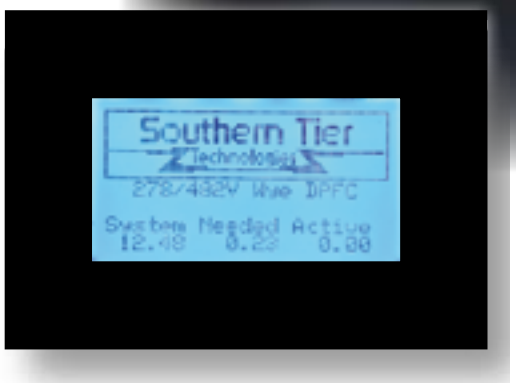
Southern Tier Technologies

Tier 500PFC Series

Dynamic Power Factor Correction



Precision Control and Monitoring Technology

Innovative Solutions for Clean, Reliable Power

Tier 500PFC Series

Controller Technology

Southern Tier Technologies' Tier 500PFC Dynamic Power Factor Correction Series is designed to meet the demands of todays industrial and commercial business operations.

The Tier 500PFC Advantage

Traditional methods of power factor correction are often too slow for the environment modern technology creates. Dynamic loads require dynamic switching, real-time intelligence and immediate reactive compensation.

The Tier 500PFC features a patent pending controller that actively monitors power and engages the precise amount of correction in less than one cycle; its unique design not only responds within microseconds, it sequences and engages components in a way that minimizes stress on both the product and electrical network.

Hybrid Switching and Control

Sub-Cycle Speed and Zero Cross

- Reacts to any load condition or requirement
- Eliminates high in-rush currents and transients typical of electro-mechanical systems
- Address additional power related issues; flicker, voltage stabilization
- Reduce instantaneous, (peak) demand charges

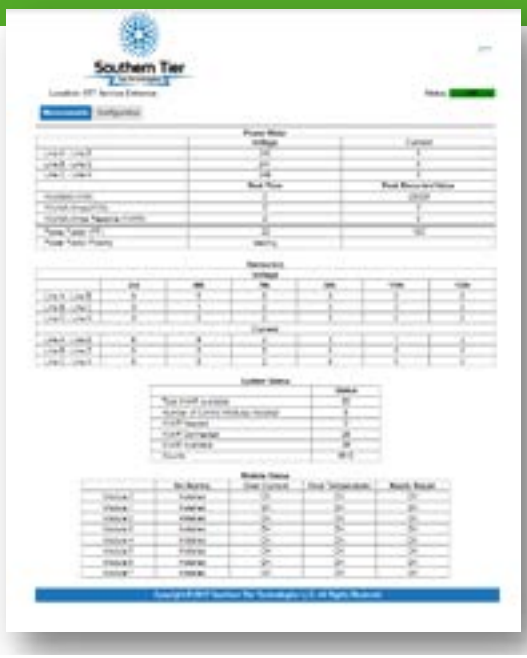
Patent Pending Sequencer and Control System

- Extends the life of the PFC components and connected equipment
- Enables precision control and timing

Tuned PQ Circuitry

- Lower temperature than traditional systems
- Eliminate PQ concerns associated with PFC systems
- Lowest cost to operate

Real-Time Analytics



Monitor and Measure

Track power usage and quality at your most active locations

- Voltage and Current (Phase to Phase)
- Real Time & Peak: kW, kVA, kVAR, Power Factor
- Voltage and Current Harmonics (Phase to Phase)
- Peak harmonic events

No need for inconvenient and expensive on-site power audit

- Captures kVAR engaged and kVAR required
- Modular design allows for easy field kVAR upgrades

Quickly assess system health

- Monitors system level and component level; over current, over temp, component error or failure
- Receive remote alerts via text or log-on to view detailed status update
- Set system threshold, ID and alert status

Tier 500PFC Series

Technical Specifications: Precision Control and Monitoring Technology

General Specification	
Display	LCD 128 x 64, LED backlit, Push button
RJ-45 Port	Ethernet
Terminals (#24-14)	RS-485 communication
Communications	RS-485, MODBUS TCP/RTU, Ethernet, SNMP
Embedded Webpage	Standard
Power Switching	
Technology	Thyristor
Response Time	<1 cycle
Dynamic Compensation	<1 cycle

Monitored, Measured and Recorded	
Measurement	
Accuracy	+/- 1%
Voltage Range (Phase to Phasel)	50 - 720 VAC
Current (A) (Phase to Phase)	1A & 5A CTs
Power	Active Power (kW)
Power Factor (PF)	Value
	Polarity (lead or Lag)
Reactive Power (kVAr)	Available
	Engaged
Voltage Harmonics	Individual (Fundamental - 13th)
Current Harmonics	Individual (Fundamental - 13th)
Event Logging	
Peak kW, Peak kVA, Peak kVAr, Total kVAr Supplied, Switching Totals	
Status	
DPFC System Health	Component/Capicitor Status
	Incorrect or Defective Switching
	Over Temperature
	Fault/Interruption
CT Polarity	Reversed
Required kVAr / Modules Installed	Additional Module Needed
Power Anomalies	
Under/Over Voltage, Under/Over Current, High Harmonics	

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