



EDIT
ELECTRONIC

Innovative Power Solutions &
Voltage Stabilizers

VSC Catalog

ENG

VSC

Dynamic Voltage Restorer



Key Features

- Dynamic Voltage Restorer (DVR)
- High Speed Voltage Correction with IGBT Technology
- Power range up to 1600 Kva
- Low Voltage Correction up to 70%
- Elimination of Voltage and Phase Interruption (Some Models)
- Response Time <3 milliseconds
- Correction Time <10 milliseconds
- Independent voltage regulation for each phase
- 100% Unbalanced Voltage and Load Capacity
- Full correction of instant voltage drops and fluctuations
- AC to AC direct voltage boosting technology
- Continuous voltage regulation feature
- Efficiency > 97%
- Built-in Automatic By-Pass
- Operator Panel with 7" Touchscreen
- Electronic Overload, Over-temperature protection
- Low Voltage / High Voltage protection
- Suitable design for industrial environment
- TS EN ISO 9001: 2015 Quality Certified

Optional Features

- Maintenance By-Pass Switch
- Ethernet Web Server / Mod-Bus RTU interface
- Surge Arrester



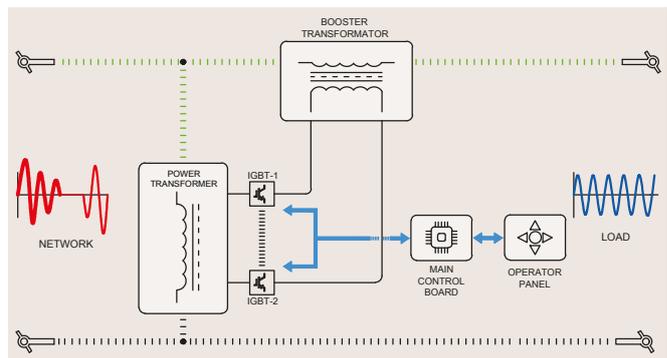
What is VSC Dynamic Voltage Restorer (DVR)?

VSC-DVR is an innovative voltage stabilizing system designed to mitigate and eliminate the effects of electrical disturbances such as severe voltage drops and spikes in critical industrial processes.

The VSC-DVR is designed to correct voltage drops and spikes in the network at the highest speed and to keep it stable.

It provides high efficiency and safe operation of industrial machinery and equipment with its continuous voltage regulation feature.

How does it work?



VSC-DVR work on the principle of injecting voltage to the load supply voltage by the help of transformer connected in series between the network and load.

Voltage drops and fluctuations are measured with high-speed sensitive measuring circuits.

DSP-based management board calculates the voltage value to be increased or decreased and very high-speed voltage injection is performed with IGBT switches.

Response Time

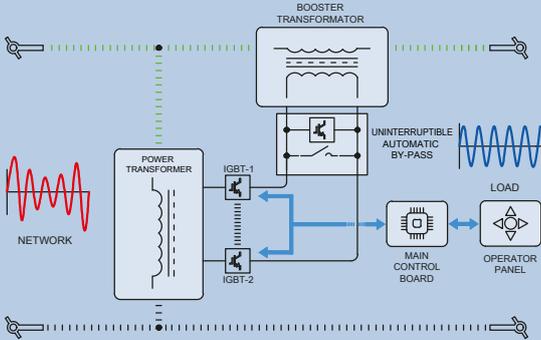
<3 milliseconds

Voltage Correction

<10 milliseconds

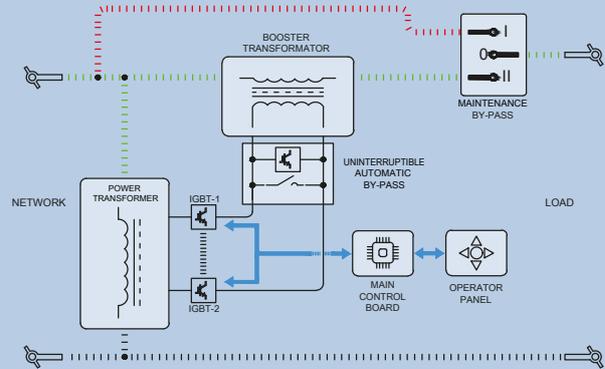
2 Models / 2 Solutions;

① Standard VSC-DVR



Voltage correction are done directly from AC to AC using IGBT switches. It can compensate for voltage drops up to 60%.

② VSC-DVR-SC with Super Capacitor



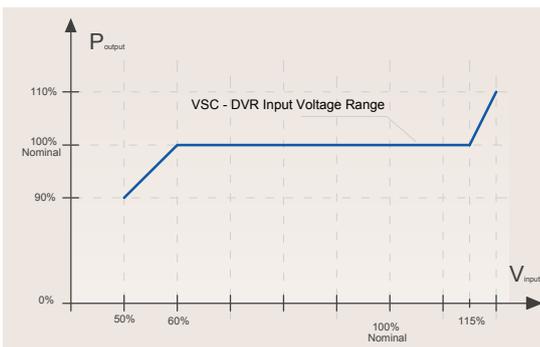
The voltage injection process is done using double conversion PWM technology. Super capacitor banks or battery groups are used for energy storage.

It can support short-term voltage interruptions. The maximum support time is 30 seconds. It is produced only in certain models.

Wide Input Voltage Range

The VSC-DVR quickly detects voltage drops or spikes. It responds in a few milliseconds and provides up to 70% voltage correction.

The operating range and features of the S model VSC-DVR are as follows.

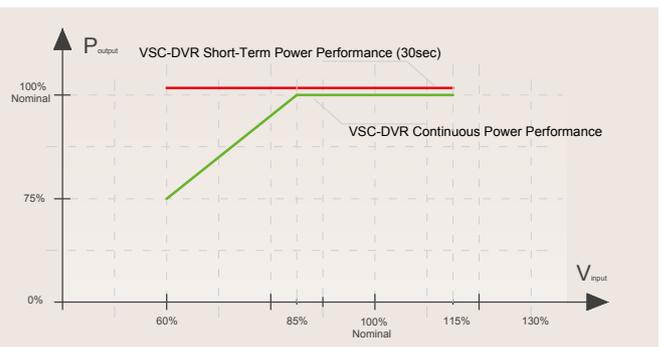


Voltage correction performance is valid for each phase independently. Higher percentage of correction and wide input voltage range are possible.

VSC-DVR with Supercapacitor should be preferred for elimination in phase or voltage interruption.

Low Voltage Performance Curve

VSC-DVR has continuous voltage regulation feature. When the network voltages change in the range of +/-15%, it keeps the output voltage constant and goes on to operate at full load continuously,



When Network Voltages drop by -40%, the VSC-DVR can run at full load for 30 seconds.

For continuous operation at voltage drops above 15%, the output load must be reduced. The low voltage operating performance of the VSC-DVR is shown in the diagram.

VSC-DVR has the option of continuous operation at full load at minimum network voltage.

Please contact with the sales representative for special production requests and the right solutions.



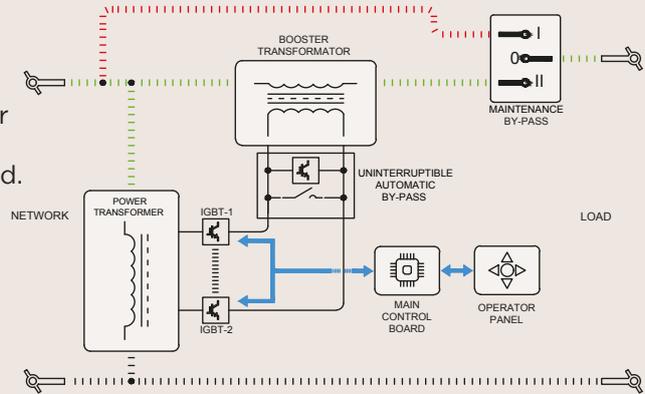
Internal Automatic By-pass (optional)

The VSC-DVR includes an internal bypass system that ensures uninterrupted transfer of loads to the network in case of overload or internal failure.

In case of overload or fault, the internal bypass unit short circuits secondary side of booster transformer and provides a direct connection from the network supply to the output without interruption of the load.

Maintenance By-Pass Switch (optional)

A Maintenance By-Pass switch can be added to VSC-DVRs, which ensures that the loads are transferred to the network in case of maintenance or failure. Maintenance By-Pass switch is an I-O-II position changeover switch and is manually controlled. During the Maintenance By-Pass operation, the power to the loads is cut for a short time.



Advantages

- ✓ It regulates voltage at very high speed.
- ✓ Sensitive industrial machines are never affected by voltage fluctuations.
- ✓ Voltage correction speed is <10msec
- ✓ It can be produced in certain powers up to 1600 Kva.
- ✓ It can be customized according to customer demands.
- ✓ In models with super capacitors, it continues to feed the loads during full power cuts.

Remote Monitoring and Management



Ethernet Web Server (optional)

It is designed for remote monitoring via network. It can be monitored and managed with an Ethernet cable. The remote management interface is designed as browser-based. No additional software is required.

With remote management interface; all parameters of VSC-DVR can be monitored and some parameters can be changed.

There is two-step password protection for accessing the remote monitoring interface.



MOD-BUS RTU (optional)

It is designed for monitoring and management via Mod-Bus. The whole system can be monitored and managed by connecting with a cable. All parameters of VSC-DVR can be monitored and some parameters can be changed with Mod-Bus protocol.



VSC-DVR has an ergonomic and user-friendly Operator Panel designed for management and monitoring.

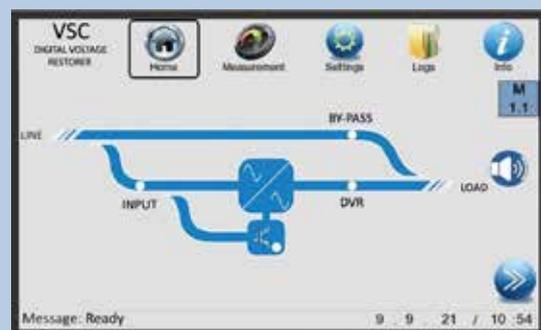
All operating parameters of VSC-DVR can be monitored from this panel and some operating parameters can be adjusted. There are 2-level password protection for parameter changing.

Monitorable parameters: Input Voltages, Output Voltages, Load Percentages, Operating Frequency, Date-Time, Device status information, Fault and error codes.

Changeable Parameters: Output Voltage Set value (limited), Date-Time information.

1. Touchscreen Operator Panel

- 7" inch Color Display
- Resistive Feature,
- Backlight
- Three Language Options (On Order)
- Simple and Understandable Menu



Technical specifications

VSC Dynamic Voltage Restorer		
General Features		
Model	VSC-DVR	VSC-DVR-SC
Power (kVA)	Power range between 100Kva - 1600Kva	
Technology	IGBT Switch Technology	IGBT Double Conversion Technology
Input		
Rated Input Voltage	400VAC 3Phase+Neutral+Ground (Different voltages are optional)	
Voltage Tolerance	-%40 , +%15	-%70 , +%15
Frequency	50 Hz. +/-%5 (60 Hz. Optional)	
Output		
Rated Output Voltage	400VAC 3Phase+Neutral+Ground (Different voltages are optional)	
Voltage Tolerance	+/-%2	
Frequency	50 Hz. +/-%5	
Overload Capacity	125% 1 minute, 150% 10 seconds, 151% and above 0.2 seconds	
Response Time	< 3 msec	
Correction Time	< 10 msec	
Efficiency	> 97% typical	
SAG Performance		
Continuous Regulation Range	-%15 , +%15	
SAG Correction Range	-%40 , +%15	-%70 , +%15
Voltage Interruption Support Time	-	Maximum 30 seconds (some models)
Energy Storage Type	-	Super Capacitor Bank - Battery Pack
Management Monitoring and Communication Interfaces		
Touchscreen Operator Panel	7" Touch Screen, Input Voltage, Output Voltage, Load Percentage, Frequency, Status Information, Fault Information, Parameter settings.	
Remote Management Interface (optional)	Browser-based remote management with Ethernet connection MOD-BUS RTU with RS485 connection	
Protection Functions		
Voltage Protection	Electronic protection for Low Voltage and High Voltage	
Current Protection	Input Circuit Breaker (Output Circuit Breaker optional)	
Overload Protection	1 minute at 125% overload, 10 seconds at 150% overload, at >151% overload the power to the load is cut off after 0.2 seconds.	
Over Temperature Protection	Fan cooling works at 50°C. At 80°C, the power to the load is cut off.	
Surge Arrester	Class-I or Class-II (optional)	
Environmental Conditions		
Operating temperature	-10 °C ~ +40 °C	
Altitude Operating Height	1.500m	
Humidity	90% none condensed	
Acoustic Noise	< 65dB (at 1m distance and doors closed)	
Cabinet Specifications		
Type-Protection Class	Free Standing Modular Cabinet, IP21 Indoor type	
Paint-Color	Epoxy-Polyester Powder Paint - RAL 7032	
Cooling	Air cooling with thermostat controlled fan.	

ORDER CODE

VSC-DVR-3P400-S 400-5C-xx-xx

Model	Options
Rated Power	IGBT Configuration
Input Voltage Range	Rated Voltage



<https://www.editelektronik.com.tr>

You may visit our Website for more detailed information and solutions.

