

AUTOMATIC POWER FACTOR CORRECTION (APFC) PANEL

UP TO 1500 KVAR

www.livelineindia.com | info@livelineindia.com



We offer wide range of APFC Systems that help in energy conservation by reactive power compensation under varying load conditions. These panels are provided with Thyristor/Contactor Controlled Automatic Switching of Capacitor Steps. It controls the Load Power Factor by sensing Load Current, Voltage, Phase difference between them and then analyzing the system using microprocessor for the correction of Phase Angle by automatic switching On/Off of Power Capacitor Units.

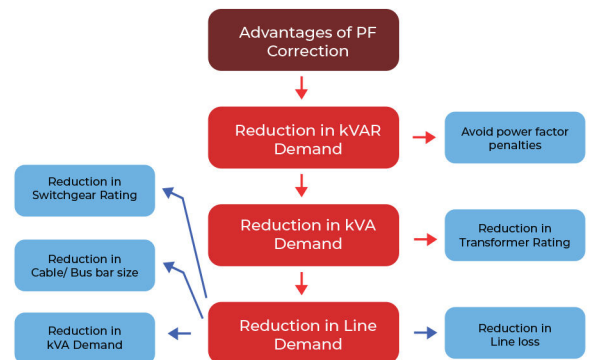
Features

- Field proven Robust Design for LT Power Consumers
- Most Advanced Micro Processor Technology adopted
- Built in Automatic - Manual Provision for KVAR Selection
- The Target Power Factor can be set as per customer requirement
- 3 Pole MCCB for Complete protection
- Zero Voltage switching through Thyristor to limit switching surges
- Selectable Power Factor correction time. Cycle - to - Cycle with Thyristor and 2 minutes with Contactors
- Discharge resistance or choke on Individual Capacitor
- Stage on LED Indicator
- Power & Control wiring with Copper multi strand ISI wire
- Working temperature up to 55°C
- Cable Entry at the Bottom (Top Optional)
- Indoor/Outdoor Installation as per customer requirement

Applications:

- Hospitals
- Manufacturing Industries
- Defence
- Railways
- Oil Refineries, Storage & Bottling Plants
- Metals & Mining Industries
- Power Utilities
- Shopping Malls

WHY SHOULD WE IMPROVE P.F. ?



REDUCE OPERATING COST WITH IMPROVED POWER FACTOR



What is power factor ?

Power Factor is a measure of how effectively incoming power is used in your electrical system and is defined as the ratio of Real (working) power to Apparent (total) power.

Real Power (kW) is the power that actually powers the equipment and performs useful, productive work. It is also called Actual Power, Active Power or Working Power.

Reactive Power (kVAR) is the power required by some equipment (eg. transformers, motors and relays) to produce a magnetic field to enable real work to be done. It's necessary to operate certain equipment but you don't see any result for its use.

Apparent Power (kVA) is the vector sum of Real Power (kW) and Reactive Power (kVAR) and is the total power supplied through the power mains that is required to produce the relevant amount of real power for the load.

The Beer Analogy

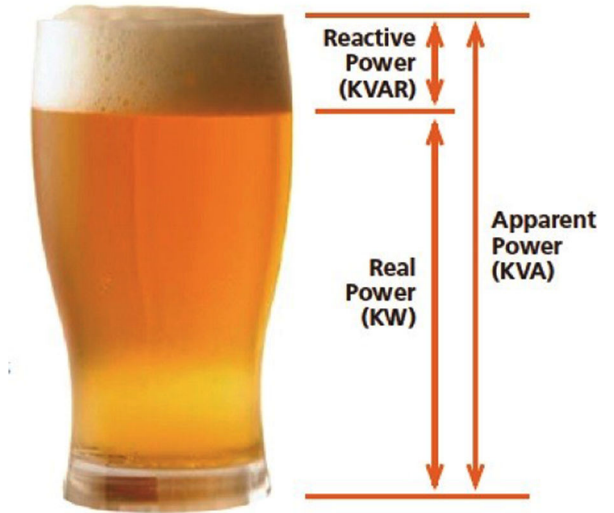
Let's look at a simple analogy in order to better understand these terms. Let's say you've ordered a glass of your favourite beer. The thirst quenching portion of your beer is represented by Real Power (kW). Unfortunately, along with your ale comes a little bit of foam that doesn't quench your thirst, represented by Reactive Power (kVAR). The total contents of your glass (kVA) is the summation of kW (the beer) and kVAR (the foam).

The power factor is the ratio between Real Power and Apparent Power.

It's expressed as a value between -1 and 1 and can be either inductive (lagging) or capacitive (leading). If the power factor is 1, then all of the power supplied is being used for productive work and this is called 'unity'.

Therefore, for a given power supply (kVA) :

- The more foam you have (the higher the percentage of kVAR), the lower your ratio of kW (beer) to kVA (beer plus foam). Thus, the poorer your power factor.
- The less foam you have (the lower the percentage of kVAR), the higher your ratio of kW (beer) to kVA (beer plus foam) and the better your power factor. As your foam (or kVAR) approaches zero, your power factor approaches 1.0 (unity).



$$\text{Power Factor} = \frac{\text{Real Power (kW)}}{\text{Apparent Power (kVA)}} = \frac{\text{Beer}}{\text{Beer + Foam}}$$

Sales Support

Our inhouse sales and engineering teams are available to answer you immediately on selection of right transformer for your application. They are technically trained and can answer most questions on the phone. Drawings, documentation, expediting, quotations or technical information are always readily available. Our commitment to sales support is paramount and it means you will be an informed, relaxed, and satisfied customer as quickly as possible. Call our sales team or mail us at info@livelineindia.com or visit our website.



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All information contained in this brochure are subject to change without prior notice.

Our systems are manufactured in an ISO9000 & 14000 certified plant.

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