AVR(Automatic Voltage Regulator)

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1- SAFETY WARNINGS

For the user's own safety, the safety of data and this product read the following safety instructions carefully before using the unit!

- This system has been designed to provide all the necessary safety conditions needed to protect electronic office equipment including information systems. In case of any questions, refer to your authorized technical service representative.

- In order to avoid any damage to the equipment, it is advised to transport it in its own packing.

- In the event of sudden temperature changes such as from cold to the normal working temperature, mist can form inside the AVR. It is absolutely essential that the AVR be dry before switching it on. Due to this reason wait for at least 2 hours before operating it.

- Once dry, make sure you observe all the conditions in the environment section of the technical specifications table, before introducing it into the circuit.

- When installing the AVR it is necessary to use a connection cable of suitable diameter. The point to be noted here is that the neutral and the earthing connections should be done in the proper way.

- Place all the cables in a proper place so that they are not stepped on or get caught into peoples feet. Before connecting the AVR to the circuit make sure you carefully read all the instructions and warnings in the "Montage and Operating " section of this manual.

- Don't drop any foreign materials (like clips, nails etc...) into the equipment .

- In emergencies (damage to the cabin, front panel, or mains connections, splashing of liquid dropping of any foreign materials into the equipment) switch-off the AVR, pull out the plug and inform the authorized service center.

- The AVR can only be repaired by the authorized technical service personnel. Any attempt to open and to repair by the user on his own could prove to be dangerous.

- Do not connect any consumer loads to the AVR, which exceed its power range.

- Read the instructions carefully in the "Maintenance & Cleaning" section when cleaning the AVR.

- Leave at least a distance of 30 cm between the AVR and the walls in order to maintain adequate air-flow .

2- Description of the symbols used in this manual

The following symbols have been used in this manual.

This symbol gives information regarding points important for user's own health and safety, AVR operation and the safety of your data.

This symbol gives information, warnings, and other suggestions.

This symbol shows the operations that need to be executed.

3- Introduction

INFORM AVR is designed for unstable mains and safety of load.
Mains input and output are written on clemenses. When installing the AVR it is necessary to use a connection cable of suitable diameter to use the AVR more effective.
AVR will be shut down automatically when the input voltage goes to out of limits or one of the phase's cuts off or short circuit in the output. After the temporary conditions AVR will start again
If it is requested and allowed to short term fault, AVR will continue to operate by increasing the delay time. Over the mentioned delay time, AVR will STOP automatically.
The 3 analog displays, on the front panel of AVR are used to see the applied voltage and mains input to the unit Input voltage can be checked by the RED signal lights.
The shut down of the AVR and the transfer of the mains to the output is done by 1-0-2 REG. switches.

1: Input bypass to output position
0: No voltage applied position.
2: Regulator position.

3.1 Preliminary warnings to use the AVR

Automatic Voltage Regulators (AVR) are used to protect the sensitive loads from the unstable mains and to provide proper operating of the load.

Related points for human health are mentioned in **"Safety Warnings"** part of this manual.
In this part, these points will repeated to give information about the connections of AVR and the load.

- When installing the AVR to use cable with improper diameter can be dangerous for user health and safety of the unit.

- Earth cable should be chosen concerning the current capacity, which is written on the label on the front panel of the AVR. All units earth connections, which are connected to AVR, should be done with this earth cable. Without earth, connection or unproved earth connected units are dangerous for user health and have high risk of electronic circuit board faults.

4- MONTAGE & OPERATING

- Check if the AVR has been subjected to any damage before unpacking it.

i If you notice any damage then contact to transport firm.
Check if all the spare parts have been supplied with the AVR.

Delivered pack includes:
- Automatic Voltage Regulator
- User Manual

By the help of rolling wheels, carry the unit to a suitable location to install it.

Plug the input power cable of AVR to properly earthed mains.

- Check the connections before changing the position of the input, output, and bypass switches to suitable positions.

- If there is any circuit breaker or fuse on the mains line of Automatic Voltage Regulator, switch it to ON position. Switch the input fuse to ON position on the AVR. Switch the mechanic by-pass
  Switch to REGULATOR (2) position.

- Automatic Voltage Regulator is operating now. During the start, RED signal lamp is lighting and voltmeter is working. When the output voltage is displayed normally, AVR will start automatically.
  During this time there will be voltage on output clemens and plug.

- Connect the load to the circuit.

- When the main is out of tolerance AVR will STOP automatically. When the mains return to normal limits regulator will START automatically.

- Regulator will be out of circuit during the MAINS (1) position of mechanic bypass switch. During this time there will be voltage on output clemens and plug.

In three phase regulators, automatic phase protection is available. If one of the input phases is OFF or unstable, other 2 phases will be cut off automatically.

5- MAINTENANCE & CLEANING

For user no need to the maintenance to AVR. Only on periodical, clean the dust on the fan with a vacuum.

Do the cleaning during the input fuses OFF and BYPASS switch is in " **0** " position for human health.

Do not use detergents or any cleaning material that may damage the plastic surfaces.

Do not let any liquid get into the AVR.

Ensure that the air holes are open.

The AVR body can be wiped with a clean and dry cloth.

6- TROUBLESHOOTING

If any errors of faults are observed on the AVR, make sure you check the following points before informing the authorized technical service:

- Does the distribution panel have mains connection?
- Have the Input / Automatic fuses blown off?

Informing the authorized service about the AVR:

- Information found on the product label (model, no)
- Describe the problem in detail.

7- STORAGE

The unit has to be stored in a dry place between –30°C and 70°C.

8- TECHNICAL SPECIFICATIONS

ENVIRONMENT CONDITIONS:

Protection Type is IP 20

Temperature: Operating - 5 °C.....+ 55°C
Storage - 30°C.....+ 70°C

Relative Humidity: Operating 20% 90%
Storage 20%..... 95%

Do not operate when mist is formed !
Leave enough space for ventilation around the AVR:
Front : 30 cm
Back : 30 cm

Response Speed
80 V / sec.

Electrical Specifications

Output Voltage regulation :± 1
Power Factor :1
Crest Factor :3
Total Harmonic Distortion (THD): without distortion.
Output frequency :same with the input

Noise Level

Relative noise level depending on the installation site:
For all models ≤ 45 dB (A)