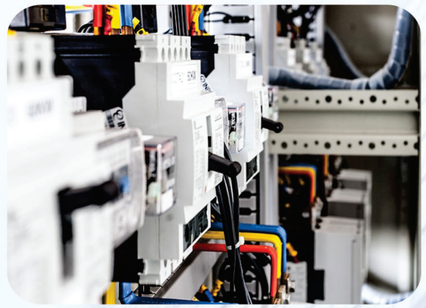
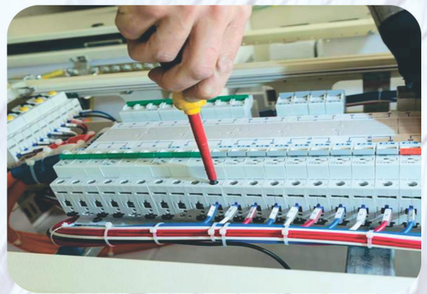




USC

United Switchgear Company PVT Ltd.

MANUFACTURE & ELECTRICAL EPC CONTRACTOR

Manufacturing Unit:

235 Phase II, Multan Industrial Estate,

4-Km N70 Multan Bypass National Highway, Multan

Tel: 061-6537212, 061-6521156

Mob: 0334-7981750, 0332-4399615, 0300-5801750.

Lahore Office:

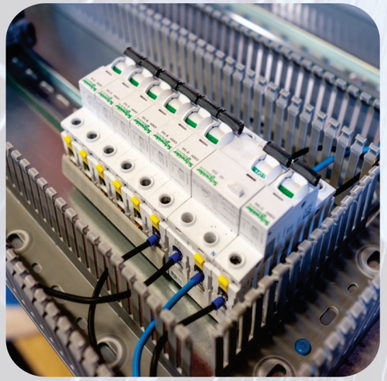
Office No. 01, Makki Complex 16-KM Ferozepur Road, Lahore.

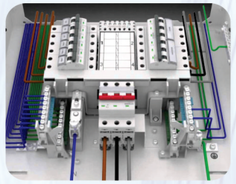
Tel: 042-35821156

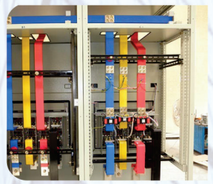
Mob: 0301-4223806, 0300-4564645

E-mail: sales@uscltd.com.pk, uscswitchgear@gmail.com

Website: www.uscltd.com.pk







The Power to deliver

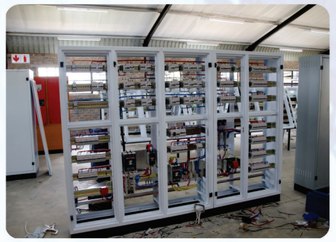
United Switchgear Company equipped with Man Power having over 30 +years of experience in design, installation & Commissioning of Electrical equipment's is an emerging Company in Todays electricity market of Pakistan. Today United Switchgear is at the cutting edge of design and innovation, engineering of EHV, High, medium and low Voltage switchgear and providing retrofit and automation solutions to customers.
Through our customers, United Switchgear's power distribution solutions facilitate the delivery of electricity to homes and businesses nationwide.
United Switchgear's purpose built, state of the art facility in Multan Industrial Estate, is home to its main manufacturing plant in the Pakistan. From this base we offer nationwide support to our many customers, joint ventures and business partners across the Country.

Our primary focus is to provide an excellent service to customers. Offering a complete product Portfolio and a wide scope of services, our excellence is based on a long tradition of expertise, coupled with state of the art technology to meet the stringent customer specifications of today.

United Switchgear specialises in providing services for the electrical utilities market sector. Long-term contracts and specifically tailored products for Distribution Network Operators and Electricity Companies make us one of the few Companies that can offer truly bespoke solutions. With the expertise to refurbish, retrofit and upgrade our own equipment, and that of competitors for maximum life expectancy, United Switchgear offers power distribution solutions to utilities and partners throughout Pakistan. United Switchgear establishing links around the world, joint ventures in Afghanistan.

Demonstration and training facilities located throughout the business also allow customers to become familiar with quality switchgear at first hand - before it becomes part of their business. Staying ahead of the competition with technical excellence and responsive after sales care, United Switchgear has the capability to manufacture units for any location, climate or situation.
Years of experience give the company the knowledge to perform in any situation, developing solutions that can be switched quickly by remote means – however far away. Installations housed in hostile or inaccessible locations need to be operated quickly and our advanced remote operation solutions satisfy the most complex system specifications.

At United Switchgear quality, safety and protection of our environment is paramount. From the selection of materials through manufacturing to final inspection, products are monitored to meet the most stringent requirements. Small enough to care but big enough to perform, United Switchgear has the capability and capacity to work on any contracts, large or small.



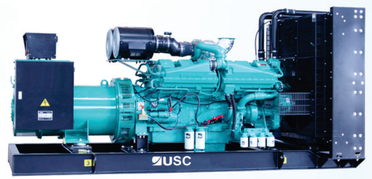
Client List

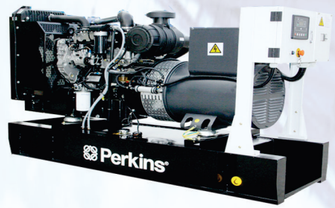
CREC 中国铁建 · GRC Ghulam Rasool and Company Pvt Ltd. · BEIXIN · CRFG
HABIB CONSTRUCTION SERVICES · FLOW PETROLEUM · RADIO PAKISTAN · DHA
MALL OF MULTAN THE DESTINATION · Uni Build ASSOCIATES (PVT) LTD. · NATIONAL ENGINEERING SERVICES PAKISTAN · PEPSICO
Pizza Hut · Coca-Cola · RAHIM YAR KHAN J.K.DAIRIES · Fatima Group
DG CEMENT · Sefam House of Quality · UNITED CONTRACTORS · METRO BUS MULTAN
prohealth · Buch EXECUTIVE Villas · COLONY Colony Mills Limited · BURGER KING
Green Technologies · DINSONS Private Limited · SABSON ENERGY · KFC

Power Generators

USC is one of the largest suppliers of Line Conditioning and Power Supply equipment to the telecom & power industry in Pakistan. Our equipment is installed country wide and we provide on-site service and maintenance of our equipment, meeting the most stringent requirements of the telecom & Power industry.

Our international partners for producing various generators include Perkins (UK), Meccalte (UK), Cummins (USA), Sincro (Italy), Yamaha (Japan), Deepsea (UK) and several other world renowned companies. A complete range of branded generators from 5kVA to 1250kVA are available with automation, soundproof canopies, and installations.





Solar Power System

We grew up to reach every corner of Pakistan, to spread the awareness about the use of solar products for the betterment of this environment, with a promise of progress and inclusion for all.

On our journey we have to encourage the people to protect the environment and we pledge everyone to join hands with us to make this world a better place to live. As a leader in solar industry we present a dream of clean tomorrow and future where all will live independently from captive energy.

Our Capabilities

United Switchgear capabilities encompass both hardware and soft are design for power distribution and control system projects. The integrity of our design process is second to none, focusing on providing the right solution tailored to our clients' individual needs.

Hardware design includes switchboard and motor control centre assemblies and control and instrumentation systems. Our dedicated CAD stations use specialised switchgear and control system design packages. Throughout the design and manufacture process we work closely with our customers.

We encourage openness and honesty because we're confident good communications result in the best solutions for you.

USC also have rigorous in house test facilities enabling acceptance tests to be carried out at our facility. This reduces on site commissioning time and allows customers to alter orders before installation, for greater flexibility and cost efficiency.

This extensive design and manufacture experience means we can deduce exceptional Solutions which all our customers can rely upon. We're keenly aware of the growing demands and expectations of our customers and do our utmost to deliver the most extensive solutions. It is our business to provide our customers with tangible benefits that will enhance efficiency and save them money. We focus on electrical solutions that will deliver the CAP-EX savings on civil and mechanical requirements associated with projects.

These added value advantages demonstrate our flexibility, but also our aim to provide Sustainable energy efficient solutions. As a company firmly focused on the future, environmental awareness matters greatly to us. It is a commitment we put into action every day.

Services And Supports

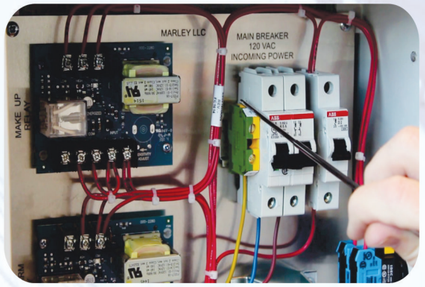
United Switchgear Company believes Continuous quality checks at various stages of design, manufacture and testing ensures that customers receive the quality product they require. The document control system guarantees that only the latest relevant documents, drawings and standards are in circulation at any time.

In – house test facilities allow acceptance tests to be carried out at our works.

Thus reducing on – site commissioning time and offering customers the opportunity to initiate change orders prior to installation, primary injection in the range up to 3000A is available for test tripping of circuit breakers to get her with impulse testing up to 50 kV.

USC offers customers a comprehensive site reassembly and commissioning service plus 2 4 – hour after sales service, with response times being kept to a minimum.

- ✓ Best manufacturing programme
- ✓ Full in-house testing
- ✓ Site commissioning
- ✓ Site surveys
- ✓ Installation service
- ✓ Comprehensive operation and maintenance manuals
- ✓ Power Quality and Analysis Services



Engineering Design, Testing & Commissioning.

We Design electrical System ranging from a small industrial unit to a Complete Grid Station.

The Engineering Design Service Includes:

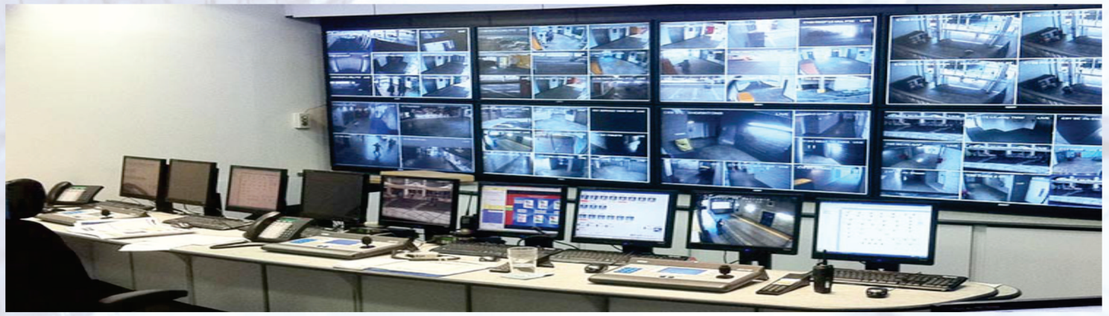
1- Transformer & Cable , Battery Sizing Calculations.
2- Cable & termination Schedules for Site.
3- CT PT Sizing Calculations.
4- Design of Protection Logic for a given System
5- Interfacing, Site Testing & Commissioning etc.
6- Relay Settings Calculations & Configurations.

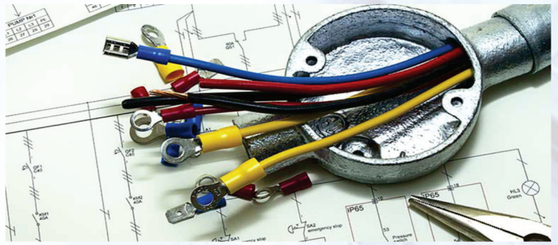
LV INSTALLATION

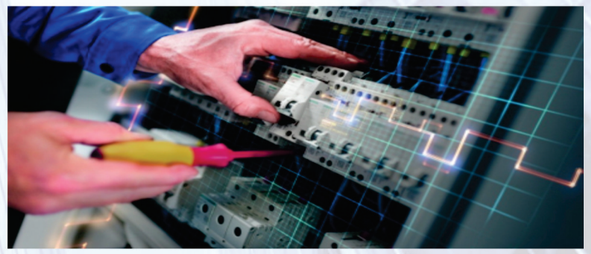
Every technical system depends on a reliable supply of electric power.
United Switchgear Company provides a safe low voltage installation complying with international standard.

Electrical Installation

Wiring, Cabling & lighting fixtures, conduits, Cable Tray Systems (supply & installation)







MV INSTALLATION

Medium Voltage Products business unit provides utility, industrial and commercial customers with safe reliable and smart technologies for thedistribution of electricity. The extensive global offering includes distribution automation products, switching, limiting, measuring and sensing devices switchgear, modular substation packages and related services.

This includes installation of Supply & installation of

- ✓ MV SWITCHGEAR PANELS,
- ✓ HT TRENCHES, FOUNDATIONS & ASSOCIATED MV CABLING.
- ✓ MV PAD MOUNTED TRANSFORMERS.
- ✓ KIOS SUBSTATION.
- ✓ RING MAIN UNIT (RMU)
- ✓ POWER TRANSFORMER
- ✓ 15KV CABLE TERMINATION KITS INSTALLATION

KIOSK TYPE COMPACT SUB STATIONS

These Sub-Stations have almost the same functional features as Pad Mounted Transformers (Compact Sub-Stations), except that these are walk–in-type and the operation of the devices can be performed while standing inside the station. MV switching device is selected in accordance with customer's specification. It could be a compact RMU or isolating switches, as required. The kiosk is self-contained sub-station having its own source of auxiliary supply (battery & battery charger) and is supplied complete with protection and metering devices, internal lights, etc., ready for external cable connections and commissioning.

Our Products Portfolio

- ✓ Main LV Switchboards.
- ✓ Motor Control Centres.
- ✓ PFI Plant.
- ✓ Harmonic Filter Panels
- ✓ Auto Transfer Panels (ATS).
- ✓ Auto Mains Failure Panels (AMF).
- ✓ Synchronizing and Loa d Sharing Panels.
- ✓ Solar Panels.
- ✓ PLC Marshalling Cubicles.
- ✓ Bus Tie Ducts.
- ✓ Educational Trainers.
- ✓ Main MV Switchboards.
- ✓ MV Power factor Improvement Panel.
- ✓ MV Harmonic Filter Panels.
- ✓ Feeder / Transformer Protection
- ✓ Neutral Grounding Resistor (NGR) Panel
- ✓ Pad Mounted Packed Substation Panels
- ✓ Ring Main Units.
- ✓ MV Auto Transfer/Changeover Panel (ATS).
- ✓ MV Auto Mains Failure Panel (AMF).
- ✓ Synchronizing and Load Sharing Panels.
- ✓ Power Transformer Marshalling Kiosk.
- ✓ Distribution Transformer Protection & metering Panel.
- ✓ 380/220/132 KV Control & Relay Panels.

Main LV Switchboards

USC LV switchboards are constructed from IEC 60439 and IEC 61439 compliant switchgear system in producing quality LV switchgear.
USC built switchboards are class leading in terms of technical performance, versatility of design and whole life operational costs. We offer front or rear ac cess busbar systems, Routine tested naturally cooled ACB cubicles to 6300A and construction to Form 4B with front or rear cable access options available.

Technical Specifications	
Construction Separation	✓ To IEC 61439-2, Up to Form 4B
Busbar System Current Rating	✓ 800A to 6300A
Busbar System Short Circuit Rating	✓ 36kA/ 1s) (50kA/1) (50kA/3s) (80 kA /1s) (100kA/1s)
Voltage Ratings	✓ 400V / 690V
Cable Access	✓ Top, Bottom, Front or Rear
Ingress Protection	✓ IP 54, IP 42 or IP 31
Panel Colour	✓ Available in all RA L (Default: RAL 7032)
Safe Access from Direct Touch	✓ Provided by Default
Sheet Thickness	✓ Standard 2.0 mm or as required.
Mimic	✓ Optional
Insulated Bus Bars	✓ Optional
Neutral busbar options	✓ 100% or (50% : Default)
Earth busbar options	✓ Optional

- ✓ Short circuit withstands strengths and temperature rise limitations in accordance with IEC- 61439 standards.
- ✓ Top or bottom mounting main busbar system
- ✓ Front or rear access busbar systems, suitable for thermo graphic imaging

Easily accessed front or rear mounting secondary branch

insulated busbar systems available (Non -Standard Feature)
100% or 50% neutral busbar options
Accommodation of fixed or withdraw able ACB's,MCCB's, fuse-switches and integrated PFC
Top, Bottom, Front or Rear cable access

LOW CURRENT SYSTEM INSTALLATIONS

Fire Alarm System

Fire fighters telephony & voice evacuation system whether conventionalor addressable, USC provides hign end fire alarm installation complying with the highest norms such as NFPA

CO Detection System

This system that allows the detection of carbon monoxide gas in order to prevent carbon monoxide poisoning.USC installsand supervises the system.

Data & Networking System

Ensuring reliable data installation solution, with necessary certification of installation & termination of copper / Fiber optic cables, patch panels switches and IT racks and servers

Access control System

It is a system that controls the restriction of an entrance to a property, building, or a room to authorized persons and it involves many procedures which USC can provide.

CCTV System

Giving adequate CCTV installation solution (analog / IP)

SMATV System

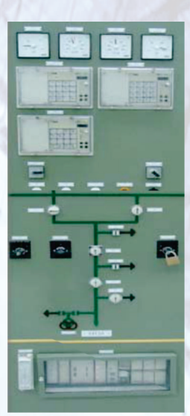
Providing reliable IF,IR&IP system.

Telephony System

From analog to digital and VOIP, we provides adequate telephony system installation along with full service.

500/220/132kV GRID STATION CONTROL & RELAY PANELS.

Control & Protection Panels Upto 500kV Are Designed, Manufactured And Supplied To Suit Requirements Of Each Specification.



RANGE OF CONTROL PANELS SUPPLIED

- ✓ Local Control Panels for 220-132 kV Substation.
- ✓ Remote Control Panels for 132 kV and 300 kV Substation.
- ✓ Relay Panels for 220-132 kV Substation.
- ✓ Remote Control and Relay Panels for 11 kV and 33 kV Substation.
- ✓ Tap Changer Control Panels for 132 / 11 kV and 380 /132 kV Transformers
- ✓ Pilot Marshalling Cabinets
- ✓ Telemetry Terminal Transfer Cabinets
- ✓ Annunciator Panels
- ✓ Synchronizing Panels
- ✓ Substation Relay Setting Calculation & Configuration

TECHNICAL SPECIFICATION

Reference Standard	IEC 60439-1
Rated Insulation Voltage	690 V, 50 Hz / 60 Hz
Degree of Protection	IP 40, IP 43, IP 54, IP64 or IP 67 (Outdoor)
Panel Colour	Available in all RAL : (Default RAL 7032)
Cable Entry	Bottom
Access	Front / Rear

Motor Control Center

From Textile to petrochemical, water utilities to power generation, United Switchgear has extensive experience in the successful implementation of complex motor Control Centre Projects across all industry sectors.

Our versatile USC switchgear system Accommodates Fixed or Withdraw able MCC's designed to meet the ever changing requirements of today's process industries. All types of fixed and variable speed starters are available and we offer designs in both Form 2 and Form 4.

Technical Specifications	
Construction Separation	✓ To IEC -61439-2, Up to Form 4B
Busbar System Current Rating	✓ 800A to 6300A
Busbar System Short Circuit Rating	✓ 36kA/ 1s) (50kA/1) (50kA/3s) (80 kA /1s) (100kA/1s)
Voltage Ratings	✓ 400V / 690V
Cable Access	✓ Top, Bottom, Front or Rear
Ingress Protection	✓ IP 54, IP 42 or IP 31
Panel Colour	✓ Available in all RA L (Default: RAL 7032)
Safe Access from Direct Touch	✓ Provided by Default
Sheet Thickness	✓ Standard 2.0 mm or as required.
Mimic	✓ Optional
Insulated Bus Bars	✓ Optional
Neutral busbar options	✓ 100% or (50% : Default)
Earth busbar options	✓ Optional
MCC Category	✓ Type 1 & Type 2 Coordination

Automatic & Manual Power Factor Improvement Plant

Automatic Power Factor Correction (APFC) Panels from United Switchgear Company (USC) are designed to provide unmatched performance, reliability and versatility for critical Power Network applications. The (APFC) can be equipped with controllers to match your application needs. All the controllers offer rock-solid control & monitoring, front panel status reporting and control operation combined with Superior design and robust construction We follow 100%; testing that includes the following (Visual and dimensional check, Mechanical operation check, Applied voltage test to earth on power circuits: 3kV for 1 minute, Electrical and functional operational check) after passing a Routine Factory Test (RFT) Certificate is issued with every panel manufactured.

Electrical Ratings

- ✓ 100,150,200,250,300,400,500,600,750,900,1200 KVAr (other ratings are available on request)
- ✓ Heavy Duty Capacitors Rated415V, 460, 480 VAC for extra protection against over voltage
- ✓ Self-Healing MKP Dielectric
- ✓ Over Pressure Device for the capacitor
- ✓ Standard IEC 831-1/2 and IEC 439-1
- ✓ Relay current input signal: from CT on line .../5A
- ✓ IP 54 indoor (outdoor ratings also available)

PAD MOUNTED TRANSFORMERS

Main components of this unit are medium voltage switchgear arranged to function as a Ring Main Unit (2 -TP disconnect switches and 1 -fused T- off) transformer, LV Switchgear and control gear, corresponding interconnections and auxiliary equipment t. Enclosure is made of 2-3 mm sheet steel. These sub-stations are manufactured for outdoor use, suitable for mounting on a concrete pad. Door interlocks and other safety features are inherent part of the design. These compact substations are used in distribution centres and industial installations having underground cabling.

TECHNICAL SPECIFICATION

- ✓ Rated voltage up to 17.5 KV
- ✓ Transformer rating up to 2500 KVA
- ✓ Protection class` IP54
- ✓ Available Ratings 100, 200,400,630, 1000 KVA

BROADCASTING

AM TRANSMISSION

110 kW RF maximum output power
90% efficiency at 100 kW typical
Field tunable to any MW frequency
140% positive peak modulation at 100 kW
1.5:1 VSWR threshold at 100 kW, 100% modulation

40 RF power modules each with:
- Digital optimized linear design
- Integrated RF amplifier/modulator
- Microcontroller for protection and monitoring
- Short circuit protection
- Hot pluggable

Dual exciters and modulation encoders:
- Digital precorrection
- 1.8mega-samples/second Direct Digital Modulation
- MDCL/Dynamic carrier control algorithms included
- Integrated AM stereo
- Audio filtering with pre-emphasis and low pass
- Automatic changeover

Integral Digital Broadcast Support options
- DRM 4.5/5/9/10/18/20 kHz and simulcast modes
- HD Radio
- Two AES-EBU inputs supporting analog or digital I,Q inputs

Control and Monitoring
- 17"/436mm LCD touch
- Web based remote access/control
- Contact closure remote interface
- SNMP
- Redundant back-up control interface
- Module level monitoring
- Power, current, voltage, RF spectrum, RF impedance, modulation, heat sink, fan RPM

Voltage: 380/400 Vac 3 phase or to customer specifications

NX Series dimensions per 100kW cabinet
1.84 m H x 0.96 m W x 1.12 m D
72.5" H x 37.75" W x 44" D

External Transformer Dimensions (100 kW Transmitter[**])**
1.16m H x 1.11m W x 0.58m D
46" H x 44" W x 23" D
Cabinet and transformer dimensions may vary depending on power level and specific customer specifications

* Please refer to the specifications for full details of individual NX Series transmitters
**Please note that the NX50, NX25, NX15, and NX 3/5/10 transformers reside within the NX cabinet
† 2.7 MSPS in NX300
3. Not available on NX3/5/10

FM TRANSMISSION

GV SERIES		GV3.5 (Upgradeable)	GV5	GV7.5 (Upgradeable)	GV10	GV15 (Upgradeable)	GV20	GV30N	GV30 (Upgradeable)	GV40	GV60	GV80
Analog Only	Max Power	4.1 kW	5.5 kW	8.2 kW	11 kW	16.5 kW	22 kW	33 kW	33 kW	44 kW	66 kW	88 kW
	Typical Efficiency	71%	72%	71%	72%	71%	72%	72%	71%	72%	72%	72%
FM + HD -20dB	Total Avg Power MP3[1]	3.9 kW	5.2 kW	7.8 kW	10.4 kW	15.5 kW	20.7 kW	31.1 kW	31.1 kW	41.4 kW	62.1 kW	82.8 kW
	Analog Power MP1[1]	3.8 kW	5.1 kW	7.7 kW	10.3 kW	15.4 kW	20.5 kW	30.8 kW	30.8 kW	41.0 kW	61.5 kW	82.0 kW
	Analog Power MP3[1]	3.8 kW	5.0 kW	7.5 kW	10.0 kW	15.0 kW	20.0 kW	30.0 kW	30.0 kW	40.0 kW	60.0 kW	80.0 kW
	Typical Efficiency	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
FM + HD -14dB	Total Avg Power MP1[1]	3.6 kW	4.8 kW	7.2 kW	9.6 kW	14.4 kW	19.2 kW	28.9 kW	28.9 kW	38.5 kW	57.7 kW	77.0 kW
	Analog Power MP1[1]	3.5 kW	4.6 kW	6.9 kW	9.3 kW	13.9 kW	18.5 kW	27.8 kW	27.8 kW	37.0 kW	55.5 kW	74.0 kW
	Analog Power MP3[1]	3.4 kW	4.5 kW	6.8 kW	9.0 kW	13.5 kW	18.0 kW	27.0 kW	27.0 kW	36.0 kW	54.0 kW	72.0 kW
	Typical Efficiency	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
FM + HD -10dB	Total Avg Power MP1[1]	2.8 kW	3.7 kW	5.6 kW	7.4 kW	11.1 kW	14.9 kW	22.3 kW	22.3 kW	29.7 kW	44.6 kW	59.4 kW
	Analog Power MP1[1]	2.5 kW	3.4 kW	5.1 kW	6.8 kW	10.1 kW	13.5 kW	20.3 kW	20.3 kW	27.0 kW	40.5 kW	54.0 kW
	Analog Power MP3[1]	2.5 kW	3.3 kW	5.0 kW	6.6 kW	10.0 kW	13.0 kW	20.0 kW	20.0 kW	26.0 kW	40.0 kW	52.0 kW
	Typical Efficiency	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%
HD Only -20dB	Max Power MP3[1]	2.1 kW	2.8 kW	4.1 kW	5.5 kW	8.3 kW	11.0 kW	16.5 kW	16.5 kW	22.0 kW	33.0 kW	44.0 kW
	Typical Efficiency	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
HD Only -14dB	Max Power MP3[1]	1.7 kW	2.3 kW	3.4 kW	4.5 kW	6.8 kW	9.0 kW	13.5 kW	13.5 kW	18 kW	27.0 kW	36.0 kW
	Typical Efficiency	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
HD Only -10dB	Max Power MP3[1]	1.5 kW	2.0 kW	3.0 kW	4.0 kW	6.0 kW	8.0 kW	12.0 kW	12.0 kW	16.0 kW	24.0 kW	32.0 kW
	Typical Efficiency	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
AC Input		1-Ph 175-265 V or 3-Ph 175-265 V / 303-459 V (47-66 Hz)[2]										
Power Modules		2		4		8		12	16		24	32
Switching Power Supplies		4		8		16		24	32		48	64
Power Factor		0.98 (unity power factor corrected)										
Height (in/cm)		72.5 (184.2)									103.7 (263.4)[4]	
Width (in/cm)		23 (58.4)				36 (91.4)		51 (129.5)	66 (167.5)		102(259)	132(335)
Depth (in/cm)		33 (83.8)[3]										
Weight (in/cm)		333 (151)		421 (191)		830 (376)		1235 (560)	1,640 (744)		2600(1182)	3420(1555)

GV Series

PETROLEUM & INSTRUMENTS

USC Provide a wide range of Electrical & Instrumentation Services on EPC Basis Quantum of different disciplines with respect to Project & Services may be distributed as under:

- ✓ Power distribution networks.
- ✓ Earthing and cabling works.
- ✓ Trenches & cables tray.
- ✓ Plant Electrification.
- ✓ Telecommunication
- ✓ Lightening & Grounding system.
- ✓ Substations
- ✓ Instrumentation and control.
- ✓ Testing & commissioning of Electrical system.
- ✓ Motor Pumps & Generators Installation Commissioning & Maintenance.

MV Feeder Protection Panels

Features

- ✓ Air insulated, single bus bar system
- ✓ Protection to IP4X (enhanced degrees as option)
- ✓ Maintenance- free VCB/ SF6 breakers
- ✓ Interchange ability of similar rat ed breakers

Safety

- ✓ Metal clad and compartmentalized design to IEC 62271-2 00
- ✓ Easily and safely accessible service and test positions
- ✓ Prevention of operator errors with interlocks
- ✓ Type tested as per IEC 62271-200 and WAPDA Standard

HYUNDAI VCB Specification & Protections

Rated voltage	up to 17.5KV
Rated current	630A - 2500A
Rated short time current	up to 40KA
Protection class	IP 4X
CB Type	Vacuum / SF6
Trip Coil	110 V DC
Closing C oil	110 V DC
Motor	220 V AC , 250 VA
UVT	110 V DC
Capacitor Trip Unit	110 V AC/DC
Anti-pumping Relay	Yes
Indications on Breaker	ON/OFF
Spring Charged Indication	Yes
Earth Switch	(Optional)
Protection functions	50,51,50N,51N,86,49,27,59

VAMP
Relay Partner

Harmonic Filter Panels & Associated Services.

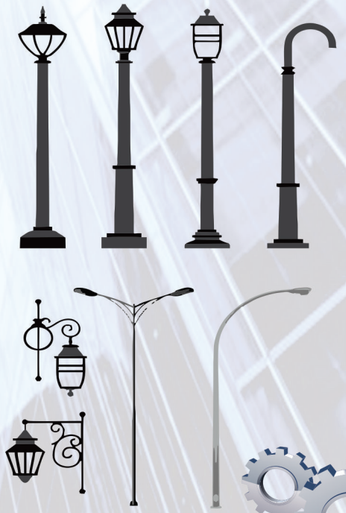
Power Quality Correction solutions from United Switchgear Company USC Unbiased technical expertise and "best fit" solutions to power quality problems such as system harmonics, power factor correction and voltage flicker.

We provide full power quality solutions from initial power quality analysis surveys through to bespoke power quality solutions such as De-tuned PFC Banks and Active Harmonic Filtration & mitigation.

- ✓ Detailed Power Quality Analysis surveys available
- ✓ Impartial engineering advice
- ✓ Fully automatic PFC banks available up to 1200 kVAr
- ✓ Conventional or Static switched PFC stages
- ✓ (with Tuned or De-Tuned options)
- ✓ Harmonic Filtration, Voltage SAG & Flicker control solutions
- ✓ Modular semi-with draw able construction

STREET LIGHT POLES AND FANCY POLES STEPPED POLES

The stepped pole, is certainly the most usual model. The Standard typology, includes poles of different lengths from 4 to 13 meters. Manufacturing from steel pipes, joines together by transversal arc welding. The number of tapering changes following to the height of the pole. The whole production is hot dip galvanized.



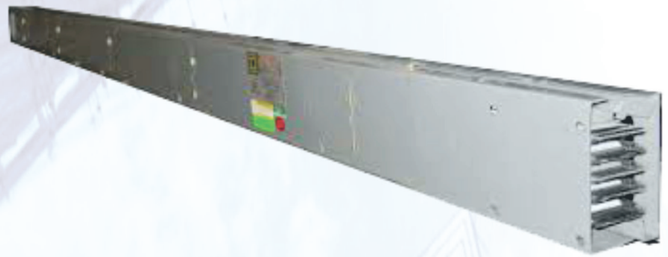
ATS, Synchronizing And Load Sharing Panels.

KEY LOAD SHARE FEATURES

- ✓ Fixed export with mains (utility)
- ✓ Synchronizing up to 16 generators
- ✓ Sequential start
- ✓ Direct governor and AVR communication and control Manual voltage, frequency and speed adjustment
- ✓ Volts and frequency matching
- ✓ Dead bus sensing
- ✓ Generator load demand kW and kVAr load sharing
- ✓ Automatic hours run balancing.
- ✓ R.O.C.O.F & Vector Shift
- ✓ Complete Metering, Alarms and Protection

BUS TIE DUCTS (BTD)

United Switchgear Bus duct is a product for the distribution of power throughout all types of installations. Whether you require rising mains in a tower building or an entire LV distribution system, we provide the complete design and installation package to suit your building design.



- ✓Copper or aluminium conductor options
- ✓ Maintenance free joint system
- ✓ Direct connection to switchgear available using flanged end units
- ✓ End-feed units available for connection to feeder cables
- ✓ Site installation packages available, carried out by

Specification Overview	
Busbar System Current Rating	800A to 6000A at Low Voltage
Busbar System Short Circuit Rating	50kA for 1s to 100kA for 1s
Voltage Ratings	415V / 690V
Ingress protection	IP 40, IP 43, IP 54, IP64 or IP 67 (Outdoor)
Panel Colour	Available in all RAL : (Default RAL 7032)