AARTECH
SOLONICS LTD

AN IGBT BASED REAL-TIME, STEP LESS
DYNAMIC REACTIVE POWER COMPENSATION SOLUTION
For System Ratings 480V -35kV, 50/60 Hz in ±1.25MVAR Modules

PureWave® DSTATCOM
Distributed Static Compensator

- EXPERIENCE & EXPERTISE: Large Number of High End Power Quality Solutions Worldwide
- SYSTEM STUDIES: Steady State and Dynamic Studies for Optimum Sizing
- ULTRA FAST RESPONSE : 3-6 ms Faster Voltage / VAR / Power Factor Control to enhance Voltage Stability
- MODULAR: +/- 1.25 MVAR Inverter Modules
- REDUNDANT: Each Module with Independent Controls and Circuit Breakers.
- SHORT TERM HANDLING CAPABILITY: Each Module rated to produce +/- 3.3 MVAR / 3 Seconds. Comfortably Meets Low Voltage Ride Through / Fault Ride Through Requirements.
- ENCLOSURE: Option for Container (upto +/- 10MVAR per ISO Container) / Substation Assembly
- FULLY FACTORY TESTED : Quick Installation and Commissioning

New

Wind | Power Transmission | Power Distribution | Metals | Railways | Ensure Compliance to Emerging Electricity Grid Code Requirements.....

For any queries, please write to dstatcom@aartechsolonics.com
or contact us at our Registered Office

S&C ELECTRIC COMPANY
20+ Years of Power Quality Solutions

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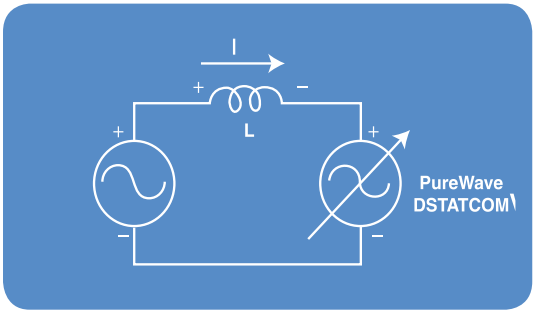
The Need for Voltage Support

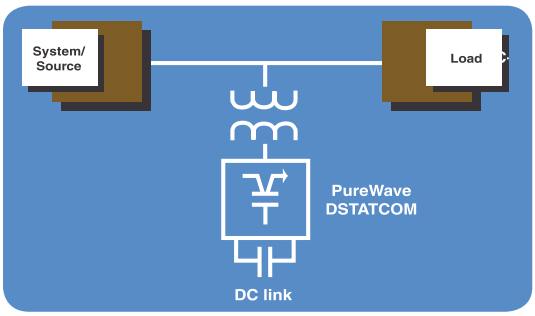
Reactive power is essential to maintain and control voltage in ac electrical systems. The ability to meet the demand for rapid changes in reactive power prevents instability, voltage sags, even voltage collapse . . . and the resultant outages to generation facilities, transmission and distribution equipment, and connected loads of industrial, commercial, and residential power users.

In the past two decades, load has been dropped in a number of instances because of delayed voltage recovery following a major transmission system disturbance. Conventional means for preventing such occurrencesshunt capacitors, reactors, and synchronous condensersoperate much too slowly. Newer technology, such as the S&C PureWave DSTATCOM® Distributed Static Compensator, offers a better solution to voltage stability problems.

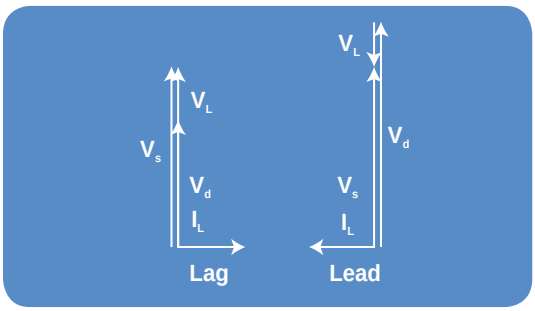


How It Works

The equivalent circuit of a power system with a PureWave DSTATCOM® is shown to the right. PureWave DSTATCOM® generates a variable voltage, V_d, that is very nearly in phase with the source voltage, V_s. The inductance in this simplified circuit, L, consists of the inductance of the coupling transformer and filter. The voltage across the inductance, V_L, equals V_s-V_d and is small in per-unit terms . . . on the order of 5-20%.

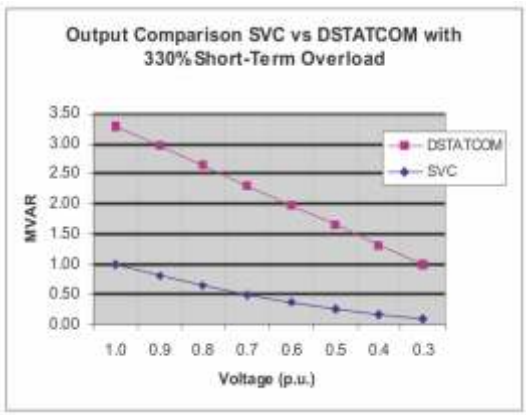


If $V_s > V_d$, V_L is in phase with V_s and current I_L lags V_s by 90°; PureWave DSTATCOM® acting as a generator, produces leading (inductive) reactive current. If $V_s < V_d$, V_L is antiphase with V_s and current I_L leads V_s by 90°; PureWave DSTATCOM® produces lagging (capacitive) reactive current.



Benefits

- Improved Voltage Stability : Counters fast voltage collapsing events.
- Increased Capacity : Defer new capacity additions.
- Higher Reliability : Distributed compensation closer to the loads.
- Substantial Short-Term Rating Capability : Upto 264% for 2 secs.
- Versatile Operation : Voltage Control/Reactive power output control.
- Remote Monitoring and Control Adjustments : Via DNP 3.0 Interface.
- External Capacitor or Inductor Bank Control : Smooth continuous output across entire VAR range.



Specifications

System Voltage Continuous Output	480V to 35 kV, 50 or 60 Hz*
Short Term Current Rating	264% for 2 seconds, ramping to 100% at 4 seconds;or 264% for 3 seconds, stepping directly to 100%
Reactive Current Response Time	2 to 4 milliseconds
Inverter	IGBT, pulse -width modulated at 4860 Hz
Temperature Range	-40° to +50° C
Efficiency	>98% typical
Cooling	Ambient Air Cooling

* Single Transformation

Aartech Turnkey System Integrator

Aartech provides turnkey system integration in close coordination with M/s S&C Electric USA for ensuring end-to-end solutions to the customer specific application requirements.