PQCA-400-75-525DC4EM

PQCMA750BHA00B0

Active Power Filter (APF) systems

The increase of non-linear and other challenging loads in electrical grids today present unique Power Quality challenges. **APF** (Active Power Filter) provides a cost efficient solution to Power Quality problems, eliminating resonance problems, preventing amplified harmonic current and voltage, simultaneously compensating reactive power in real-time to maintain power factor at >0.99, enhancing equipment operating life whilst improving overall power system capacity.

APF systems provide multiple compensation functionality including:

- **Harmonic compensation:** *(filtering any order from 2nd to 50th harmonic)*
- **Power Factor compensation:** *(compensating in real-time to maintain power factor at >0.99)*
- **Phase Imbalance compensation:** *(reducing the peak current demand tariff on electricity bills)*

APF is the new standard in harmonic filtering, a highly accurate, reliable solution for today's networks characterised by significant increases in harmonics, able to provide stable, accurate, real-time PFC *(without the drawbacks of traditional capacitor based systems)*

Typical applications:

Malls, shopping centres, office blocks, hospitals, printing works, processing plants, Data centres, pumping stations and all applications where harmonic generating equipment is utilised, such as variable speed drives (VSD's) rectifiers, battery charges, UPS's, Power supplies, LED lighting.

- Plastic industry machinery: *(e.g. extruders, injection moulders)*
- Loads with low power factor: Motors, cables, lightly loaded transformers, lighting, etc.

Benefits include:

- Complete power quality improvement solution including real-time elimination of harmonics, flicker mitigation
- Provides dynamic step-less compensation instantaneously in real-time to each phase individually
- Only injects the kVAr required in that moment with no possibility of over or under-compensation.
- Can maintain a PF of 0.99 lagging or unity *(if required)* for both inductive and capacitive loads.
- Voltage fluctuations *(flicker)* mitigation and reduction of voltage *(sag and swell)* variations
- Correcting phase imbalance *(reducing the peak current which reduces the peak demand tariff on electricity bills)*
- Maintenance free *(with no electromechanical components)* and a longer life span
- Expandable by unlimited parallel installations *(unnecessary to over-dimension the capacity to cater future needs)*
- Output current is unaffected by mains voltage fluctuations providing stable support for mains voltage.

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- Harmonic compensation: 2nd to 50th harmonic
- Cooling: Forced air cooling (fan cooling)
- Efficiency: ≥97%
- Communication: RS485 and Ethernet (RJ45) ports *(via HMI)*/RS232 *(via LCM)*

type	amps	description	expands: up to	dimensions (mm) (H)	(W)	(D)
Active Power Filters (APF) - Wall mount system		*(3 phase 4 wire) 400V*				
PQCMA500BVB00B0*	50A	Active Power Filter (APF) system	–	174	440	600
PQCMA750ANA23B0	–	LCM controller for (APF)	up to	7 slave devices		
PQCMA101ANB21B0	–	HMI touch screen controller for (APF)	up to	7 slave devices		
Active Power Filters (APF) - Floor standing system		*(3 phase 4 wire) 400V*				
Withdrawable type cabinet - *for withdrawable type APF modules (IP30)*						
PQCA-400-75-300DC4EM	75A	4 module cabinet fitted with rack	300A	2000	600	800
PQCA-400-75-525DC4EM	75A	7 module cabinet fitted with rack	525A	2000	600	800
Withdrawable rack module *for above draw type cabinet*						
PQCMA750BHA00B0	75A	rack module for above cabinet	–	174	440	522

* *Touch screen or LCM controller required.*