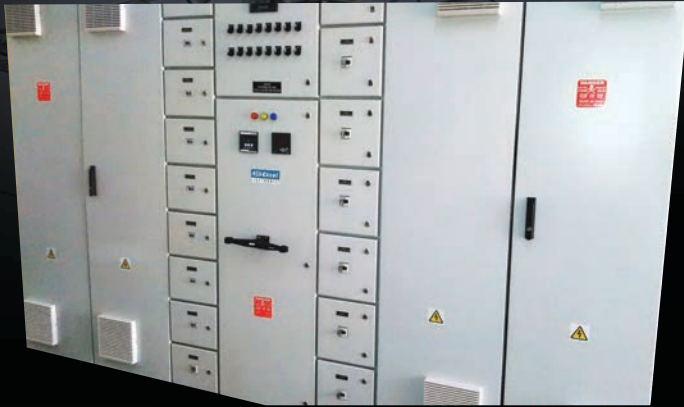


High Speed Real Time Automatic Power Factor Correction System



State-of-the art electronic switching system designed for replacement of electro-mechanically switched equipment in power factor correction systems.

Thyristor switched capacitor banks with high speed switching capability are designed to support the supply voltage of distribution systems and to correct the power factor of connected loads.

Thyristor switched capacitors are capable of power factor improvement for highly variable load, such as lifts crane drives, crushers, welding machines, rolling mills etc., where power factor correction is requires a frequent and fast switching of capacitor banks.

Smooth and transient free

Connection and disconnection of the capacitor to and from the network occurs at zero current crossing threshold. This smooth connection avoids the transient effect like waveform distortions, generation of switching spikes etc., Typically created by electro-mechanically switched Power Factor correction (PFC) systems, the total correction time is only 3 to 4 cycles which is much faster than electro-mechanically switched PFC system.

Major Benefits

- Increase installed capacity of your transformer, D.G. sets, Cables, Switchgears etc.
- Save electricity charges by :
 - a) Reducing energy consumption.
 - b) Reducing contract demand cost.
 - c) Avoids penalty due to power factor & maintains power factor close to 1.0 on real time basis.
- Improves quality of power, by avoiding surges, sag or low voltage with heavy machinery like compressors, air conditioning plant, cranes etc. (Save the cost of star - delta starters or soft starters) Eliminates harmonics (optional features). Absorb switching transients coming from the source or upstream.
- Due to fast correction of P.F., large H.P. motors can be started on generators already near full capacity.

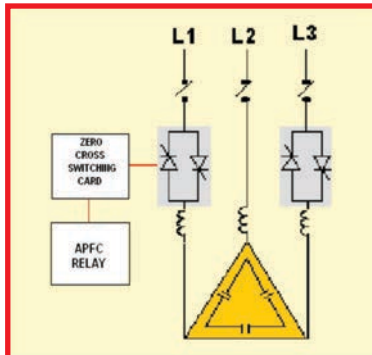
Maintenance Free : The system is maintenance free because it does not use contactor for switching the capacitors.

Capacitor Life : Capacitor life is enhanced to minimum three times of normal life due to smooth connection and disconnection.

Resonance Free : The detuned reactors prevent resonance by shifting the capacitor / networking resonance frequency.

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High Speed power factor correcting systems are designed to compensate the reactive power of any load or equipment requiring P.F. correction within a very short time.

There is no contactor switching causing high voltage transient, Harmonics and other disturbances. Prevents voltage flickering. Reduces failures in highly sophisticated electronic equipments like PLCs, computer and other control systems.

BENEFITS OF REAL TIME HIGH SPEED PFC AGAINST CONVENTIONAL PFC

- Power Factor will be maintained almost near to unity so guaranteed P.F. bonus of 4 % to 5 % every month.
- Reduction in KVA demand by 15% to 20%. Results in saving in demand charges.
- Substantial saving in the electricity bill for HTP-1 & HTP-2 consumers in MOST of the states in India.
- Enhance the capacity of distribution transformer, switchgear and HT cable.
- Eliminate high voltage condition during no load. [i.e. vacation, recess, shift change, strikes, off load etc.]
- Saving in manpower for switching on & off the capacitors.
- Eliminate fixed losses of the capacitor during no load & less load condition.
- The system is maintenance free because it does not use contactors for switching the capacitors.
- Capacitor life is enhanced minimum 3 to 4 times. Due to electronic switching & reactors available in the system. The reactors will filter the harmonics & prevent the possibility of resonance by shifting resonance frequency below 5th harmonics.
- The load current will be approximately reduced by 15% to 20% which in turn will reduce fluctuation in voltage and improve voltage quality and prevents damage to sensitive electronics equipment.
- If used with D.G. sets, It can be additionally loaded by 15% to 20% & corresponding increase in fuel efficiency. When running on D.G. set the fluctuation in voltage is substantially reduced.
- Capacitor connection is through Thyristor and at zero current crossing, which doesn't generate transient.
- Due to fast correction of P.F. Large H.P. motor can be started on generators already running near full load capacity. Large HP motors do not require soft start starters if connected through FRPFC.
- Renders the distribution network stable & helps in improving system PF to 0.99 plus, without causing any problem to sophisticated electronic equipment & other loads of variable nature.
- Cost is comparable with conventional contactors switching APFC Systems.

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Making Energy Matter

