

COMPANY PROFILE

RADIX
POWER ENGINEERING

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Welcome to **RADIX POWER ENGINEERING** – one of the engineering industry leaders in Bangladesh. We are glad to introduce ourselves as **RADIX POWER ENGINEERING** which is a well-known name as manufacturer, importer and service provider in the arena of Sub-station, Diesel Generators, Busbar Trunking System, Elevators, Fire Fighting Equipments, Solar System, LED Lights, Voltage Stabilizer, on-line & off-line UPS, EPC etc in Bangladesh.

RADIX is committed to supply the best quality products to our valuable customers at affordable prices with the right products. We always keep our promises by providing the reliable and sustainable technology-based solutions to our customers.

RADIX POWER ENGINEERING never compromise with the quality of their products and services. After sales service support is our key subject matter to us for your each business deals.

Our Mission:

Our Mission is to Deliver the sustainable and innovative solutions to our customers and contribute to build the excellent environment to work peacefully.

Our Vision:

Our Vision is to be the most influential market leader in the field of Power Solutions Technology.

Our Values:

Our Team: We respect each and every person of our Team and Grow together with confidence.

Justice and Fairness: We always do the right thing with highest level of integrity.

Commitment: We are committed to deliver our best level of efforts for the development of society.

Boldness: We are Brave-hearted, Fearless and Positive thinker to take the right decision.



RADIX POWER ENGINEERING deals with following product lines. We have several customization options according to the client's requirement.

Substation:

- Current Transformer (CT)
- Potential Transformer (PT)
- Lightning Arrestor (LA)
- Drop out Fuse (DOF)
- HT Switchgear Panel
- 11/.415KV Distribution Transformer
- Power Factor Improvement Plant (PFI)
- Earthing
- Cables
- Civil & Government Work

Others Products:

- Generator
- Elevators
- Busbar Trunking System
- Fire Fighting Solutions
- Solar System
- Voltage Stabilizer & UPS (online & off-line)
- Lighting Protection System
- Lighting Control & Automation System
- EPC



11/.415KV Distribution Transformer:

RADIX POWER ENGINEERING has been manufacturing best quality distribution transformers. RADIX POWER ENGINEERING Transformers are manufactured in accordance to the requirement of individual customer request to one of more internationally recognized standard makes the conventional/scaled oil immersed, natural cooled, three phase distribution transformers suitable for outdoor and indoor installation. These Transformers are available in Power range from 50 to 4000 kVA comes in option with on or ok load tap change.

Oil Immersed Distribution Transformers:

Our standard range of transformers are available as:

- Three phase units (single phase available on request)
- With ratings up to 4000 kVA, 36 kV, 50/60 Hz
- With conservator or hermetically sealed type
- Ground, pad Mounted
- Naturally cooled (ONAN), air forced (ONAF) or other type of cooling upon request
- With normal or low noise or loss levels



Dry Type Cast Resin Transformer:

C3*

Lowest ambient temperatures:

- Operation- 50°C
- Storage/Transport- 50°C (*C2
- Thermal shock test carried out at -50°C).

E3

- Nearly total condensation or heavy pollution or combination of both.
- Abnormal level of humidity up to 95%
- According to new IEC 60076-16 standard.

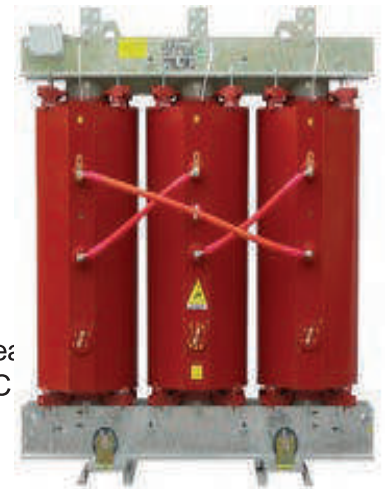
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Transformers subject to a fire hazard:

- Self-extinguishing transformer fire.
- Restricted flammability required.
- Limited contribution with calorific energy to the source of fire.

≤ 5pC

- Maximum level of partial discharges measured during special test according to IEC 60076-11 Standard.
- Resistant, Safe, Versatile Economic & Compact.



LV Switchgear Assemblies



Main Switch Boards:

Main Switch Board with custom solutions for each and every application are completed for various logical arrangements. This complete electrical engineering designs are done considering the operator and equipment safety as one of the prime factors.

Features

- Modular design
- Suitable for cable terminations either from front Or rear depending on the customers requirement.
- Provision for cable or bus duct termination
- Fully type tested busbars up to 6300A, 100 KA/1sec (Higher current ratings on request)
- Optimum design (L Shape, U shape, single or Double front etc.) to suit site requirements or Restrictions of electrical installations
- Form of separation up to form 4b
- Enclosed assemblies degree of Protection up to IP 65

Meter Panel Boards:

Low voltage meter panels with facilities for measurement of electrical energy in main or sub circuits are tailor made for various energy measurement requirements in various electrical power distribution applications such as shopping malls and residential apartments.

Features

- Made for single or three phase metering
- Made for indoor or outdoor applications
- Facilitates flexibility in installation and Convenient usage.



Motor Control Centers:

The low voltage motor control center (MCC) are the Backbone of many electrical installation including water or wastewater facilities distributing and Controlling electrical power to the raw water pumps, Back wash pumps, air blowers and high lift pumps etc.

Motor control centers contain various electrical Switch-gear such as conventional and solid state Motor starters, AC drives, auto transformers, power Monitoring and controlling devices, programmable Logic controllers (PLCs), human machine interfaces (HMI) and (SCADA) system.

MCCs can be made for complete automatic and Remote operation specially in remote areas where Various electro-technical equipment are installed at considerable distances apart with radio transmission and GSM technologies etc.



Synchronization Panels:

Synchronization panels are mainly designed and used to meet power system requirements. These Panels function both manually and with an automatic Synchronizing function for two or more power Sources. They are widely used in synchronizing Generators and offering multiplex solutions.



Automatic Load Transfer Panels:

Automatic load transfer panels facilitate convenient Load transfers from the main to alternate power Generating system in the shortest possible time in The event of power failure.

The panels monitor the voltage and frequency of Main electricity supply continuously and in case of Any fluctuations, such as voltage variations, phase Failures, electricity failures etc., it will signal to start The generator automatically, and hence the load is Transferred automatically.

After the main electricity supply resumes, Automatic Load transfer panel will controls the transfer from Generator electricity to main electricity after a Predefined time delay. Simultaneously, it controls The generator set to shut down after a time delay.

Power Factor Correction Capacitor Bank:

Our low voltage automatic power factor correction Capacitor bank are designed for system requiring Optimum power factor correction.

The simple modular designs allow for future

Expansion as plant loads increases. Installation and startup is simple and free of common problems.

Features:

- Automatically controlled power factor regulation
- System wide correction with a single piece of equipment

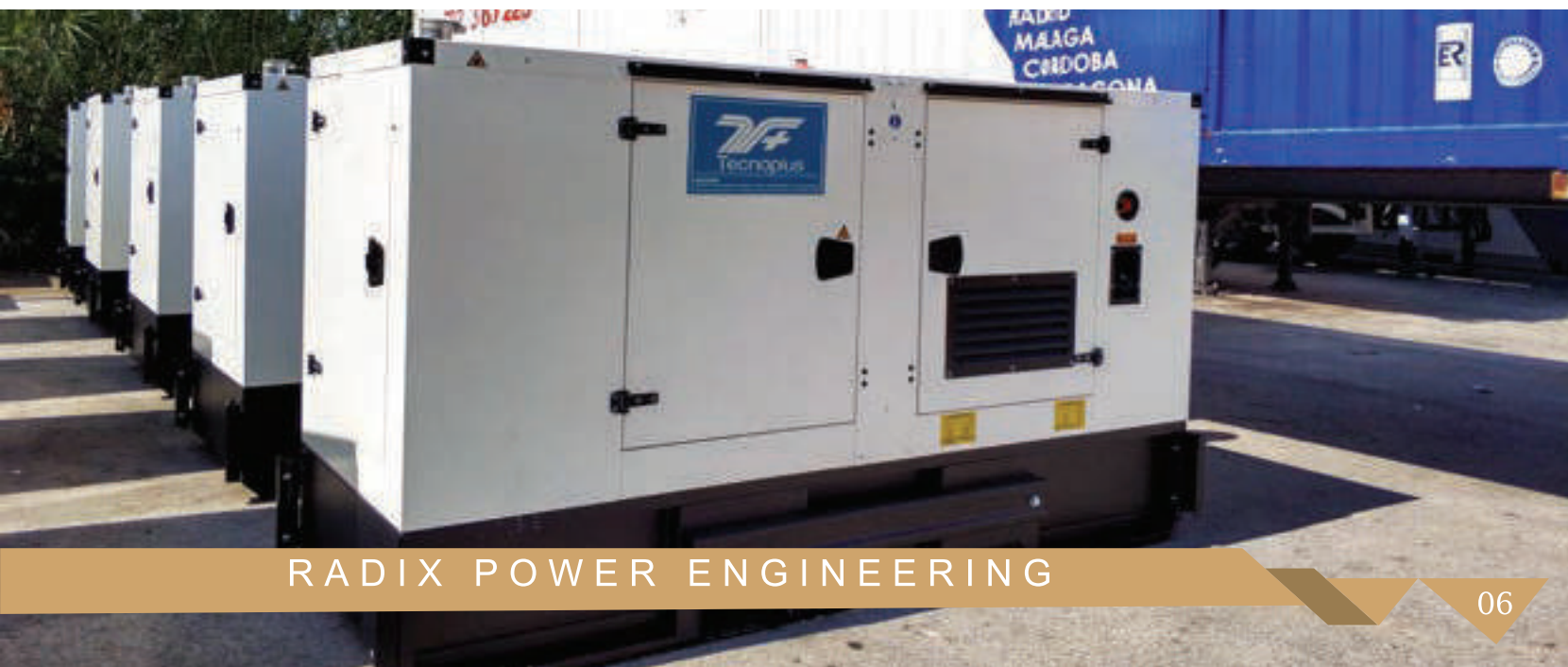
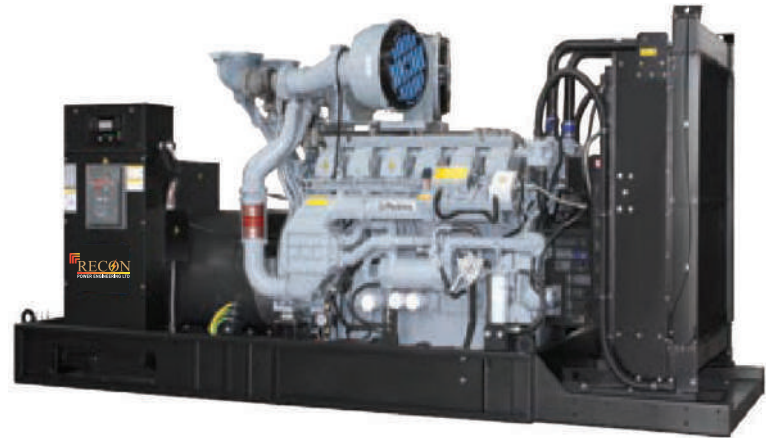


Radix Power Engineering does Supply, Installation, testing and commissioning of Copper earthing block with required nos. of adequately sized holes for ECC connection One for transform- er neutral and another for all sub-station Equipment's ECC connections. Another part of Earthing work is Supply & Installation of Earth electrode buried in the damp soil including adequate rated Copper wire from bottom of GI pipe up to ground level. Another part is to Supply & Installation of earthing lead, adequately rated Copper wire through PVC pipe if required from earthing block to earth electrode.

Diesel Engine Generator:

RADIX Power Engineering offers 100% reliable world-class generating sets between 20 KVA to 2500 KVA available in various engine and alternator combinations. We provide with the Brands like- Perkins, Cummins, Deutz and Volvo engines, integrated with Stamford and Meccalte Alternators.

- ✓ We have Skilled Engineers and Technical Personnel for Generator Installation, Commissioning and Maintenance related works.
- ✓ We also Provides after Sales Service Support as per Annual Maintenance Contract (AMC).
- ✓ We have Spare Parts Support Facilities for our Customers.





Home Elevator:

Your perfect life is comfortable and relaxing
The humane design decorates your noble life space. We enhance your life grade in the times of high & new tech. It displays the outstanding properties in a limited space. It has no machine room. Extremely small top-floor height can match with various old and new residences. Relying on the standard track installation system, the elevators can be installed more quickly and conveniently. In addition, the smooth start and leveling system bring about the more stable elevator operation. Therefore you feel more comfortable in the elevator travel.

The characteristics of home elevator:

No need of traditional machine room, without any construction cost increased.

Specially designed rucksack frame for the home elevator with traction ratio 2:1

VVVF drive technology, this home elevators appropriate microprocessor control.

Slide + roller composite guide shoe

The appropriate traction machine bracket is fixed on the guiderail. The building will not have any load.

We apply 220V single-phase home elevator special machine.

Automatic special door machine, synchronous timing belt transmission TUV CE Certification poade.

Comply with "home Elevator National Standard GB/t21739-2008"



Hospital Elevator:

Our hospital elevator with full consideration of specific environment of hospitals, adopting worldwide cutting-edge modularized compute control technology, has formed high integrated VVVF serial feeling for patients. Multiple safety property design can effectively reduce the probability of accidents and guarantee the safety of patients with movement difficulties.

Energy Saver: Busbartrunking has lower impedance in comparison to cable and conventional busducts for the same application. Lower impedance means less energy lost during distribution and this translates into cost savings.

Flexible Distribution: Plug-in type arrangement at regular intervals or as per customer design provides efficient power

Less Space: Bustrnking system require less space for installation in a building / Industry as compared to conventional busduct and cable system, so optimum utilization of space.

Conserves Raw-materials & Produces less waste: Material and manpower used in busway is lower than cable & conventional busduct. It saves money on raw materials and create less waste by buing pre-engineered lengths of busway.

Reusable: Busbartrunking system comes with provision of expansions, changes, replacement and reusing.

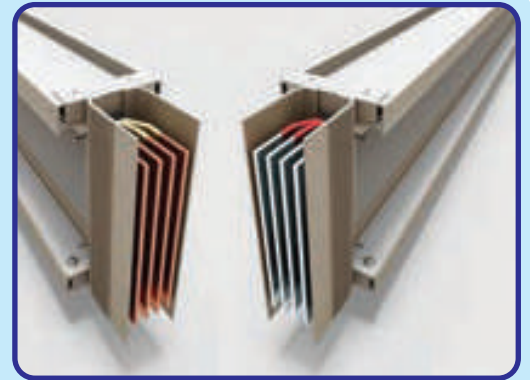
SB-Sandwich Type:

Compliance of Standard	IEC61439 (1&6) & IS 8623 (1& 2)
Independent Certificate Authority	ASTA -UK, CPRI- India
Conductor Material & Ratings	Copper 630A ~ 6600A, Aluminium 400A~500A
Rate Operational Voltage (Ue)	1000 Volt, AC
Rated Impulse Withstand Voltate (Uimp)	12 KV (1.2/50s)
Enclosure Material	G.I/AL
Busbar Insulation	Multi Layer Class -F' Insulation
Degree of Protection	IP 54/IP55/IP65/IP67
Fire Rating	240Min. (ISO 834) 55
Seismic Compliance	Zone -5 (IS:1893/EEE 693)
Section Jointing	Uniblock Joint
Plug -in Box	32~800A



CB-Compact Air Insulated Type:

Compliance of Standard	IEC61439 (1&6) & IS 8623 (1& 2)
Independent Certificate Authority	ASTA -UK, CPRI- India
Conductor Material & Ratings	Copper 125A ~ 2000A, Aluminium 200A~1250A
Rate Operational Voltage (Ue)	1000 Volt, AC
Rated Impulse Withstand Voltate (Uimp)	12 KV (1.2/50s)
Enclosure Material	G.I
Busbar Insulation	Class -F
Degree of Protection	IP 54/55
Fire Rating	200Min. (ISO 834) 55
Seismic Compliance	Zone -5 (IS:1893/EEE 693)
Section Jointing	Uniblock Joint
Plug -in Box	32~800A



CB-Compact Air Insulated Type:

Compliance of Standard	IEC61439 (1&6) & IS 8623 (1& 2)
Independent Certificate Authority	CPRI- India
Conductor Material & Ratings	Copper -25A, 32A, 40A, 63A
Rate Operational Voltage (Ue)	500 Volt, AC
Enclosure Material	Aluminum
Busbar Insulation	Flame Retardant PVC(Class -A' - 105 Deg C)
Fire Rating	200Min. (ISO 834) 55
Section Jointing	inbuilt push fit joint
Plug -in Box rating	Upto 16 A (with/Without Fuse)
Degree of Protection	IP 54/55





Overview of Fire Protection:

Today most of the equipment's used in offices, Industries and at home are highly sophisticated and high-end equipment's. Every workplace has mission critical areas that need to be protected from fire hazard not only to save life and property but also to ensure that the enterprise does not come to a standstill.

The most common fuels in fire and explosion incidents are petroleum products, cellulose materials (wood, paper, cloth) and polymers.

The Combustion Process:

The combustion process will continue as long as the conditions or a chemical reaction exist
Extinguishment can be achieved by removal of any 1 or more elements
Heat, Fuel or Oxygen

Hydrant System:

Network of piping installed underground or overhead around various facilities with hydrant stand posts fitted with landing valves at regular intervals or at distances from the protected risks according to the occupancies.



Voltage Stabilizer and UPS - (Online & Offline)



100% fully rated power capacity
CPU intelligent control, stable and reliable
Main Control PCB adopts SMT process.
Electronic components all adopt imported brands.
LCD digital display, easy setup with menu button
3 Phase are regulated independently, withstand all kinds of load
Overload, Under/Over Voltage, Short Circuit, Bypass protection
Independent Phase Control

UPS – Online and Offline:

- Simple, compact, generous appearance of the machine
- Ultra wide mains input range
- Excellent microprocessor ensures reliable operation
- Automatically adjust the mains boost & buck, output ensure stable voltage
- Main Supply restart function
- Output pure sine wave
- Shutdown charging function
- Cold start function
- Compatible generator



Main Features:

- *High efficiency online double conversion technology
- *High scalability
- *Unity output power factor
- *Modular design lowers MTTR
- *Highly reliable operation with redundant power supply in STS
- *User-adjustable charging current
- *Ease of installation and maintenance
- *Flexible battery configuration adapts different applications
- *High overload capability
- *Graphic 5.7" LCD design for easy management
- *N+1 or N+X parallel redundancy for power guarantee
- *Optional 10" touch LCD panel

Solar :

A comprehensive range of solar modules, charge controllers, solar batteries, solar lights, telecommunication power supplies, and complete system installation

General information on solar cell technology:

Solar cells directly convert sunlight into electricity by means of the photovoltaic effect. This occurs when photons are absorbed by a solar cell which generates a voltage across its terminals. Cells are connected in series within a solar module to provide sufficient voltage to operate a system. Modules can be connected in series and parallel to increase the system power. This solid state process provides a clean, silent, non polluting and reliable source of electrical energy.



Radix Power Engineering Supplies two Photovoltaic (PV) Technologies:

- **Multicrystalline** (also called polycrystalline) Made from cells cut from several silicon crystals.
- **Monocrystalline** Made from cells cut from single silicon crystals

A crystal is a regular geometric state taken up by a material's constituent elements in certain conditions.

Mono and multicrystalline cells are silicon wafers sliced from cylindrical silicon crystals. These wafers are then chemically treated in furnaces to enhance their electrical properties, after which an anti-reflection coating is applied to the cell surface to help it absorb radiation more effectively.

Thin metal wires are soldered to the front of the cell. These "ribbons" of metal on the cell act as the positive contact, while a solid layer of metal on the back of the cell acts as the negative contact.

Monocrystalline and multicrystalline materials are chemically stable, making them durable and extremely long-lasting, if properly protected. They provide the ideal technology for making small, and medium to large solar modules.

Monocrystalline cells have a single colour tone, whereas multicrystalline cell surfaces have multi patterns. Multicrystalline cells have an efficiency of 9-13%, compared to 11-16% for monocrystalline cells. (i.e. if solar radiation is striking the cells at a perpendicular angle with an intensity of 1000W/M^2 , then 90 to 130 Watts of power per m^2 of solar cell is converted to electricity).



Lighting Protection System:

Lightning Protection System encompasses external lightning protection, effective earthing and transient overvoltage protection (surge protection of electronic systems), etc. The function of a lightning protection system is to protect structures from fire or mechanical destruction and to prevent that persons in buildings are injured or even killed

Earthing :

The combination of Furse earth electrodes, clamps, conductors and equipotential bonding bars which provide lightning and transient overvoltage energy with an effective, low resistance route from lightning protecting system to earth.

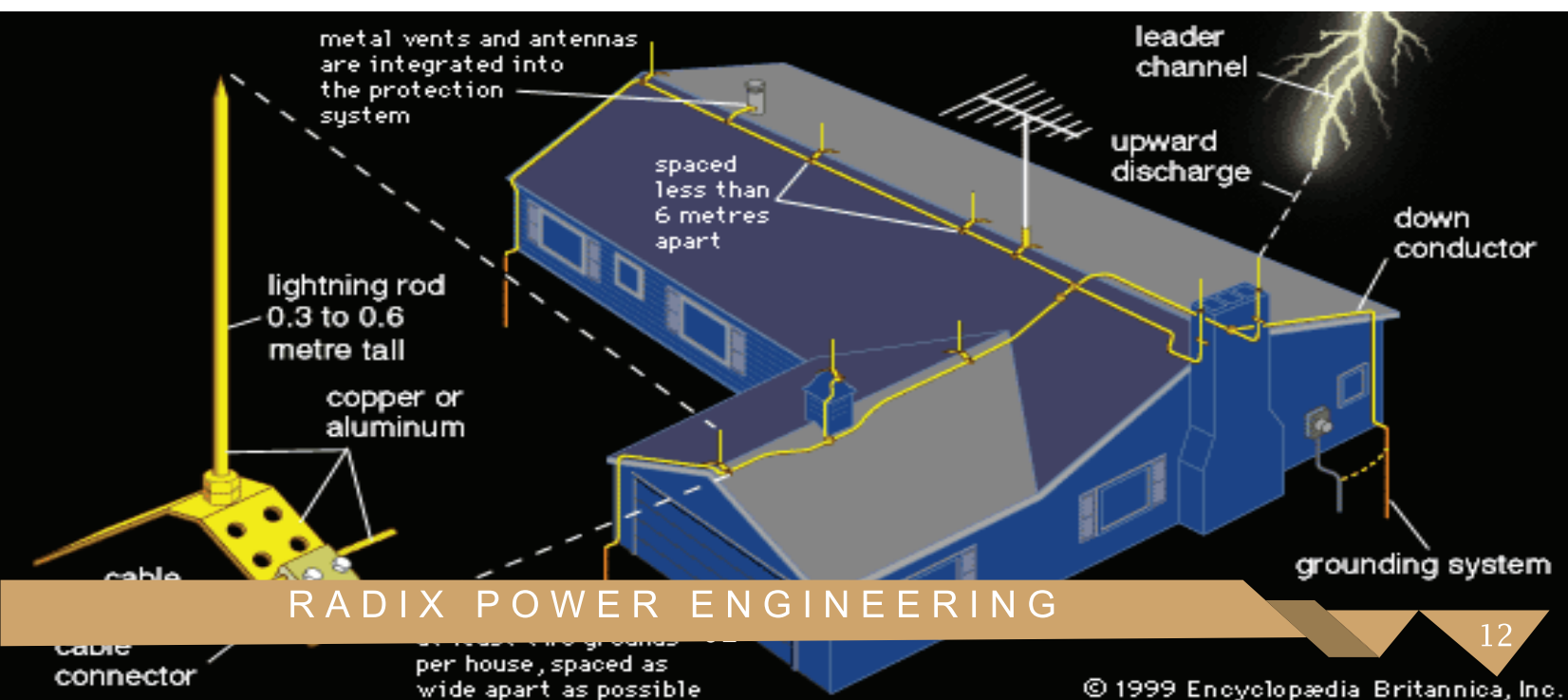
Including:

- Earth rods & conductor systems
- Mechanical earth clamps & bonds
- FurseWELD exothermic welding
- Earth bars & equipotential bonding

Elements of a Lightning Protection System:

According to the EN/IEC 62305 standard, a lightning protection system consists of the following elements:

- Air-termination system
- Down conductor
- Earth-termination system
- Separation distances
- Lightning equipotential bonding



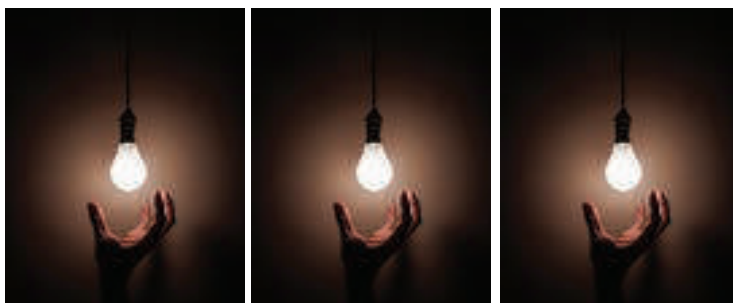


Residential:

RADIX residential luminaries selection is extremely wide and designed to cover all professional needs in general lighting at home as well as in public premises.

Public Permiss:

Efficient and functional lighting enhances productivity and improves performance where ever we work. RADIX public premises luminaries can be designed and installed to make the best possible lighting for each situation.



Industrial:

RADIX solves industrial lighting needs. Paper mill or parking hall; our efficient, wide and light technically superior portfolio suits almost everywhere.

Outdoor:

RADIX outdoor luminaries selection is energy efficient, long lasting and economically sustainable. We know how to light parks, squares as well as yards and parking areas.



#1. Project Reports / Feasibility Study:

Review of FEED and basic design document
Co-ordination with PMC for scope confirmation
Detail and design engineering
Obtaining approval & issue of construction drawings
Preparation of As-built documentation

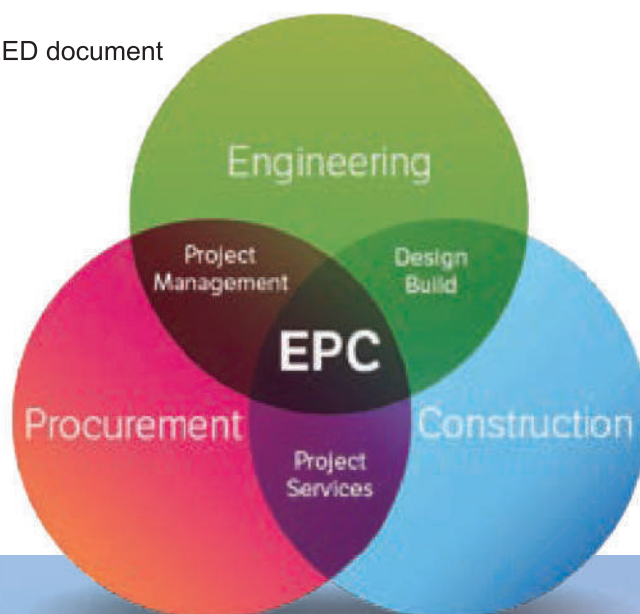
#2. Preparation of front End Engineering Design (FEED):

The Focus on FEED package preparation centres on creating a basic design document that is clear as well as concise and leaves little room for ambiguity during tendering/ construction-bid evaluation process.

#3. Engineering Procurement and Construction Management:

Each project to ensure application of mind and efforts goes into finding ways to shave-off execution time. The typical activities shall be as follows:

Review of FEED and basic design document - as acceptance of FEED document
Co-ordination with PMC
Site survey - Verification of scope of work
Co-Ordination with process licensors
Project planning & scheduling
Project cost control, management & monitoring
Engineering co-ordination with licensors
Procurement engineering - MR, TBE and PO
Vendor drawing review and approval
Construction management
Commissioning & Close - out





Schneider
Electric

FUJIHD®
Sino-Japan Joint Venture

VOLVO
PENTA



 **Perkins**

 **HYUNDAI**
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