

Automatic Power Factor Controllers



APFC-07 (Relay output)

- Economical value for money product
- Small size version in 96mm X 96mm
- Wide range Voltage supply 90Vac to 500Vac OR 100Vdc to 550Vdc
- 5Amp and 1Amp CT connection
- Models available as 4, 6 & 8 relay contacts
- Large Size LCD display
- Protection to Capacitor Banks



APFC-03 (Relay output) & TPFC-03 (Transistor output)

- Fully Automatic Set-up
- Wide range Voltage supply 90Vac to 500Vac OR 100Vdc to 550Vdc
- 5Amp and 1Amp CT connection
- Measurement accuracy Class 1 for Voltage and Current. And Class 2 for Power (Active and Reactive)
- Multifold Protections to Capacitor Banks
- High speed switching transistor output for TPFC-03 to control high speed capacitor thyristor switches
- Expert mode programming for finer aspects of PF compensation



SPF-56 (Relay output) / TPF-56 (Transistor output)

- 3-ph (3W/4W) sensing with 3 CTs.
- Unit with Communication capability on Serial (RS-232C/RS485HD),
- Wide range Voltage 90Vac to 500Vac OR 100Vdc to 550Vdc
- 5Amp and 1Amp CT connection
- Models available up to 16 capacitor banks control
- Data Logging with user programmability
- TPF-56 comes with high speed KVAR compensation capability
- Class 1 Load manager functionality



HTPF-56 (up to 33kV – 50MVA)

- 3-ph (3W/4W) sensing with 3 CTs. Additional 3 CT for capacitor current measurement
- Unit with Communication capability on Serial(RS-232C/RS485HD), GSM/GPRS
- Separate measurement Voltage and wide range AC/DC auxiliary supply
- 5Amp and 1Amp CT connection for supply & capacitor current
- Models available up to 8 capacitor banks control
- Data Logging with user programmability
- Class 1 Load manager functionality

Capacitor Duty Switches (Thyristorised)

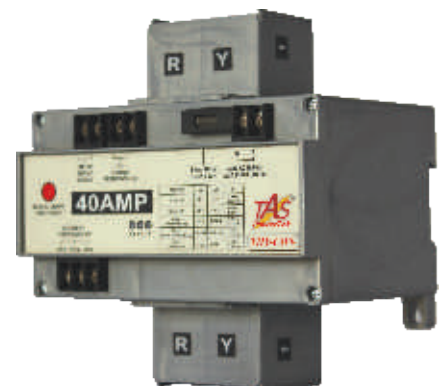
TSCI

- Ultra High Speed capacitor switching with Cold response time as Half supply cycle and Hot response up to Two supply cycles
- Extra protection to Thyristors facilitates non usage of costly Semiconductor Fuses
- High end Microcontroller technology
- Models with up to 500Vac and 800Vac Ph-Ph Voltages and with current rating of 25A, 40A, 80A, 120A and 160A
- Multifold Protection system in built
- Remote and Local override control
- Continuous display of Capacitor Current and any annunciation on 4-digit 7-seg LED display
- Thyristor rating 2200V for up to 500Vac supply and 3600V for up to 800Vac supply
- Capacitor and Detuned reactor Earth Fault monitoring and protection
- Capacitor THD monitoring and protection
- Capacitor KVAR value deterioration monitoring and protection
- Thyristor health check and supply health check monitoring
- Standard Protection like Over/Under Voltage, Over temperature, spike current and supply voltage transient protection



THY-CON

- Can replace Electro-Mechanical Switching with Zero surge thyristor switching
- Very low ON state conduction losses due to hybrid technology
- Enhancement in life of capacitors to almost double
- Can replace conventional AC-6B capacitor duty contactor
- DIN rail mounting and standard bolted mounting facility
- Fire retardant grade material
- Remote and Local control for manual testing of capacitor control
- Optional CT connection facility for added protection to capacitors
- Capacitor residual voltage monitoring including Off delay timer in built
- Elaborate fault monitoring with LED indications



Capacitor duty Detuned Reactor

V-drop 7% and 14% (5.6%, 6%, 0.96% & 0.25% on special demand)



- Reactors available with Cu and Al winding
- Designs with high overload linearity
- Over Temperature NC contacts in all three phase windings
- 7% reactors Capable of Handling I-rms as 120% of continuous rated current with harmonic levels
 - I-5 50% THD
 - I-7 25% THD
 - I-11 12.5% THD
 - I-13 5% THD

T-Series Low Pass Harmonic Filter



- Low cost reliable solution to harmonic filtering with 6-pulse converter loads like AC drives (VFD), DC drives, Rectifier loads, UPS systems, Induction Furnaces etc
- 12% current THD reduction
- Low pass L-C filter with passive component rugged design to handle most of the supply system adversities
- Models up to 1000Vac supply system
- Optional models with switching KVAR control and with in built "Energy Manager"

APFC & RTPFC Systems



RTPFC SYSTEM

- Totally Custom Built Design
- High Speed Hot Response for VAR Compensation-Selectable upto 60mS.
- Harmonic Immunity through appropriate detuned harmonic blocking reactors.
- Thyristorised capacitor switching giving total solid state and reliable operation.
- Various protections to thyristors via,
 - 1) Spike Current
 - 2) Voltage transients
 - 3) O/C, O/V, O/T
 - 4) Self Health Monitoring
 - 5) Supply system connection faults
- Usage of capacitors like MPP, MD, APP, Gas filled – based on site requirement along with on - line health monitoring in terms of μF Value.
- Data Logging facility with RS-485 PC interface.
- Optional GSM-SMS mode of communication for remote monitoring & control.
- Panel protection class based on site conditions - IP-21 to IP-56.

General Specification

- Voltage
 - 380/415/440/484 Vac – 3 Phase 50Hz & 60Hz
 - Other voltages Optional
- Current
 - Max 120% of rated value
- Temperature
 - Working 0°C to 50°C Ambient
 - Storage -10°C to 75°C Ambient
- Measurement Accuracy
 - Class 1.0 for kW
 - Class 2.0 for kVAr
 - As per IEC 62053 part 21,23



APFC SYSTEM

- Totally Custom Built Design
- Harmonic Immunity through appropriate detuned harmonic blocking reactors.
- Cap. Duty contactor for supply system transient reduction due to capacitor switching.
- Usage of capacitors like MPP, MD, APP, Gas filled – based on site requirement.
- Monitoring of power parameter by inbuilt 1.0 class APFC Relay from TAS Powertek.
- Data Logging facility with RS-485 PC interface.
- Optional GSM-SMS mode of communication for remote monitoring & control.
- Panel protection class based on site conditions- IP-21 to IP-56.
- Protection through reputed brand switchgears selected for appropriate kA Short circuit Capacity.

Active Power Conditioner

Wide Spectrum Harmonic Filter Individual Phase Reactive Power Compensation Load balancing between three phases

Features:

- Selective harmonics filtering - Up to 9 selected Harmonics
- Reactive power compensation per individual phase – Enable /Disable with PF settable from 0.7 Cap to 0.7 Ind
- Load Unbalance compensation- Enable / Disable with limit settings.
- Closed loop control system for precise and effective compensation.
- Unique Algorithm for reduction of ripple current.
- Filtering efficiency > 90%.
- Wide range from 15A to 300 A in a single cubicle.
- Supports Modular master/slave configuration for expansion.
- Direct connection from 200 to 500V AC.

Display

- 7 Inch TFT (Colour Graphic Display).
- Displays Harmonics in BAR Graph mode and text mode.
- Displays all electrical Parameters in text mode.
- Seven Key Keypad for editing/setting parameters.
- Setup Selection of individual harmonic to filter.
- Settable Options for Power Factor/Reactive Power/Unbalanced compensation/ CT ratio /Parallel units.



Technical Specifications

- Rated operating voltage 200-500 V Line to Line
- Frequency 50 Hz/60Hz \pm 5%
- Connection System 3 phase (4 wire)
- Filtering Efficiency >90%
- Reaction time < 0.5mS instantaneous
- Response time < 30mS typically (10% - 90% filtering)
- Reactive power compensation per phase Static / Dynamic with PF correction range +0.7
- Line to Line balancing for load current
- Modularity – Up to 8 power units in cascading (1 master others slave)
- Ingress Protection +IP32

SCADA System Solution For Energy Management

With TAS's Entire products range

- LM-56 Load Manager
- SPF-56/TPF-56 PF controllers
- HTPF-56 MV PF controller
- MAVROS

along with

ENERGY MANAGEMENT PC SOFTWARE



TAS's products as RTU with

- Intelligent Microprocessor technology
- 3-ph (3W/4W) sensing with 3 CTs.
- Unit with Communication capability on Serial (RS-232C/RS485HD), GSM/GPRS.
- Voltage supply 90Vac to 500Vac OR 100Vdc to 550Vdc
- 5Amp and 1Amp CT connection
- Data Logging with user programmability
- Class 1 Load manager functionality



SCADA Energy Management Software

- Complete remote access control of Database
- Cloud database access suitable for any network devices like smart mobile phones, tabs, laptops and Desktop PCs
- User configurable Electrical schemes
- Programmable groups for MD and billing control
- Complete graphical reporting including auto tasking functions

