temperature	upto 50°C

* For different Input/Output voltage range consult factory/sales.

**For closer tolerance consult factory/Sales

PVr Block Diagram



Disclaimer: Images may not depict actual product. Product appearance, specifications and other characteristics are subject to change without notice.

To know more, visit our ELWORLD showroom at B-25, Lajpat Nagar-II, Delhi
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Document Reference: AB/EL/PVr-1P/26042016/01