



## **ACE STATCOM – Static Compensator**

### **Introduction:**

The STATCOM is an electronically generated three-phase voltage source that is connected to the AC system. When operating as a pure STATCOM the generated voltage is exactly in phase with the AC system voltage. If the generated voltage is greater than the terminal voltage then the device will supply VARs (i.e. is capacitive) to the system. If the internal voltage is less than the terminal voltage, the device will absorb VARs (i.e. is inductive) from the system. The control system of the STATCOM is extremely fast and therefore can rapidly change the magnitude (and phase) of the electronically generated voltage.

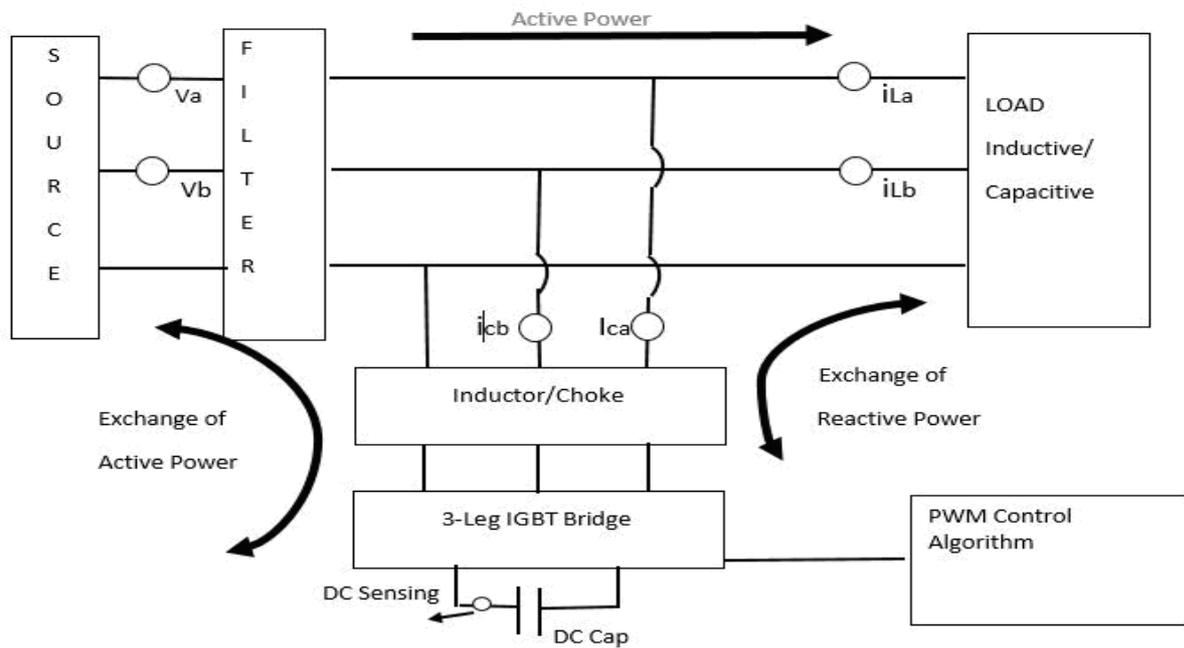
The magnitude of AC voltage generated by the STATCOM is directly proportional to the DC bus voltage. Therefore, the generated voltage, which controls the STATCOM VARs is controlled by changing the DC bus voltage. Changes in DC bus voltage are accomplished by supply or absorbing real power to or from the DC bus to charge or discharge the DC capacitor.



### **Benefits:**

- Rapid response to system disturbances.
- Provides smooth voltage control over a wide range of operating conditions.
- Dynamic voltage control in transmission and distribution systems.
- Power oscillation damping in power transmission systems.
- Transient stability improvement.
- Ability to control not only reactive power but, if needed, also active power (with a DC energy source available).
- A small footprint, due to the replacing of passive banks by compact electronic converters.
- Modular, factory built equipment, reducing site works and commissioning time.
- Helps meet IEEE-519 Requirements.
- Use of encapsulated electronic converters, which minimizes environmental impact on the equipment.
- Reduces energy costs.
- Improve Power Factor
- Enclosures: Close Panel.

## Basic Configuration Of STATCOM:



## Performance Specification:

Input Voltage	380-400-415 AC/3~, ±10%, 3 wire
Frequency	50Hz ± 3Hz
Power factor	>0.98.
Efficiency	> 97% at rated power
Overload capability for 415 V modules	10 min 120 %, 30 sec 150%, 2 sec 175%, 2 sec 200%, (75 % preload for 200%)
Cabinet rating	IP20 (higher IP ratings on request).
Ambient temperature	0-45°C, de-rating for temps > 40°C
Altitude	<1000m without de-rating
Humidity	<95% non-condensing
Noise	75-85 dBA
Cooling	Forced air ventilation
Short Circuit withstand rating	36kA
Enclosure color	Siemens Gray for cabinets