

SPECTER.

Power System Doctor

Specter Electric

- **Electrical Consultant -Basic & Detailed Engineering Services**
- **Power Quality & Energy Audit**
- **HT/LT Panel Builder: RTPFC,APFC,AHF,HYBRID RTPFC & ASVG.**



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Specter **Electric**

- Specter Electric is a fast-growing company in the electrical sector, providing engineering services and power quality solutions, along with a strong presence in manufacturing.
- We specialize in RTPFC, APFC, ASVG, Hybrid RTPFC, Hybrid APFC, Active Harmonic Filters, Passive Harmonic Filters, as well as Power Control Center (PCC) Panels, Motor Control Center (MCC) Panels, VFD Panels, Starter Panels, and Control Panels for all types of industries.
- Our qualified and experienced team is committed to meeting the most stringent quality standards and fulfilling our clients' specific requirements.

Specter Electric is an ISO-certified, CPRI Approved company that adheres to IEC and IS standards in all its operations.

Vision

“To set the standard for excellence in power quality and electrical systems through innovation, expertise, and unwavering commitment to quality”



Mission

- Sustain Business Growth.
- Foster innovation.
- Drive value.
- Protect the Environment.



Power & Quality

SE-01 RTPFC PANEL

Technical Specification

- Rated Power: 50kVAR upto 3000kVAR
- Rated Voltage: 3P 50 Hz: 415V- 690V
- Suitable Ultra-fast Reactive Power
- Compensation- upto 20mS Free from switching Transient/Surge Capacitor
- Ripple blocking detuned AL/Copper Reactor - 7%, 14%
- Thyristor Switching Module (TSM) - Snubber Protection, Temperature protection.
- 3 CT Sensing RTPFC Controller
- Compensation shall be match with MSEB kVAH Billing Energy Meter

Benefit-

- Reduced Electricity Bill or Power Factor Incentive, reduced the kWH units, detuned the Harmonics, Cable sizes/switchgear sizes reduced , Bus bar heating problem reduced.



SE-02 Active Harmonic Filter Panel (AHF)

Technical Specification

- 3P3W/3P4W, 380V to 480V, 50-60Hz
- Current Rating- 50A,100A,150A,200A,.....1500A
- 3 Level Topology/IGBT Control Technology
- Response Time- 50 micro sec.
- Protection- Overcurrent, Overvoltage, Over temperature, IGBT saturation Protection.
- Automatic Harmonic Mitigation- Upto 71th level (Under IEEE 519-2014).
- HMI -4.3, 7 inch Screen
- Forced Air Cooling Fan,Noise Level <65 dB
- Communication- RS232
- Standard -CE,IP 2X, IEC 50091-3
- Suitable to Hybrid design LT/HT Consumer, unbalance distribution network network

Benefit-

- Reduced the current rating of Cables, Switchgears, Transformers, etc., Reduced the malfunctioning/damage of PLC card, VFD card, Motor Control Card, other Sensitive control Cards, Reduced the Neutral overheat problem, Reduced the machine Breakdown time, Avoid the future MSDCL Harmonic Penalty



SE-03 Passive Filter

Technical Specification

- 3P3W/3P4W, 380V to 480V, 50-60Hz
- Current Rating- 50A, 100A, 150A, 200A, ..
- Fixed Harmonic Mitigation- Single level.
- Up to 15th level (Under IEEE 519-2014).
- Forced Air Cooling Fan Series and Shunt connection of Reactor/Capacitor.
- Panel Mounting Type- Floor Mount/Wall, Color-RAL 7035
- Protection- Overcurrent, Overvoltage, Over temperature

Benefit-

- Reduced the current rating of Cables
- Switchgears, Transformers, etc.
- 2. Avoid malfunctioning/damage of PLC card, VFD card, Motor Control Card, other Sensitive control Cards, Reduced the Neutral overheat problem, reduced the machine Breakdown time, Avoid the future MSDCL Harmonic Penalty



SE-04 Advanced Static Var Generator(ASVG)

Technical Specification

- 3P3W/3P4W, 380V to 480V, 50-60Hz,
- Rated Power: 120kVAR up to 1500kVAR
- 3 Level Topology IGBT Control Technology
- HMI - 4.3, 7 inch Screen
- Response Time- 50 micro sec and full response time less than 1 Cycle
- Protection- Overcurrent, Overvoltage, Over temperature, IGBT saturation Protection.
- Real time step less compensation - Leading & Lagging
- Target PF adjustable from -1 to 1
- Forced Air Cooling Fan Noise Level <65 dB
- Suitable to Hybrid Control with RTPFC/APFC Panel
- Communication- RS485
- Standard -CE, IP 2X, IEC 50091-3

Application-

- Data Center & IT Company, Automobile Industries, high variable load, etc.

Benefits-

- Used for both harmonic as well as Power Factor correction
- Leading/lagging reactive power compensation
- Reduced the malfunctioning/damage of PLC card, VFD card, Motor Control Card, other Sensitive control Cards, Reduced the Neutral overheat problem.



SE-05 Hybrid RTPFC and ASVG Panel

Technical Specification

- Combination of ASVG and Thyristor switching RTPFC
- 3P3W/3P4W, 380V to 480V, 50-60Hz,
- Rated Power: 100kVAR upto 10000kVAR
- 3 Level Topology/IGBT Control Technology
- DSP Based ASVG Controller with HMI screen
- Back up RTPFC Controller
- Response Time- 50 micro sec and full response time less than 1 Cycle
- Protection- Overcurrent, Overvoltage, Over temprature, IGBT saturation Protection.
- Real time step less compensation - Leading & Lagging Target PF adjustable from -1 to 1
- Forced Air Cooling Fan Noise Level <65 dB I
- Communication- RS485
- Standard -CE,IP 2X, IEC 50091-3



Application-

- Steel plant, cement plant, textile plant, Data Center & IT Company, Automobile Industries , high variable load, etc.

Benefits-

- Used for both harmonic as well as Power Factor correction
- Leading/lagging reactive power compensation
- Reduced the malfunctioning/damage of PLC card, VFD card, Motor Control Card, other Sensitive control Cards, Reduced the Neutral overheat problem.

SE-06 Hybrid APFC & SVG Panel

Technical Specification

- Rated Power: 50kVAR upto 1500kVAR
- Rated Voltage: 3P 50 Hz: 415V-690V
- Combination of switched capacitor banks and SVG Panel
Switching device: Capacitor duty Contactor Single CT & 3 CT
HT/LT Sensing PF controller
- Maximum No steps: 24 Nos.
- Every Step shall be Suitable protection Step Switching Time- 60 Sec.
- 3 Level Topology/IGBT Control Technology HMI -4.3, 7 inch
- Screen Response Time- 50 micro sec and full response time less than 1 Cycle
- Protection- Overcurrent, Overvoltage, Over temprature, IGBT saturation Protection.
- Real time step less compensation - Leading & Lagging Target PF adjustable from -1 to 1



SE-07 Detuned Harmonic Reactor

Technical Specification

- Voltage Range- 415V to 690V , 50Hz.
- 180% linearity
- Rating : 5kVAR to 150 kVAR
- Dutuned Factor : 2% to 14%
- F Class insulation level
- Copper & Alluminium wound Tuned & Detuned filter application
- Application- In series with capacitor to reduce the capacitor ripple



SE-08 Thyristor Module

Technical Specification

- TSM Module Range - 5 kVAR to 200kVAR
- Three phase, 440V, 50Hz
- Semikron Thyristor
- Response Time- 100ms Switching
- Thermal Protection
- Snubber Protection
- Zero Crossing Over Firing
- 12-24V DC Aux Command
- Fan Cooling
- Copper leads Fault display of status via LED



SE-09 RTPFC/APFC Controller

Technical Specification

- Automatic identification of voltage & current source
- Automatic identification of connect capacitor stage Automatic (C/K) identification
- Automatic/Manual setting of switching time delay
- Setting capacitor discharge time
- Setting capacitor ON/OFF delay time
- Under voltage monitoring
- Monitoring Capacitor deterioration



SE-10 Power Capacitor

Technical Specification

- MPP/APP Heavy/Ultra/Normal Duty Capacitor
- Range from 1kVAR to 25 kVAR
- Voltage : 440V to 690V
- Frequency : 50Hz
- Dielectric material : Polypropylene Self heating at over voltage
- Operated high temperature Low losses, film design
- No self heating it is recommended to use high temperature environment like foundry, steel plant.



POWER QUALITY AUDIT

Following Parameter shall be carried during the PQA Analysis-

- Load Study
- Inter Harmonics
- Harmonics (Vthd & Ithd)
- Earth-Pit resistance Test (at mains transformer)
- Reactive Power Analysis
- Power Parameters
- Line Disturbances(Transient, Sags, Swells at main Transformer)
- Captive Power Assessment
- Load Distribution
- Problem Investigation
- PQA Report
- Inferences & Recommendation



Electrical Basic& Detailed Engineering Services:

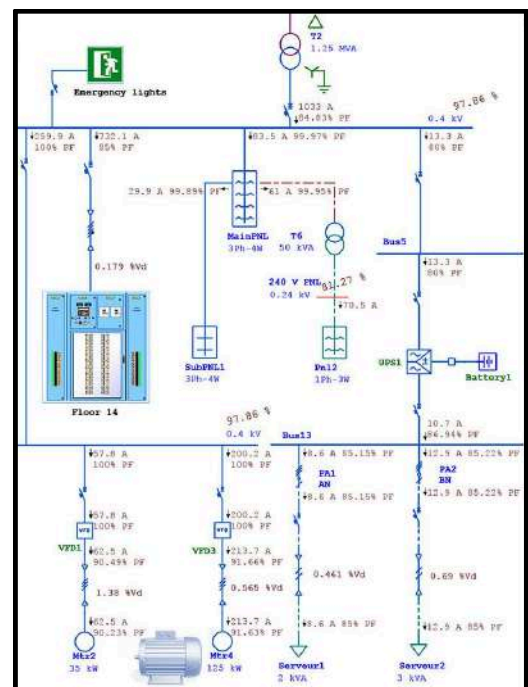
Specter Electric delivers the following solutions, accompanied by high-quality documentation:

- Design Basis Report(DBR).
- Substation Layout.
- Single Line Diagram (SLD).
- Substation Cable Tray and Earthing Layout.
- Transformer Sizing Calculations.
- Earthing & Lighting Calculation.
- Cable Sizing Calculation and Cable Schedule.
- Overall cable tray Layout.
- UPS Sizing Calculation.
- DC Charger Sizing Calculation.
- APFC Panel Sizing Calculation.
- PCC ,PMCC, PDB Panel Sizing Calculations.
- All Electrical Equipments Specification.
- NGR Sizing Calculation.
- Illumination Calculation.



An Electrical software based service provider specializes in offering software solutions tailored to the needs of electrical engineering .

- Arc Flash Analysis Services
- Relay Co-ordination Study Services
- Short Circuit Analysis Services
- Comprehensive Energy Audit Services
- Harmonic Analysis Services
- Power Factor Correction Services
- Power System Stability Services
- Reactive Power Compensation Services



Our **Client** List

- Holm KK Pvt LTD.
- Minda Corporation.
- PMT Tools Ltd.
- BK Power Switchgear,Chennai.
- Western Power Project,Gujrat.
- Goel Ganga Infra.
- Texam Project LLP.
- Autoline Industries Ltd
- Faster Hydraulic(India) Pvt Ltd.
- Magna Plast Technologies (India) Pvt Ltd
- Datsons Engineering works Pvt Ltd
- Shivmay Engineering Pvt Ltd.
- S.V. ALUEXT Profile Ltd
- Software Technology Park Of India
- SS Jupiter Infra Ltd
- J P Laboratories Pvt Ltd
- Tork Motor Pvt Ltd
- Satav Stone Company Pvt Ltd
- Excellence Tech Pvt Ltd
- Anvi Infrastructure Pvt Ltd
- Mayur Industries Pvt Ltd
- Sanmati Steel Pvt Ltd
- Ayush Paper Industries
- Gurukrupa Engineers Pvt Ltd
- Western Power Project Pvt Ltd
- Siddhivinayak Multispecialty Hospital
- Ojas Multispecialty Hospital
- Sunrise Electricals
- Sparkro Pyroboost Solution Pvt Ltd
- TJ Marine Products Pvt Ltd
- Purandhareshwara Steel Ltd
- ETCOM Engineering Services
- Sai Enterprises
- Maxxroof Pvt Ltd
- Datta Enterprises
- Emkay Polymer Ltd
- Technosys Engineering Pvt Ltd
- RES Engineering
- Bhavani Industries Pvt Ltd



Photo Gallery



Testimonials

"We have been very satisfied with the Fast response Hybrid Thyristor Controlled Automatic Power Factor Correction Panel of 800 Kvar/525V RTPFC and 100kVAR SVG installed in the year Aug 2022, achieved PF 0.998. We are very satisfied with the service received from Specter Electric."

Mr. Chaitnya Mohalkar
AGM-Maintenance, Autoline, Pune.

"Best quality, superb return on investment and excellent service support. Thank you, Specter team, and special thanks to Mr. Yogesh. SE team is working excellent."

Mr. Satish Kale
GM-Plant Head
(Operation+Technocommercial), DATSON ENGG, Pune

"Specter Electric supplied us 250KVAR real time power factor correction system (RTPFC) in last year September June 2022. After installation we are able to maintain power factor within 0.992. The unit is user-friendly. From last eleven months, we do not face any problem with unit. system is quite reliable."

Mr. Sunil Joshi
GM, Cosmo Chemical Pvt Ltd , Mumbai.

"Very good team, Qualified Engineers, Proposed cost saving proposal to us and accordingly achieved by installing APFC Panel, Thank You Specter Electric."

Mr. Vishnu Jadhav
Director, Technosys Engineers, Pune

"Specter Electric have been servicing the Power Factor Correction units at the Sivmay Engineering for the last year. SE have always been prompt and professional, and ensure we are gaining the maximum savings."

Mr. H K Mulik
Operation Head, Shivmay Engineering Pvt Ltd, Pune.

OFFICES AND MANUFACTURING UNIT

Pune Head Office-

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