ERAM
POWER ELECTRONICS

Built to Last

Eram Power Electronics Company

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ABOUT US

Eram Power Electronics Company is a leading Technology Developer, Manufacturer and Service Provider in Power Electronics with installations across the globe.

Our operations in Middle East were established as Arabian Power Electronics Company in 2011, as a flagship division of Eram Group, one of the most diversified business conglomerates in Middle East.The company started its operations in Saudi Arabia explicitly to localize the technical know-how and develop import substitute for products like UPS Systems, Battery Chargers, Frequency Converters, Solar Systems in Industrial, Commercial, Defense and Aviation sectors in Middle East.

In 2016, company acquired one of the leading power electronic manufacturing companies in India to form Eram Magnaflux Systems Pvt Ltd. This division have experience in manufacturing power electronic products since 1992 with prestigious installations in Indian Defense, Aviation and Space Industries. To enhance the research and development of innovative platforms for the higher end, highly advanced and reliable products, we started our state-of-the-art research lab in Bangalore – India named Eram Power Electronics Pvt Ltd in 2022.

The facility has been enriched with diversified research and skill resources, latest software and hardware tools for the advanced product development, exploring the latest wide band gap semiconductor trends and technology to accomplish in the product design.

Our ISO-17025 accredited independent lab for testing power electronic product is the first and only such lab in Middle East.

In 2022, company was unified bringing its global operations under the name Eram Power Electronics Company.

PARTNER WITH THE POWER ELECTRONICS EXPERTS

We offer end to end solutions from design support, engineering, manufacturing, Installation Commissioning, Spare parts management and Lifelong Service support all under one roof.

PRODUCT PORTFOLIO

- Battery Chargers/ Rectifiers
- Industrial UPS Systems
- Commercial UPS Systems
- Solar Power Supplies
- Frequency Converters
- DC-DC Converters
- Inverters
- Power Supplies
- Ancillary Products

LINEGATE INDUSTRIAL BATTERY CHARGERS/RECTIFIERS

AVAILABLE TYPES

Line Gate LT Series: Thyristor based Chargers
Line Gate LM Series: Modular Chargers

Indoor, Outdoor and Explosion Proof Variants Available

Input AC Voltage
120, 220, 230, 240 V–1 Ph
208, 380, 400, 415, 480 V–3 Ph

Input Frequency
60 Hz or 50 Hz

Output DC Voltage
24, 48, 110, 125 and 220 VDC

Output Current
25-150 ADC for 1 Ph input
25- 800 ADC for 3 Ph input
Customized Features Available upon request

Installation Highlights

- Supplying Indoor and Outdoor Chargers to Saudi Aramco for critical applications at up, mid and downstream operations.
- Supplying Chargers to Saudi Electricity Company for the Power Generation, Transmission and Distribution
- Designed, Engineered & Manufactured Explosion Proof Chargers tested for Gas Group IIB + H2, Temperature Class T3 and Supplied to Kuwait Oil Company for Gas Loading Bay.
- Supplying Chargers to utility companies like SWCC, NWC, ADWEA, DEWA, SEWA, EWA etc.

TYPICAL APPLICATIONS

Oil & Gas | Petrochemical | Utilities | Military | Aviation | Transportation | Industrial | Construction | Mining | Telecomm

Linegate Series is a heavy-duty industrial battery charger/rectifier designed to provide secured DC power for critical loads. These chargers are designed to charge all types of batteries, such as NiCd, Vented Lead Acid, Valve-Regulated Lead Acid types etc. Linegate chargers are constant voltage devices with built in current limiting features and accurate voltage regulation for optimized performance. These chargers are designed and tested in accordance with IEC standards and are available from 25 A to 800 A with 24, 48, 110, 125 and 220 VDC.

Linegate chargers are thyristor/IGBT based, phase controlled units designed for harsh operating conditions as components are selected with high de- rating factor to assure maximum reliability. Ease of access and maintenance are key design features. Most power and control modules are provided in sub-assembled chassis with plug and socket connections for easy serviceability and minimized spare part inventory.

SINEGATE INDUSTRIAL GRADE UPS SYSTEMS

AVAILABLE TYPES

Indoor & Outdoor Systems
Stand alone, Parallel and Modular Configurations

Capacity
Single phase: 5-80 kVA
Three phase: 5-200 kVA

AC Voltage
120/220/230/240 V–1 Ph
208/380/400/415/480 V–3 Ph

Frequency
60 Hz and 50 Hz

DC Link
120/240/360 VDC

Customized Features Available upon request

Installation Highlights

- Supplying UPS systems for subsidiaries of Saudi Arabian Mining Co Ma'aden such as Ma'aden Aluminium, Ma'aden Phosphate and Ma'aden Gold.
- UPS for Saline Water Conversion Corporation (SWCC) plants and power stations at Riyadh, Al Khobar, Taif, Khafji, Shuqaiq etc.
- Numerous installations with Sabic and its affiliates like Petrokemya, Sabtank, Sharq etc.
- Outdoor UPS installed at King Abdullah Port, Jeddah
- Power Backup for critical Industries like Steel, Cement, Plastic, Fertilizer, Glass, Paper, Electrical, Food, Consumer goods etc

TYPICAL APPLICATIONS

Oil & Gas | Petrochemical | Utilities | Military | Aviation | Transportation | Industrial | Construction | Mining | Telecomm

Sinegate Series is a robust industrial-grade Uninterruptable Power Supply (UPS) system. It is a true online, double conversion UPS designed and built in accordance with IEC standards, with a product range of 5 KVA to 200 KVA.

Sinegate Series incorporates state-of-the-art system topology to maximize the system reliability, efficiency and the overall system performance. It features an IGBT Based PWM inverter technology, fully rated static transfer switch and high overload and fault clearing capabilities. The UPS system is carefully engineered and built to last and to operate flawlessly in the harshest operating conditions with minimum requirement of maintenance. Sinegate Series UPS contains de-rated components and amply oversized designs to ensure maximum reliability and to provide a state of “ease of mind” to the end user.

DIGIGATE COMMERCIAL GRADE UPS SYSTEMS

AVAILABLE TYPES

Indoor & Outdoor Systems
Stand alone, Parallel and Modular Configurations

Models with Internal Batteries

Capacity
Single phase: 1-10 kVA
Three phase: 10-900 kVA

AC Voltage
120/220/230/240 V–1 Ph
208/380/400/415 V–3 Ph

Frequency
60 Hz and 50 Hz

DC Link
240 VDC
Other customized features available upon request

Installation Highlights

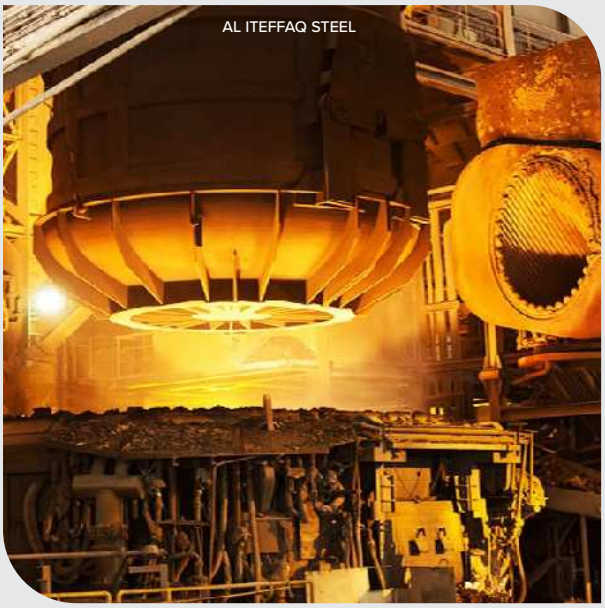
- UPS installations at Super Computing Centers of SABB Bank, Anb Bank etc.
- Installations at Saudi Arabia's prestigious projects like NEOM, Red Sea Project, KingSalman International Maritime Complex, Maraya Concert Hall-Al Ula etc.

  Supporting power backup for King Fahd Causeway and Dammam Port.
- Various installations in Universities across the kingdom like KAUST, KACST, Princess Nourah Bint Abdul Rahman University, University of Dammam, Al Faisal University, King Saud University etc.
- Critical Systems supplied to support Hospitals and other Healthcare activities.


KING FAHD CAUSEWAY

ANB BANK


AL ULA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TYPICAL APPLICATIONS


Oil & Gas


Entertainment


Utilities


Hospital


Universities

Ministries

Banks


Construction


Mining

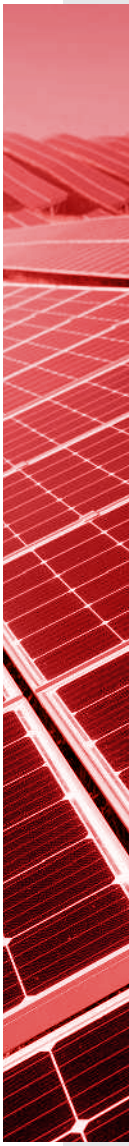

Telecomm

Floor spacing, advanced communication capabilities, aesthetic view, capacity enhancement through paralleling are some the specific requirements from IT and commercial UPS systems applications. Based on the Voice Of Customers (VOC), our R&D team developed Digigate UPS systems which is suitable for IT and commercial applications.

Some of the salient features of Digigate series UPS systems are as follows:

- Available from 1-900kVA with various options
- Optimized footprint which helps for economic usage ofexpensive floor spaces
- Rack mounted as well as tower type model options available
- Smaller capacities are also available with inbuilt batteries
- Modular type UPS systems with hot swapping feature and scalable up to 300kVA in steps of 10/20/30/50 kVA
- Advanced digital systems with paralleling capability for both redundancy and capacity enhancement.
- SNMP & Web Enabled communication capability to meet the customer requirements

ARRAYGATE SOLAR POWER SYSTEMS



LB SERIES SOLAR CHARGE CONTROLLER

Technology has taken its space to realize the disruptive innovation, Eram's energy efficient and reliable LB Series solar charge controller offers using Wide Band Gap semiconductor-based design for critical applications at High temperature and harsh operating conditions.

LB Series charge controller has the capability to parallel seamlessly for higher capacity. The digital transformation ensures world's most reliable external communication that can be used to monitor and control the charge controllers remotely. A high-speed CAN / Modbus enhance the console operations while USB has been configured as host to retrieve the past events.

Installation Highlights

- Offgrid Solar Power Systems for RTU stations on East West Pipeline, Jizan Abha for Saudi ARamco.
- Off grid Solar Power Systems for Point to Point Communication at Offshore Platforms of Saudi Aramco and Khafji Joint Operations.
- Solar Street Light System with Lithium Iron Phosphate Batteries supplied and installed for Saudi Aramco Marjan Project at Tanajib.
- Offgrid Solar Power Systems for SCADA & Telemetry Communication at Maaden Gold Taif.
- Executed Saudi Aramco's various projects like Master Gs Expansion Project, Khafji Tanajib Sour Gas Pipeline, Shabab Section etc.


ABHA JIZAN PIPELINE - ARAMCO


TANAJIB - ARAMCO


OFF SHORE PLATFORM


MAADEN GOLD

TYPICAL APPLICATIONS

Oil & Gas | Petrochemical | Utilities | Industrial | Construction | Mining | Telecomm

In addition to manufacturing power electronics equipment associated with the solar power systems such as inverters, charge controllers and MPPT controllers, we are also a leading system integrator that can offer a complete solar power generation solution including engineering, design, assembly, installation, commissioning, operation and maintenance.

Eram Power Electronics Company provides high class solar power system components utilizing the latest technologies in the field of photovoltaics with broad design and manufacturing capabilities ranging from small standalone power system for street lighting or navigation aids to a large-scale grid connected solar farm.

TYPICAL APPLICATIONS

Oil & Gas | Petrochemical | Utilities | Military | Aviation | Transportation | Industrial | Construction | Mining | Telecomm

CYCLEGATE FREQUENCY CONVERTERS

Cyclegate Series is static frequency conversion in which the utility operating frequency is converted into another utility grade frequency or into another application-specific frequency such as 50Hz, 60Hz or 400Hz. Frequency converters incorporate the latest PWM technology using IGBT inverters to optimize the reliability and efficiency of frequency conversion.

Cyclegate Series is offered over a wide-range of capacities from 5 kVA to 400 kVA. This product is offered as an effective and economic solution for various applications such as civil and military aircrafts and ground radars using mobile or stationary units of 50/60/400 Hz. Also industrial Cyclegate units are available as a solution for incompatible frequency of utility power supply by which 50-60 Hz or 60-50 Hz frequency conversions are achieved

AVAILABLE TYPES

Input AC Voltage
120, 220, 230, 240 V–1 Ph
208, 380, 400, 415, 480 V–3 Ph

Input Frequency
60 Hz or 50 Hz

Output AC Voltage
120, 220, 230, 240 V–1 Ph
200, 208, 400, 480 V–3 Ph

Output Frequency
60 Hz or 50 Hz or 400 Hz
Customized Features Available upon request

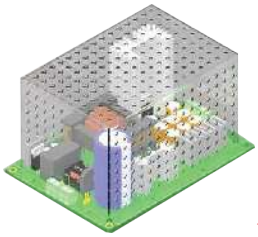
AC & DC POWER SUPPLIES

DC-DC Converters

ERAM Power Electronics Company offers LINEGATE - LL Series Modular DC-DC converter to provide highly reliable DC power to critical loads. LINEGATE - LL Series DC-DC converter are constant voltage devices with built-in current limiting feature and accurate voltage regulation for optimized performance.

High Voltage Pulse Modulator (HVPM)

Eram design and manufacture High Voltage Pulse Modulator a pulse modulator, which is an electronic device used to provide high voltage, high current power bursts with great precision and accuracy. A modulator acts as a switch between a high voltage power supply and its load, such as radar systems, X Ray systems etc.



Brick Module Power Supplies

Eram's Brick DC power supplies are handy, highly efficient, single multilayer PCB built-in rugged power supplies caters all the low and medium DC voltage demands from 3.3 volt to 48-volt DC. FRU based design drops internal wire harness and brings highest reliability at a wide operating temperature range.

Inverters

PULSEGATE Series inverters is a versatile series specifically designed for telecommunication emergency lighting systems and other applications. The series incorporates state-of-the-art PWM technology to provide distortion-free and pure sinewave output, which makes it good option for sensitive and critical loads. The series is offered in single phase and three phase units for wide range of power ratings from 1 kVA to 1000 kVA Eram Power Electronics Company is capable of designing higher capacity with any input voltages on request.

ANCILLARY PRODUCTS

Voltage Stabilizers

Voltage stabilizer regulator is used as protecting electrical loads from sudden voltage changes and unregulated voltage fluctuation that are not in the range of input voltage of the machines and electrical loads tolerance that have to be given to the machines from voltage stabilizers regulators. This is the reason, all Industrial loads needs voltage stabilizer not only for voltage stabilization also to protect loads from short circuits and electrical lightings.

Solar Panels

We supply solar panels from renowned manufacturers across the globe which are designed and manufactured to the highest standards of quality, performance and durability. The grid-tied and off-grid products come in a variety of sizes and power, making them suitable for all applications – from a remote power generator to a large-scale power plant.

Batteries and Battery Enclosures

Eram Power Electronics Company collaboration with renowned manufacturers of industrial batteries which allows our engineers to choose the best battery from a complete range of technologies like Lead Acid, Nickel Cadmium or Lithium and suitable for every application. We also design and builds custom enclosures and racks for battery systems.

AC/DC Distribution Panels

DC Distribution Panels are used at Power Plant Generation, Steel Mills and other types of industrial applications that utilize DC power throughout the facility. The DC voltage is developed from one or more Battery Chargers/Rectifiers or DC Generators. These sources of DC power are often combined on the same bus for capacity or redundancy and their power is distributed throughout the plant.

AC Distribution Panels can be simply made using circuit breakers just as your home utilizes. However, critical loads that utilize UPS systems for protection from power outages and other types of power problems should use a different form of branch circuit protection for their protected loads. Larger UPS systems, typically 5 kVA and above, normally feed the output of the UPS system into a distribution panel that distributes power to the critical loads through it's branch circuits.

WHAT WE OFFER

State of the art well established facility to manufacture power electronics products which includes.

- Skilled manpower for Design, Engineering, Assembly, Testing
- Sophisticated testing facility to perform product type tests
- Mechanical, Electrical assembly facility
- Overall Production capacity of up to 12 units per day
- Stock of Electronics components like SCRs, IGBTs, Capacitors, Diodes etc
- Full fledged Training center for both theory and practical
- Experienced resources for workshop as well as field services
- Service team present in all major cities of action
- Project management and execution capabilities
- Design and development of enclosures both passive and active cooled

R&D

Production

Testing

Training

Service Support

Spare Parts

ERAM LAB

EPEC Testing Laboratory is an independent third-party testing facility accredited by GCC Accreditation Center (GAC) under ISO/IEC 17025:2017 “General requirements for the competence of testing and calibration laboratories”. Our accreditation covers the testing of Industrial Uninterruptible Power Systems (UPS) and Battery Chargers for IEC 62040-3, IEC 60146-1-1 and NEMA PE5 standards.

Details of the accredited tests are as follows:

Products Tested	Specific Tests	Applicable Standard
UPS – Uninterruptible Power System	Cable and Interconnection Checks Control and Protective Devices Manual transfer to bypass/ isolation mode and back to normal No load Full load AC input failure AC input return Transfer test to bypass Steady-state input voltage tolerance Input frequency tolerance Input inrush current Harmonic distortion of input current Power factor Output – Linear load, Normal mode – no load Output – Linear load, Normal mode – full load 3-Phase voltage unbalance DC voltage component Overload – Normal mode Battery ripple current Stored energy times Restored energy times	IEC 62040-3:2011-3 – Edition 2.0
Battery Chargers (Semi-conductor converters)	Visual Inspection Insulation Test Light load and functional test Rated current Temperature rise test Power factor measurement Efficiency test Checking of auxiliary device Measurement of audible noise Phase failure Voltage regulation and adjustment Dynamic response test Current limit Input current Inrush current Low input voltage protection Ripple voltage Short circuit test Start-up behavior Supervisory control Voltage adjustment	IEC 60146-1-1 :2009 Edition 4 NEMA – PE5 : 1997 (R2003)

ERAM CENTER OF EXCELLENCE

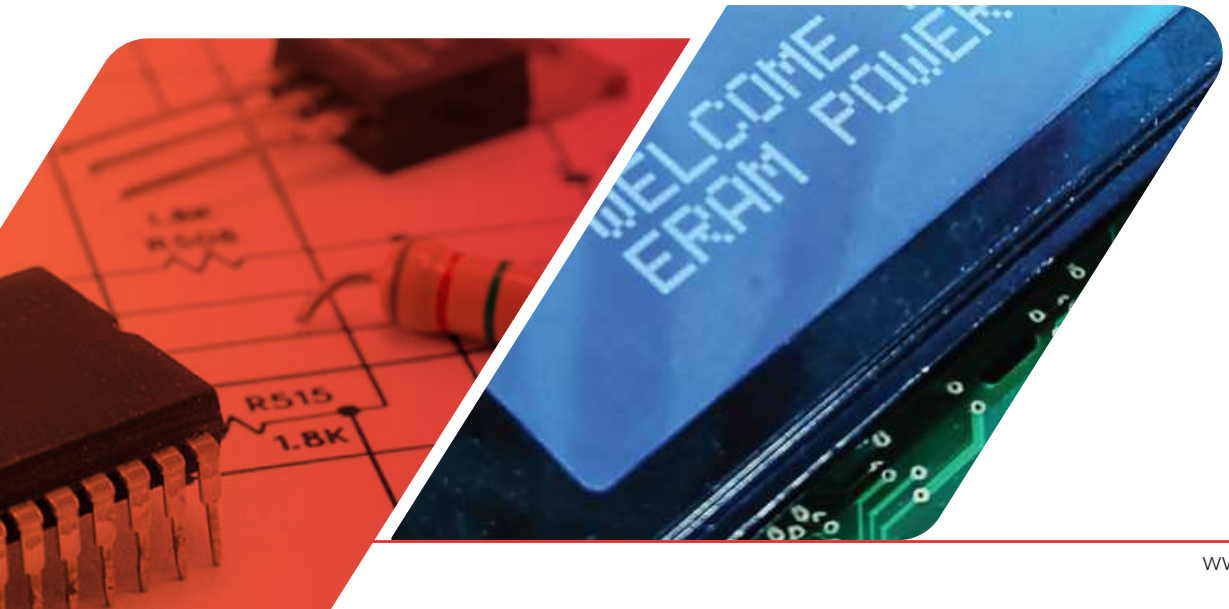
Eram Power Electronics Pvt Ltd is a Centre of Excellence located in Bangalore - India, with state of the art facility to enhance the research and innovative product development platforms for higher-end, highly reliable power electronics products and services. The facility has been enriched with diversified research and skill resources for the advanced product development, exploring the latest wide band gap semiconductor trends and technology to accomplish in their product design.

The development activities are led by multi-functional verticals of Power electronics & digital hardware design, software and firmware development, magnetics analysis and design, Aerodynamics, thermodynamics, and electronics packaging modalities.

The center utilizes the latest simulation and mathematical modelling software's to enhance the product design, followed by well-outlined and proven inhouse design methodologies to monitor and guide the product research and development.

Eram's PCB design house is adept of realising power, mixed signal, analogue, signal conditioning, digital and nano electronics up to a 26-layer PCB's to meet the higher power density while meeting signal and power integrity to reduce the cause of producing EMI/EMC's.

We explore using Silicon Carbide and Gallium Nitride for our products like charge controllers and high-power battery chargers which would be a great promise for the industries and the generations to come.



ABOUT OUR SUPPORT SERVICES

The company has an operations and maintenance team capable of reaching to the clients. We provide complete life cycle management program and spare parts inventory management which is a challenge for many of the customers. Our real time field experience enables us to provide service support for third party products also.

Maintenance Services

- Preventive Maintenance
- Corrective Maintenance
- Emergency Maintenance
- Annual Maintenance Contract
- Battery Maintenance Services
- Solar Systems revamping
- Capacitor Reforming

Shutdown Services

Complete Department shutdown for Maintenance, installation & Commissioning Services

Spare Parts Inventory Management Support Services for Third Party Products

Repair & Trouble Shooting

- UPS
- Frequency Converter
- Voltage Stabilizer
- Battery Charger

Installation, Testing & Commissioning Complete Life Cycle Management Program Equipment Rental

- UPS
- Battery Charger
- DC Load Bank
- Battery Bank
- Battery Rack

Trainings

Provide educational Lectures regarding UPS, Batteries & Battery Chargers. Actual & in Classroom

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