



Measure



Monitor



Analyze



Optimize



Alerts



Intelligent Power Factor Controller

HPL Power Factor Controller automatically selects the right capacitor steps to keep PF near the target as plant loads fluctuate. It presents key electrical and power-quality readings on a single screen, enabling quick verification and easier troubleshooting.

Flexible settings and configurable alarms support stable operation, while CT-orientation support helps prevent incorrect sensing due to wiring direction. Integrated protection functions help defend the panel and switching devices during abnormal conditions.

Applications

- PFC series automatically control capacitor bank steps & maintain target power factor in LV electrical systems, with real-time visibility of PF, voltage, current and harmonics.
- Industrial plants - Motors, pumps, compressors, welding loads requiring dynamic PF correction.
- Commercial buildings - HVAC, elevators, DG changeover conditions and fluctuating daily load profiles.
- Harmonic-prone networks where sites needing THD monitoring and alarm to protect capacitors/steps.

Benefits

- Helps customers maintain desired Cos ϕ automatically using intelligent step switching, reducing dependence on operator intervention & improving consistency.
- On-screen electrical parameter display enabling faster troubleshooting and better energy management decisions.
- Built-in protection and alarms (under/over voltage, under/over compensation, step fault, high harmonic distortion) help reduce failures & downtime in capacitor banks and associated switching devices.
- Better PF stability via programmable sensitivity & re-connection time settings helps prevent hunting and unnecessary switching.
- Reduced commissioning effort through automatic CK, rated-step adjustment and automatic CT polarity correction.
- Improved panel reliability with "no voltage release function", prevents incorrect operation during abnormal voltage conditions.

Features

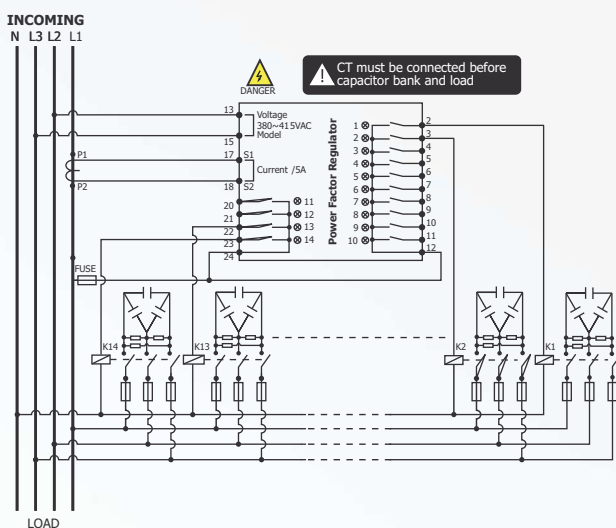
- Intelligent Four Quadrant microprocessor auto-switching operation ensures correct PF sensing in both Import & Export power (re-generative) conditions - ideal for DG/solar and regenerative loads.
- Live display of cos ϕ , PF, voltage, current, THD (V & I) for instant visibility into power quality and correction status.
- Display of Active (W), Reactive (var), Apparent (VA) and required var.
- Automatic CK & rated step adjustment for optimized switching and better capacitor utilization.
- Automatic CT polarity correction to prevent wiring-related measurement errors and ensure correct PF control action.
- Fully programmable sensitivity & re-connection time to avoid nuisance switching and match site conditions.
- Programmable alarms for faster fault awareness & easier maintenance planning.
- Last step configurable as an alarm or fan output for smarter panel thermal management and safety interlocking.



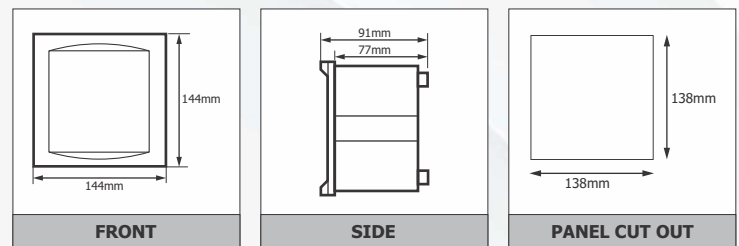
Technical Specifications

Parameters	Description	Details	
A. Electrical Specifications	Auxiliary Power Supply	380~415 V AC	
	Operating Limits	-15% +10%	
	VA Rating	10 VA max	
	Frequency Range	50 Hz	
B. Control Range	Power Factor Setting	0.8 inductive & -0.8 capacitive	
	C/K Setting	0.02 -1.20 /Automatic	
	Switching Sensitivity	5 - 600 s/step	
	Reconnection Time for Same Step	5 - 240 s	
	THD Current Threshold	20 - 300%	
	THD Voltage Threshold	20 - 30%	
	Switching Program	Off/Automatic/Rotational/Manual/Four-quadrant	
	Rated Step Coefficient	1- 16/Fix/Off	
	C. Relay Output	Number of Output	6/8/12/14
		Contact Arrangement	NO contact type
Rated Capacity		5A 250 VAC (Cos φ=1)	
Max Current for the Common Terminals		12 A continuous	
D. Current Input Output	Rated Current, In	5A	
	Operating Limits	0.02 -8A	
	Rated Frequency	50 Hz	
E. Environmental	Operating Temperature	-5°C to 55°C	
	Humidity	56 days at 93% RH & 40°C non condensing	
F. Mechanical	Mounting	Panel mounting	
	Dimension (mm)	144(w) x 144(h) x 91(d)	
	Enclosure Protection	IP54 at the panel	
	Approximate Weight	1kg	

Application Diagram



Dimensions (MM)



Ordering Information

Size (mm)	Steps	Description	Item Code
144 x 144	6	415 V AC, 50 Hz power supply	PFC060144M1
144 x 144	8	415 V AC, 50 Hz power supply	PFC080144M1
144 x 144	12	415 V AC, 50 Hz power supply	PFC120144M1
144 x 144	14	415 V AC, 50 Hz power supply	PFC140144M1