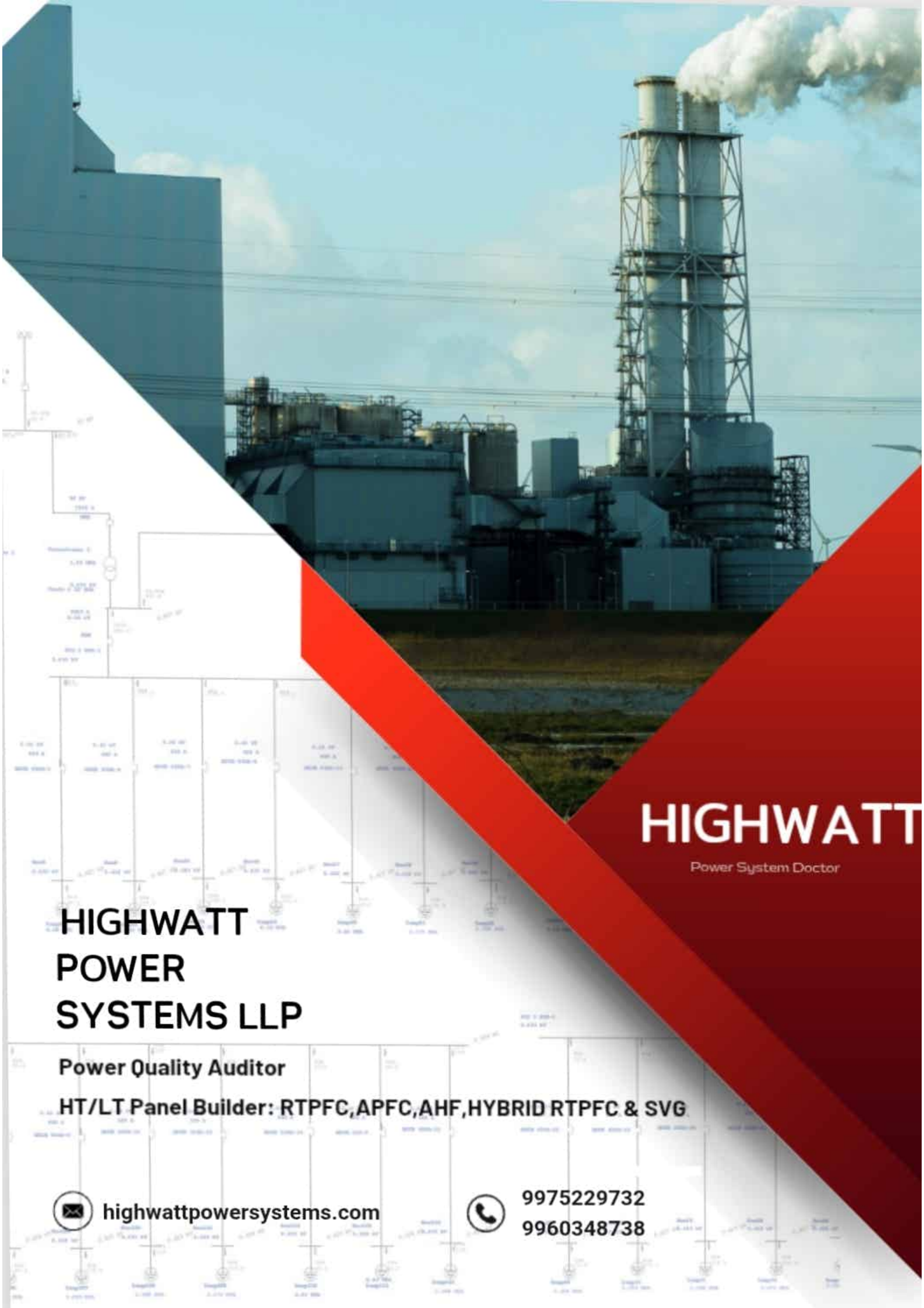




HIGHWATT

Power System Doctor

HIGHWATT POWER SYSTEMS LLP

Power Quality Auditor

HT/LT Panel Builder: RTPFC, APFC, AHF, HYBRID RTPFC & SVG



highwattpowersystems.com



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Highwatt Power Systems

We Highwatt is a fast growing company in electrical power quality product, also in manufacturing Power and Control Distribution Boards. We are specialized in RTPFC, APFC, ASVG ,Hybrid RTPFC, HYBRID APFC, Active Harmonic Filter, Passive Harmonic Filter as well as in Power Center Control Panel(PCC), MCC, VFD, STARTER and Control Panels with for all kind of industries.

We have qualified and experienced team to meet most stringent quality standard to our client's requirements.

Highwatt is ISO certified Company and follows IEC, IS Standards.

Vision

To be the most admired organisation offering world class Power Generation, Distribution equipment's and Solutions by ensuring "Customer Delight"



Mission

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



Power & Quality

HW-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.



HW-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



HW-03 Passive Filter

Technical Specification

- 3P3W/3P4W, 380V to 480V, 50-60Hz
- Current Rating- 50A, 100A, 150A, 200A, .
- Fixed Harmonic Mitigation- Single level.
- Upto 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



HW-04 Advanced Static Var Generator(ASVG)

Technical Specification

- 3P3W/3P4W, 380V to 480V, 50-60Hz,
- Rated Power: 120kVAR upto 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.



HW-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.



HW-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



HW-07 Detuned Harmonic Reactor

Technical Specification

- Voltage Range- 415V to 690V , 50Hz.
- 180% linearity
- Rating : 5kVAR to 150 kVAR
- Detuned 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



HW-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

HW-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



HW-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



Power & Distribution

HT/LT Switchboard

- Main LT Panel
- Main HT Panel
- PCC (Power Control Center)
- PMCC Panel
- Auto/Manual Synchronizing / Load Sharing Panel
- AMF Panels
- Control and Relay Panel
- Control Desk & Mimic Panels
- Feeder Pillar
- Meter Board
- Main Distribution Board (MDB)



MCC Panel

- VFD Panel
- Soft starter Panel
- Star Delta /DOL Starter Panel
- Autotransformer Starter Panel



Salient Features

- Design tested at CPRI for short circuit & temperature rise as per IS standards
- 4000A Panels successfully tested at CPRI for temperature rise as per IS standards
- Form 1/2/3a/3b/4a/4b design, in DOP- IP- 54
- CNC Fabricated fully bolted standardized designs
- Computer Aided Design(CAD)systems
- Panel enclosure degree of protection IP - 54, IP – 55 & IP 65
- Anti-corrosion treatment
- Automatic spray conveyed Pre Treatment plant with 11 Tank Process
- Painting in dust & vermin proof paint booths & ovens
- Non hygroscopic SMC bus bar supports for best mechanical & electrical strengths for fault current withstand
- Bus bars and interlinks are insulated with heat shrinkable PVC sleeves
- Provision for future expansion for both sides
- All live parts are shrouded with polycarbonate sheets
- Customer choice of protection, metering and controlling including SCADA interface
- Floor mounted VCB with ramp & spring charging handle
- Single & Double Front Panel (PCC/ MCC /PMCC /MDB)
- Provision for padlocking feeder & bus bar shutters
- Conforms to IS - 3118 & IEC - 62271 - 1 ,61439 Standards

Our Client List

- 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
- Chemstar
- 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
- V R Electric Corporation
- Sparkro Pyroboost Solution Pvt Ltd
- TJ Marine Products Pvt Ltd
- Purandhareshwara Steel Ltd
- ETCOM Engineering Services
- Jiangyin Uni-pol Vacuum Casting India Pvt Ltd
- Maxxroof Pvt Ltd
- Holm KK Extrusion Pvt Ltd
- Emkay Polymer Ltd
- Technosys Engineering Pvt Ltd
- C/O Texam Projects LLP
- Bhavani Industries Pvt Ltd



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