

DIGIT@L VOLTAGE STABILIZER

Outdoor Unit IP54 (NEMA 3R+)

200-6000kVA



DIGIT@L Voltage Stabilizer
630kVA 400V +15% -45%
In IP54 Enclosure

The three-phase **DIGIT@L** line of voltage stabilizers is based on columnar voltage regulators and covers the range from 200kVA to 6000kVA. All models have a robust construction suitable for industrial applications and allow for a choice of several input voltage variation percentages within a broad range (from +30% up to -45%).

They are made available as a standard option in outdoor IP54 enclosures. A 630kVA unit is shown above, other sizes and Medium Voltage units are available on request.

The **DIGIT@L** voltage stabilizers are supplied with independent regulation on each phase so a **neutral connection is essential**. The **DIGIT@L** type can be used when the main supply is unbalanced and it is suitable for supplying three-phase loads, two-phase loads and single-phase loads.

The stabilizers are air cooled, with natural convection up to 45°C and aided by fans when temperature rises above 45°C.



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Control System

The measuring instrumentation for the DIGIT@L stabilizers is incorporated in a control panel on the cabinet door and consists of **two multi-task digital network analyzers**.

These instruments are able to provide information regarding the status of the lines upstream and downstream of the voltage stabilizer such as phase and linked voltages, current, power factor, active power, apparent power, reactive power, etc. The front panel is provided with an LED user-friendly interface which allows for complete monitoring of the unit (by indicating the status of the three regulators and the possible alarms). LED lights are provided for each phase signaling 'power on', reaching of voltage regulation limits and direction of voltage regulation (increase/decrease).

Alarms for minimum and maximum voltages, maximum current, over-temperature, cabinet overheating and maintenance required are also indicated.

The alarm indicators are accompanied by an acoustic alarm.

The logic control, performed on true RMS voltage, is based on a 2-way DSP microprocessor. This not only allows for monitoring but also allows all parameters of the stabilizer to be set up via a PC.

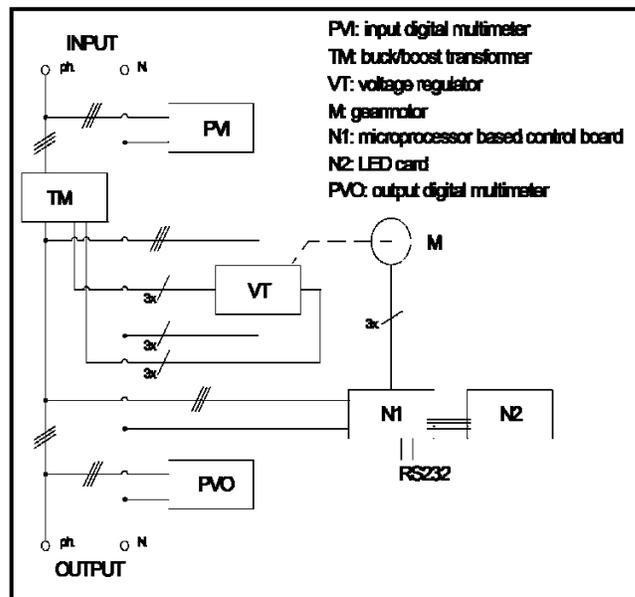


Working Principle

The control circuit compares the output voltage value to the preset desired value.

When the percentage variation is too high, the control drives the voltage regulator gear motor. By doing so the regulator rollers change their position thus varying the voltage drawn and supplied to the buck/boost transformer primary winding.

The secondary voltage of the buck/boost transformer will be in phase or in opposition to the supply, so the voltage drawn from the regulator is added or subtracted to the mains voltage, thus compensating for its variations



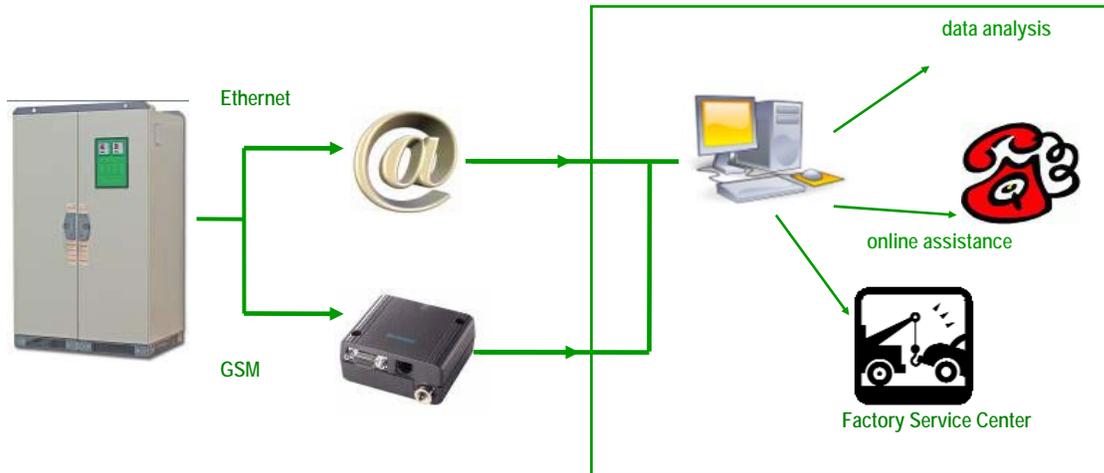
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Remote Monitoring Capability



The modern control system is able to interface with the internet network, thanks to its ability to connect with **ETHERNET and GPRS protocols**. This allows factory personnel to monitor the equipment remotely, in order to guarantee a prompt assistance in every part of the world and to aid in diagnostic problem solving.

The control system also contains **two USB ports** for downloading data to a memory key or for uploading parameters if it is necessary to modify the system at any time. It is also possible to upload the control firmware either via the USB port or via the Ethernet connection.

Overload Protection

The **DIGIT@L** voltage stabilizer is provided with a voltage regulator protection circuit controlled by a "Bypass Electronic Card" which will activate only when there is an overload on the voltage stabilizer.

If such a condition occurs the load is not interrupted but the output voltage will no longer be regulated and will become equal to the input voltage. Although service continuity is maintained there is no voltage regulation.

Once the overload condition ceases to exist, the stabilizer will switch back to its normal functioning mode automatically.

All **DIGIT@L** voltage stabilizers are provided with SPD surge arrestors Class I and Class II.



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DIGIT@L Voltage Stabilizers Outdoor IP54

Voltage Input *	220-480V–600V(3ph +N)
Voltage Output*	400V ± 0.5%; 480V ±0.5%, 600V±0.5% & others
Frequency	50Hz ± 10%; 60Hz ± 10%
Efficiency—(worst case)	>97%
Correction Speed	12ms/V
Admitted Load Variation	0-100%
Admitted Phase Unbalance	0-100%
Operating Temperature	-25°C / +45°C
Storage Temperature	-25°C / +60°C
Cooling	Natural Aided Air
Relative Humidity	95%
Assembly	IP54 Cabinet Outdoor RAL 7035
Fittings	Manual Bypass Over/Under-voltage Protection Motorized Output Circuit Breaker SPD Class I and II
Standards Compliance	ISO9001, ISO14001, OHSAS18001

* Medium Voltage Versions available as special order.



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