

DIGITAL AVR SERIES

1K ~ 10KVA

Automatic Voltage Regulator

USER MANUAL

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1. Important Safety Warning

This manual contains important safety, installation, and operating instructions. Please ensure compliancy with all warnings and operating instructions in this manual are strictly followed. Save this manual properly and carefully read the following instructions before installing the unit. Do not operate this unit before carefully reading through all safety information and operating instructions.

1.1. Transportation

Please transport the unit only in the original packaging to protect against shock and impact.

1.2. Preparation

- Condensation may occur if the regulator is moved directly from cold to warm environment. The regulator must be absolutely dry before being installed. Please allow at least two hours for the regulator to acclimate to the environment.
- Do not install the regulator near water, oil, grease, or in moist environments.
- Do not install the regulator where it would be exposed to direct sunlight or near a heat source.
- Do not block ventilation holes in the regulator's housing; this may cause the unit to overheat.

1.3. Installation

- Do not connect appliances or devices which would overload the regulator. Do not use the regulator beyond its maximum power capacity.
- Ensure the appliances connected to the regulator are of the same output voltage and frequency as the regulator.
- Ensure the electrical source voltage is within the listed input voltage range of the regulator.
- Place cables in such a way that no one can step on or trip over them.
- Connect the regulator only to a grounded shockproof outlet which must be easily accessible and close to the AVR system.
- Please use only VDE-tested, CE-marked mains cable (e.g. the mains cable of your computer) to connect the AVR system to the grounded building wiring outlet (shockproof outlet). Please use only VDE-tested, CE-marked power cables to connect the loads to the AVR system.
- This unit is intended for installation in a controlled environment (temperature controlled, indoor area free of conductive contaminants).

1.4. Operation

- **CAUTION:** When connecting to any appliance with built-in motor compressor, the starting power (in-rush current) is generally several times of the appliance's listed power rating. Ensure the total starting power capacity of all connected appliances do not exceed the listed maximum output power capacity of the regulator.
- In order to fully disconnect the regulator, press the power switch to the off position to disconnect the mains.
- Prevent fluids or other foreign objects from getting inside of the regulator.

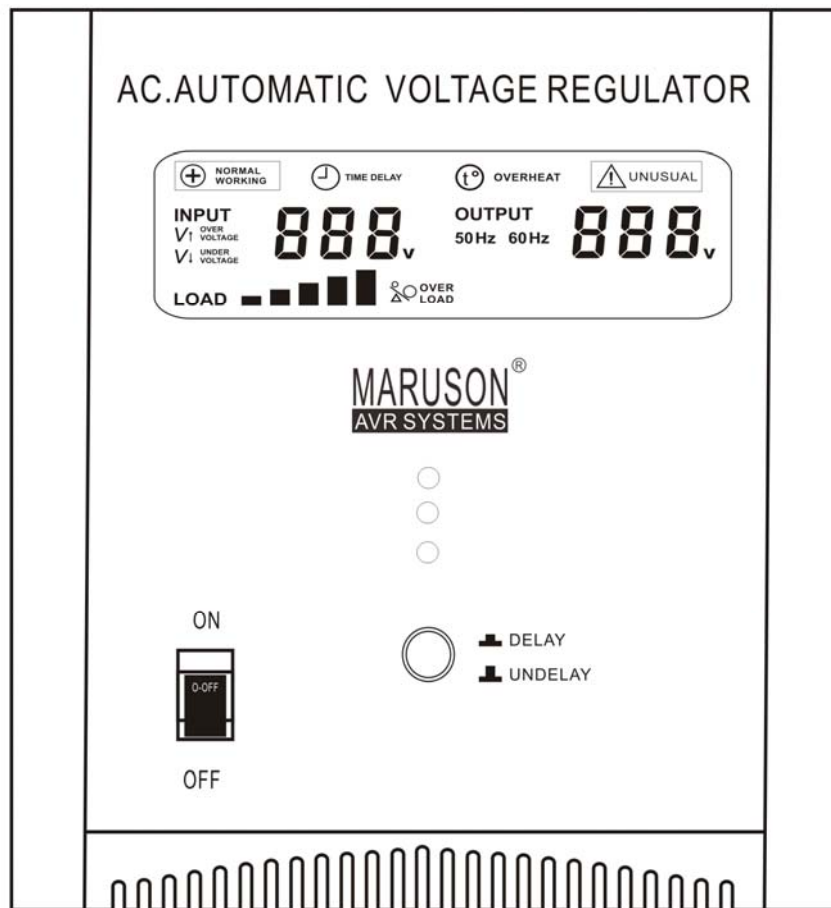
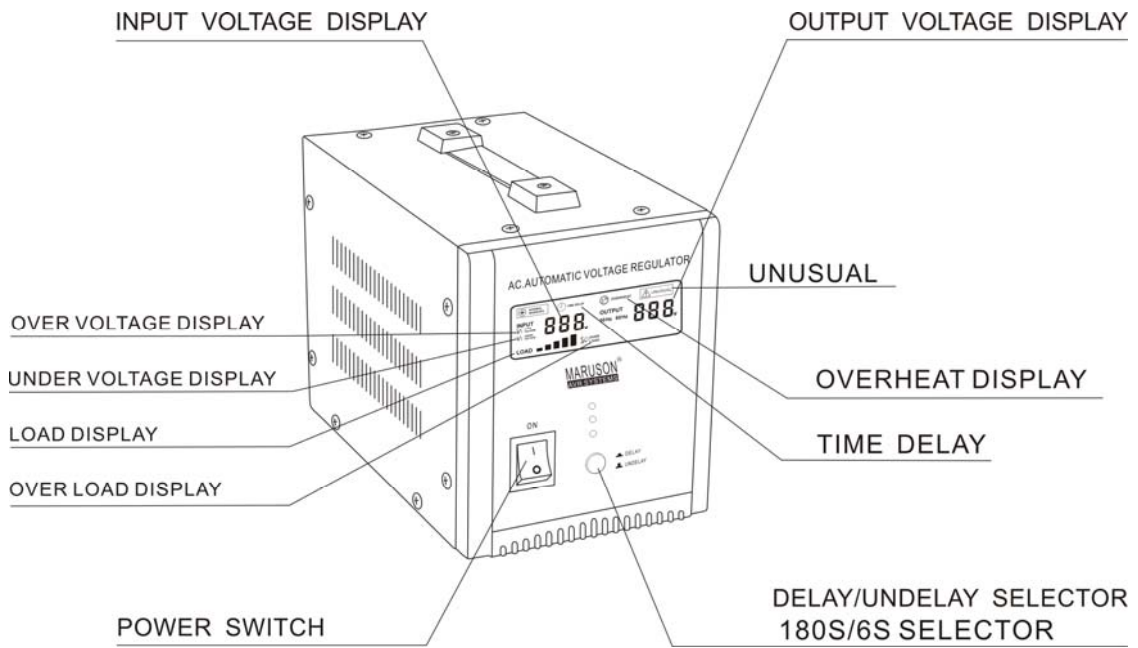
1.5. Maintenance, Service and Faults (Qualified Maintenance Personnel Only)

- The regulator operates with hazardous voltages. Repairs may be carried out only by qualified maintenance personnel.
- Please replace internal fuse only with the same type and amperage in order to avoid fire hazards.
- Do not dismantle the regulator.

2. Installation and Setup

NOTE: Before installation, please inspect the unit. Ensure that nothing inside the package is damaged. Please keep the original package in a safe place for future use.

2.1. Front Panel View



A. Input Voltage Display

Indicates the input voltage of the regulator.

B. Over Voltage Display

A flashing indicates over voltage protection is activated.

C. Under Voltage Display

A flashing indicates under voltage protection is activated.

D. Load Bar Display

Indicates the power load of the regulator.

E. Over Load Indicator

Indicates the regulator is over loaded. Please remove some of the connected applications.

F. Power Switch

Power on/off button of the regulator. Switch the button instantly to turn the unit on or off.

G. Output Voltage Display

Indicates the output voltage of the regulator.

H. Unusual Indicator

This indicator will be flashing if:

- The regulator is faulting due to over voltage or under voltage;
- Or, if the protective circuit is on, but the regulator has no output.

The regulator will automatically resume output when the output voltage returns to normal.

I. Overheat Indicator

A flashing indicates high temperature protection is activated.

J. Delay Time Countdown Indicator

In the event of a delay, this indicator will show the delay time count down.

K. Delay/Un-Delay Selector

If this regulator is used with an appliance with built-in motor compressor, please select "DELAY" to decrease the chances of damaging the motor compressor. If not, please select "UNDELAY".

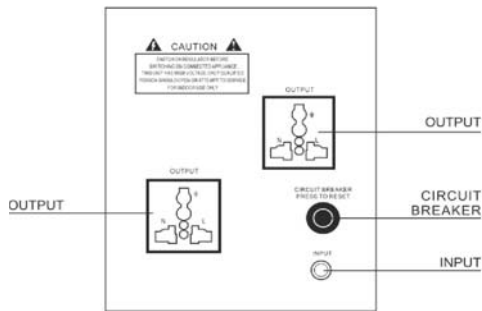
L. 180S/6S Selector

Choose either 180S or 6S for the amount of delay time required. It is suggested to select 6S for less sensitive equipment and 180S for more sensitive equipment.

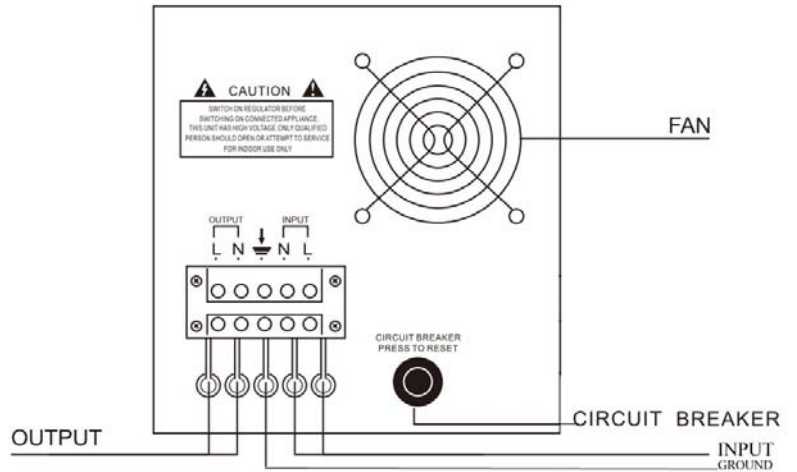
When the power goes out, the returning power typically is not as stable. Enabling time delay allows 6 seconds or 180 seconds to pass before allowing power to pass through the regulator to power the connected equipment, and attempts to bypass any temporary voltage swings that may damage equipment

2.2. Rear Panel View

1KVA - 2KVA Models:



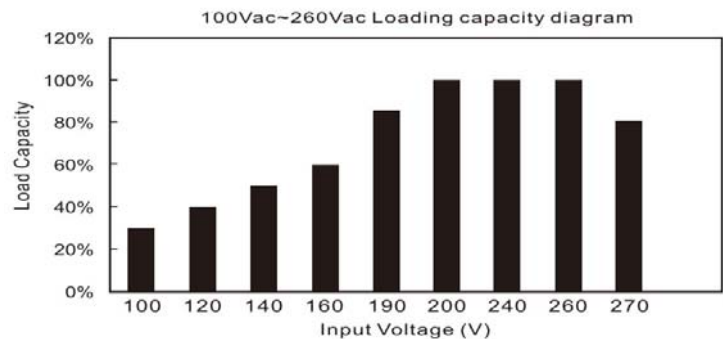
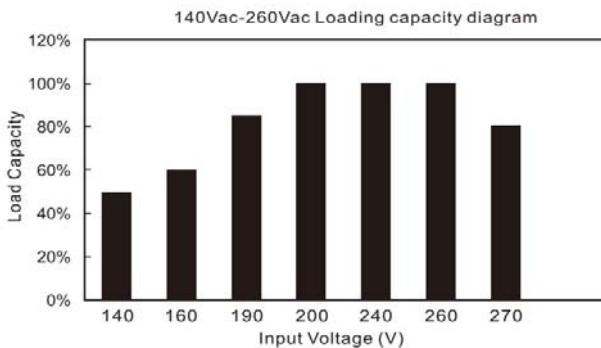
3KVA-10KVA Models:

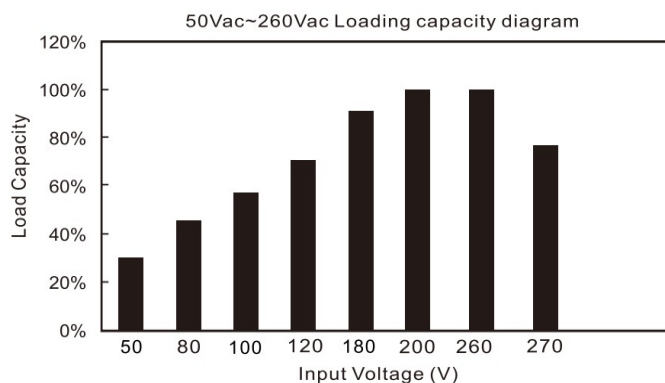
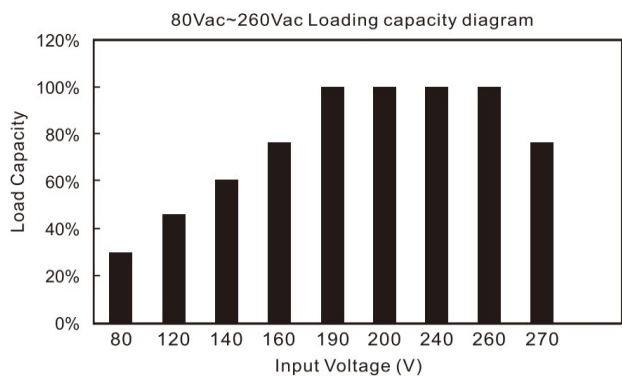


3. Output Chart

The regulator's maximum output power will change based on the chart below.

NOTE: Ensure the total load power does not exceed the listed maximum output power of the regulator.





4. Troubleshooting

Symptom	Possible Cause	Remedy
LED display does not turn on.	The regulator is powered on.	Switch the Power On to turn the unit on.
	AC input power cord is loose.	Ensure the input power cord is firmly connected to the mains.
	Unit overloaded and Circuit Breaker tripped.	Reduce the equipment load. Next reset the circuit breaker by pushing it back in before turning the regulator back on.
	PCB failure.	PCB needs to be replaced. Call for servicing information.
Over temperature display flashing.	Over temperature. The transformer temperature is too high.	Check equipment load, if high reduce load if not turn unit off to cool down.
No output, unusual display	Input voltage is too high or low which is beyond the normal input voltage range	Check the display to ensure whether the input voltage is in the range of products voltage specification; When back to normal operating voltage range, regulator will operate normally.
Circuit breaker trips due to low input voltage	Circuit breaker has a current rating. If input voltage is low, it can cause the current to increase to provide power to the connected equipment.	Wait for input power to return to normal range or reduce the equipment load on regulator, this will help reduce current draw on regulator

5. Specifications

MODEL	DIG-1KA	DIG-1.5KA	DIG-2KA	DIG-3KA	DIG-5KA	DIG-8KA	DIG-10KA
Capacity	1000 VA	1500 VA	2000 VA	3000 VA	5000VA	8000 VA	10000 VA
INPUT							
Voltage Range	78~142Vac or 140~260Vac					140~260Vac	
Frequency	50Hz/60Hz						

OUTPUT							
Voltage	110/115/120Vac or 220/230/240Vac					220/230/240Vac	
Precision	±9% (@120Vac) or ±8% (@220Vac)						
Delay Time	180S/6S (selectable)						
PROTECTION							
High Voltage Protection	Yes						
Low Voltage Protection	Yes						
Overload Protection	Yes						
High Temperature Protection	Yes						
Circuit Protection	Yes, Resettable Circuit Breaker						
Cooling Fan	N/A			Yes, Smart Cooling			
PHYSICAL							
Net Weight (@120Vac)	3.5 kg	4.0 kg	4.5 kg	8.0 kg	9.0 kg	N/A	
Net Weight (@220Vac)	3.0 kg	3.4 kg	3.7 kg	6.8 kg	7.8 kg	10.6 kg	12.3 kg
Dimensions (D*W*H)	240 x 146 x 180 mm			355 x 220 x 250 mm			
OPERATING ENVIRONMENT							
Humidity	0~95% Relative Humidity @ 0~40°C (Non-Condensing)						
Storage Temperature	-15~45°C						
Noise Level	Less than 40dB @ 1 Meter						

*Optional wide input models available: 65-142Vac (@120V) or 100-260Vac (@230Vac) for 1KVA-5KVA models, and 100-260Vac (@230Vac) for 8KVA-10KVA models.

**If any abnormal situations occur that are not listed above, please call for service immediately. When calling for service, please have the following information read: 1) Model number and serial number; 2) Date the problem occurred and date of purchase; 3) Full description of the problem; including load, LED, and alarm statuses, installation conditions, working environments, etc.

6. Product Warranty and Service Information

For U.S. customers, please register your product at www.MarusonUSA.com. For international customers, please contact your local authorized distributor or e-mail CustSrv@MarusonUSA.com for assistance.