

Inductive Voltage Regulator, Oil-immersed type

HPI-W Series 100KVA~5,000KVA



Application

- ▶ Industrial & Manufacturing Plants
- ▶ Large Commercial Office Buildings
- ▶ Telecom & IT-Data Head Offices
- ▶ Government Ministry Buildings
- ▶ Ports & Harbor Facilities
- ▶ Airports Facilities & Terminals
- ▶ Cold Storage Facilities
- ▶ Cement Manufacturing Plants
- ▶ Metal Stamping Plants
- ▶ TV Broadcast Head Office
- ▶ Electrochemical Process Plants
- ▶ Large & Medium Sized Hospitals
- ▶ Flour Mills & Timber Mills
- ▶ Water Pumping Stations
- ▶ Bank Head & Branch Offices



Ind. & Mfg. Plant



Ports & Harbor Facilities



Cement Mfg. Plants



Metal Stamping Plants



**Large Commercial
Office Bldg.**



**Telecom & IT-Data
Head Offices**



Cold Storage Facilities



Water Pumping Station

SATECH POWER

Industrial Grade Power System

HPI-W Series Inductive Voltage Regulator, Oil-immersed type

The HPI-W series Inductive Voltage Regulator is available from 10 to 5,000 KVA as standard, in single or three-phase output configurations and may be customized to reach up to 10,000KVA.

The HPI-W series Inductive Voltage Regulator pay for themselves.

No matter what the application, variations in voltage can cause considerable loss of time and money. By reducing unnecessary downtime and costs, the HPI-W series IVR can actually pay for themselves. What's more, alternative methods for solving poor voltage problems are usually more expensive than IVRs. Contact your local Satech Power Sales Engineer. He or she will welcome the opportunity to review your problem and help you solve it.

■ ROBUST, WEAR-FREE, RUGGEDNESS

Trouble-free Operation. No Sliding Contacts or Brush. Capable to sustain Spikes & Non-linear Load Impulses. High Reliability and Long term operation.

■ VOLTAGE REGULATION METHOD Electro-magnetic Induction Theory (Linear Adjustment) - NO MOVING PARTS

■ WIDE INPUT VOLTAGE RANGE : $\pm 15\%$ (OPTION: $\pm 20\% \sim \pm 50\%$ OR OTHERS)

Works effectively under any unstable AC source. All of the input components used are specially selected to handle extreme high voltage and high current.

■ HIGH LOAD-CARRYING CAPACITY

- 110% - 1 hour; 120% - 30 minutes; 150% - 15 minutes; 200% - 2 minutes; 300% - 12 seconds; 500% - 6 seconds.
- Designed to withstand **HEAVY** loads currents
- Designed to withstand **HIGH** motor Startup / Inrush currents

■ OUTSTANDING PERFORMANCE: > 98% EFFICIENCY; OUTPUT VOLTAGE ACCURACY: $\pm 1\% \sim \pm 2\%$

- Improve Plant Performance & Efficiency
- Increase Facility's Profitability
- Increase Equipment Life Span
- Reduce Production Costs
- Reduce Maintenance Costs

■ FULL ALARMING CAPABILITIES

- Current Limit & Circuit Protection
- Loss Phase & Phase Reversed Protection

- Over Voltage & Low Voltage Protection
- Over Temperature Protection

■ HIGH POWER FACTOR

Since it is a variable transformer, the IVR has almost no effect on the system power factor. This results in substantial cost reduction. Suitable for all type of loads.

■ TOLERATE HARSH ENVIRONMENT

Each component is chosen with large safety margin to accommodate Extreme environments, such as temperature, humidity, altitude, shock or Contamination.

■ NO WAVE FORM DISTORTION

Unlike impedance changing regulators, no harmful wave distortion is induced. Problems with sensitive electronic equipment are therefore eliminated.

■ VOLTMETER & AMMETER DISPLAYS

■ MANUAL FORCED VOLTAGE ADJUSTMENT

When internal control system is damaged, the selection of the MANUAL mode can be used for output voltage adjustments.

■ FAST CONTROL CHIPS

Provide powerful protections, loads to operate with safe and reliable.

■ DRY CONTACT ALARM SIGNAL

For remote control panel.

■ OPTIONAL ISOLATION TRANSFORMER

Solve ultimately power problems, including noise, lightning, ground leakage current, and CEMF (Counter-electromotive Force) etc.

■ OPTIONAL OUTDOOR APPLICATION

Technical Specification (3-Phase Input / 3-Phase Output)

Input Voltage Range: $\pm 15\%$

MODEL		HPI-W 33100	HPI-W 33150	HPI-W 33200	HPI-W 33300	HPI-W 33500	HPI-W 33750	HPI-W 331000	HPI-W 331250	HPI-W 331500	HPI-W 331750	HPI-W 332000	2100Kva Up or others, pls ask
CAPACITY	KVA	100	150	200	300	500	750	1000	1250	1500	1750	2000	
INPUT	Nominal Voltage	110V, 220V, 380V, 400V, 415V, 440V, 3.3KV, 4.16KV, 11KV, 22KV											
	Voltage Range	$\pm 15\%$ (Option: $\pm 20\%$, $\pm 25\%$, $\pm 30\%$ or others)											
	Frequency	47Hz ~ 63Hz											
	Power Factor	0.95 ~ 1											
OUTPUT	Nominal Voltage	Same as Input Nominal Voltage											
	Regulation	$\pm 1\% \sim \pm 2\%$ Adjustable											
	Response Time	$< 1.5\text{ms}$											
	Correction Time	A 10% supply variation will be corrected to within 2.5% in typically 0.6 to 1 second – dependent on the selected permissible input voltage range and system rating											
	T.H.D	Less than 1% THD shall be added to the output waveform											
	Efficiency	$> 98\%$ at full load typical											
	Overload	110% - 1 hour; 120% - 30 minutes, 150% - 15 minutes; 200% - 2 minutes; 300% - 12 seconds; 500% - 6 seconds (linear load)											
Adjusting Methods		1) Auto-adjustment, Electro-adjustment, Manual-adjustment; 2) Voltage-UP Time Adjustment (0.1~5 Seconds Adjustable) 3) Voltage-DOWN Time Adjustment (0.1~5 Seconds Adjustable)											
Protection (Visual & Audio)		1) Loss Phase, Phase Reversed (By Voltage Stability Circuit Cut-off) 2) High Voltage 2 Steps Protection: (VR Adjustable): 1 st Step: Auto Cut-off Voltage UP Signal to Avoid Voltage Increase ; 2 nd Step: Abnormal Indicator 3) Low Voltage 2 Steps Protection: (VR Adjustable): 1 st Step: Auto Cut-off Voltage DOWN Signal to Avoid Voltage Decrease ; 2 nd Step: Abnormal Indicator 4) Overload Protection (10%~150% Adjustable, 0.1~5 Seconds Adjustable), 5) Over Temperature											
Indicator		Input Voltmeter, Output Voltmeter, Output Ampere Meter (Option: Meter with Wide Angle Hanging Wire type or LED Digital Display Type), 3-Phase AS/VS Change Over Switch											
Coolant		Oil Immersed Cooling Type											
Audible Noise		$< 60\text{dBA}$ at 1Meter											
Working Temp.		$-20^{\circ}\text{C} \sim +45^{\circ}\text{C}$											
Relative Humidity		0-95% (Non-condensing)											
Altitude		$< 4,000$ above sea level											
Options		1) Input Over Current Protection (Fused TPN) 100 Amps ~ 1200 Amps 2) Multi-Function Power Monitoring Unit (Amps / Volts / KVA / KW/ KVAR / PF)											
Rise Temperature		$< 55^{\circ}\text{C}$											
Capacity (KVA)		100	150	200	300	500	750	1000	1250	1500	1750	2000	2100Kva Up or other specs., pls ask
Physical Dimension (WxDxH / mm)		900	1000	1050	1100	1200	1450	1530	1760	1760	1900	1810	
		900	1000	1050	1100	1200	1450	1530	1760	1760	1900	1810	
Net Weight (abt kgs)		800	950	1,100	1,400	1,800	2,250	3,000	3,400	3,800	4,500	4,850	

- All specifications are subject to change without notice.
- Custom-made specifications are welcome.
- Cubicle size and weight varies with input voltage range.

Technical Specification (3-Phase Input / 3-Phase Output)

Input Voltage Range: $\pm 25\%$

MODEL		HPI-W 33100	HPI-W 33200	HPI-W 33300	HPI-W 33400	HPI-W 33500	HPI-W 33800	HPI-W 331000	HPI-W 331250	HPI-W 331500	HPI-W 331750	HPI-W 332000	2100Kva Up or others, pls ask
CAPACITY	KVA	100	200	300	400	500	800	1000	1250	1500	1750	2000	
INPUT	Nominal Voltage	110V, 220V, 380V, 400V, 415V, 440V, 3.3KV, 4.16KV, 11KV, 22KV											
	Voltage Range	$\pm 25\%$ (Option: $\pm 15\%$, $\pm 20\%$, $\pm 30\%$, $\pm 35\%$ or others)											
	Frequency	47Hz ~ 63Hz											
	Power Factor	> 0.95											
OUTPUT	Nominal Voltage	Same as Input Nominal Voltage											
	Regulation	$\pm 1\% \sim \pm 2\%$ Adjustable											
	Response Time	$< 1.5\text{ms}$											
	Correction Time	A 10% supply variation will be corrected to within 2.5% in typically 0.6 to 1 second – dependent on the selected permissible input voltage range and system rating											
	T.H.D.	Less than 1% THD shall be added to the output waveform											
	Efficiency	$> 98\%$ at full load typical											
	Overload	110% - 1 hour; 120% - 30 minutes, 150% - 15 minutes; 200% - 2 minutes; 300% - 12 seconds; 500% - 6 seconds (linear load)											
Adjusting Methods		1) Auto-adjustment, Electro-adjustment, Manual-adjustment; 2) Voltage-UP Time Adjustment (0.1~5 Seconds Adjustable) 3) Voltage-DOWN Time Adjustment (0.1~5 Seconds Adjustable)											
Protection (Visual & Audio)		1) Loss Phase, Phase Reversed (By Voltage Stability Circuit Cut-off) 2) High Voltage 2 Steps Protection: (VR Adjustable): 1 st Step: Auto Cut-off Voltage UP Signal to Avoid Voltage Increase ; 2 nd Step: Abnormal Indicator 3) Low Voltage 2 Steps Protection: (VR Adjustable): 1 st Step: Auto Cut-off Voltage DOWN Signal to Avoid Voltage Decrease ; 2 nd Step: Abnormal Indicator 4) Overload Protection (10%~150% Adjustable, 0.1~5 Seconds Adjustable), 5) Over Temperature											
Indicator		Input Voltage Meter, Output Voltage Meter, Output Current Meter (Option: Meter with Wide Angle Hanging Wire type or LED Digital Display Type), 3-Phase AS/VS Change Over Switch											
Coolant		Oil Immersed Cooling											
Audible Noise		$< 60\text{dBA}$ at 1Meter											
Working Temp.		$-20^{\circ}\text{C} \sim +45^{\circ}\text{C}$											
Relative Humidity		0 ~ 95% (Non-condensing)											
Altitude		$< 4,000$ above sea level											
Options		1) Input Over Current Protection (Fused TPN) 100 Amps ~ 1200 Amps 2) Multi-Function Power Monitoring Unit (Amps / Volts / KVA / KW/ KVAR / PF)											
Rise Temperature		$< 55^{\circ}\text{C}$											
Capacity (KVA)		100	200	300	400	500	800	1000	1250	1500	1750	2000	2100Kva Up or other specs., pls ask
Physical Dimension (WxDxH / mm)		1050	1150	1280	1280	1450	1620	1700	1810	1900	1900	1900	
		1050	1150	1280	1280	1450	1620	1700	1810	1900	1900	1900	
Net Weight (abt kgs)		1,100	1,700	1,800	1,900	2,300	3,400	4,000	4,850	5,400	6,000	7,800	

- We provide two spare control boards with each IVR unit to insure that our customer's downtime will be reduced.
- All specifications are subject to change without notice.
- Custom-made specifications are welcome.
- Enclosure size and weight varies with input voltage range.