ALEMDAR ENERGY

Alemdar Energy offers quality electrical materials for power generation companies, T&D companies, GSM and Telecom companies and industries with all electrical and related requirements from world-known manufacturers.

We supply a full range of solar modules, inverters, solar pumps, batteries, battery chargers, charge controllers, panel boards, LV distribution and control products, circuit breakers, transfer switches, lighting fixtures, LV and HV power cables, instrumentation and control cables and earthing materials. We also supply the whole range of power transformers, distribution transformers, MV Cubicles, protection relays, automation products, LV Switchgears, Distribution Boards Starters, MCC Panels, Diesel Generators and Electric motors.

SOLAR MODULES

Solar module refers to a panel designed to absorb the sun's rays as a source of energy for generating electricity. Solar Photovoltaic panels constitute the solar array of a photovoltaic system that generates and supplies solar electricity in commercial and residential applications. Each module is rated by its DC output power under standard test conditions, and typically ranges from 100 to 365 watts.

PV is emerging as a major power resource, steadily becoming more affordable and proving to be more reliable than utilities.

Alemdar Energy offers PV modules which are designed to the highest standards of quality, reliability and performance.



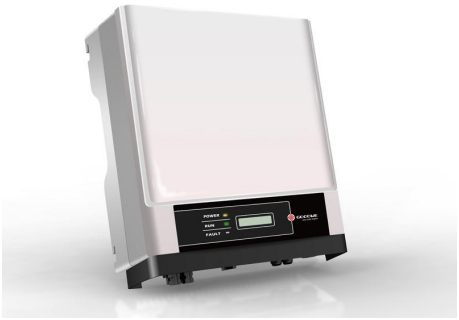


INVERTERS

The batteries in PV systems store direct current (DC) power which can be used for certain applications but most of the conventional household appliances use alternative current (AC) power. The Inverter converts low voltage DC into higher voltage AC.

We offer inverters which adopts cutting-edge technology in photovoltaic fields. Higher conversion efficiency and lower energy losses are guaranteed to maximize customer satisfaction.

Web: www.alemdarenerji.com.tr
E-mail: info@alemdarenerji.com.tr
GSM: +90 553 361 9448
Address: Eti Mah. Birecik Sok. Gazi İş Merkezi
No: 1/36 Çankaya - ANKARA / TURKEY
Tel: +90 312 229 2990



PV BATTERIES

Batteries accumulate excess energy created by a PV system and store it to be used at night or when there is no other energy input. Batteries can discharge rapidly and yield more current that the charging source can produce by itself, so pumps or motors can be run intermittently.

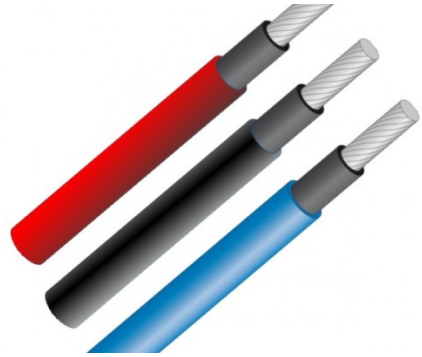
CHARGE CONTROLLER

Charge controller is needed to prolong the battery life of a PV System. The most basic function of a controller is to prevent battery overcharging. If batteries are allowed to routinely overcharge, their life expectancy will be dramatically reduced. A controller will sense the battery voltage, and reduce or stop the charging current when the voltage gets high enough. This is especially important with sealed batteries where we can't replace the water that is lost during overcharging.

Controllers are rated by how much amperage they can handle. National Electric Code regulations require controllers to be capable of withstanding 25% over amperage for a limited time. This allows the controller to survive the occasional edge-of-cloud effect, when sunlight increases dramatically. Exceeding the amperage ratings on the controller can destroy it.

A PV controller also prevents reverse current flow at night. Reverse current flow is the tiny amount of electricity that can flow backwards through PV modules at night, discharging the battery, but the loss of power is insignificant. Only with larger PV systems is this significant but and almost all charge controllers deal with it automatically.

SOLAR CABLES



CENTRIFUGAL SOLAR PUMP SYSTEMS

LORENTZ PS centrifugal pumps are high quality products designed for higher flow drinking water supply, livestock watering, pond management and irrigation applications. PS centrifugal pumps provide large volumes of water economically, without pollution, anywhere.

The LORENTZ PS range of DC powered centrifugal pumps have been designed specifically to pump larger volumes of water efficiently using solar power. These highly efficient pumps can achieve flow rates of 79 m3/hour. Each system consists of a pump, pump motor and a controller. This modular concept keeps all electronics above ground providing, simple servicing, ease of access and a low cost of ownership.

Benefits

- Long life expectancy and proven in service record
- Designed for use in remote and harsh conditions
- Smart modular design for simple and cost effective servicing and repair
- Water filled motors for reliability and to avoid oil contamination
- Fast and simple installation
- Cost effective spare parts philosophy
- Very strong ROI against diesel powered pumping reducing production costs and reducing carbon footprint
- Large range of pumps to closely match each application and optimize efficiency

Features

- Engineered in Germany
- Water temperature specific variants to provide the most efficient outputs
- High quality non corrodible materials used throughout
- Cast stainless steel components
- Solar direct connect with AC connection options
- MPPT technology to maximize power use from PV modules
- ECDRIVE DC brushless motors, designed for solar, with over 90% efficiency
- Optional data logger

SURFACE SOLAR PUMPS

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REMOTE TELECOMMUNICATION STATIONS

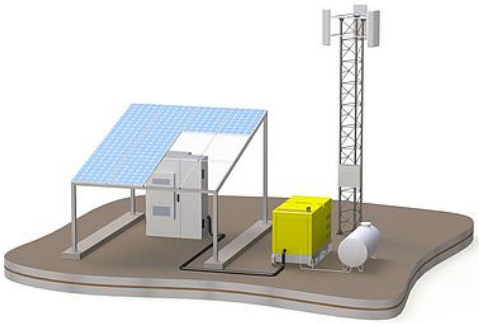
Remote Telecommunication stations require stand-alone power systems. Powering telecommunication equipment with gas generators is problematic, to say the least. When sunshine is available, solar powered systems are the most hassle-free solution. In addition to telecommunications, this type of system is also used for security systems, oil & gas monitoring and control, and government projects (utilities, fish & wildlife).

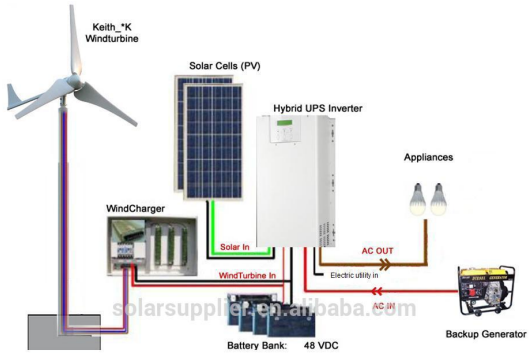
HYBRID POWER SOLUTIONS

Mobile telecom networks are continually expanding, often into regions with limited access to the power grid (off-grid) or where the existing grid is unreliable (bad grid).

Based on Energy Management System we offer hybrid power solutions (also referred to as clean energy solutions) for supplying electricity generated on site to stationary industrial applications. Such solutions combine energy produced from various sources such as diesel, solar and wind, with energy storage such as batteries with the Energy Management System.

The hybrid power solutions enable our customers to save up to 60% in operating costs, reduce up to 50% of CO2 emissions and ensure a power availability of on average more than 98.5% of diesel-powered telecommunication base stations.





TRANSFORMERS

Small distribution transformers

Small distribution transformers are typically oil-immersed and suitable for pole-, pad- or ground-mounting. They represent an economical option for certain networks, particularly those with low population densities.

Depending upon requirements, transformers may be connected between two phases of a three-phase system (two high voltage bushings) or from one phase to ground (single high voltage bushing).

The units are suitable for residential overhead distribution loads, as well as light commercial or industrial loads and diversified power applications.

Product scope

- Primary voltage: up to 36 kV
- Typical fluid: mineral oil

Medium distribution transformers

Medium distribution transformers are used to step down three-phase high voltage to low voltage for energy distribution, mainly in the countryside or low-density populated areas.

The transformers are three-phase, oil-immersed hermetically sealed, adaptable for pole-mounting or assembly in substations.

On request, the transformer can be equipped with an oil conservator and the transformer tanks surface can be hot dip zinc coating.

Product scope

- Primary voltage: up to 36 kV
- Available fluids: mineral oil, dimethyl silicone, esters and synthetic hydrocarbons

Large distribution transformers

Large distribution transformers are used for receiving energy from higher voltage levels and to transform and distribute this energy to lower voltage substations or directly to large industrial consumers.

Transformers in this range are three-phase and can be manufactured with off-circuit tap changer or on-load tap changer. Transformers provided with on-load tap changer usually have a separate tap winding.

The core is constructed of grain-oriented steel laminations. The windings are made of either copper or aluminum conductor and wound in a foil or multi-layer configuration. The tank construction can be a corrugated fin wall type or of a rigid construction type with radiators typically used for larger transformer. Fans can also be mounted on the radiators to provide additional cooling capacity.

Product scope

- Primary voltage: up to 36 kV
- Available fluids: mineral oil, dimethyl silicone, esters and synthetic hydrocarbons

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INSTRUMENT TRANSFORMERS AND SENSORS

The range of electric values in power supply systems is very extensive. This is why it is necessary to match the respective currents and voltages to the values appropriate to connected measuring, protection, and control instruments.

Instrument transformers according to ANSI, IEC, GOST, GB, BS and DIN standards and other standards if required.

MOTORS

Our low voltage motor products cover a performance range from 0.09 to 4000 kW from well known manufacturers. Advantages of our AC motor systems are many: they are highly efficient with a positive energy balance; they come with explosion protection to meet high safety standards; and they conform to IEC or NEMA standards.

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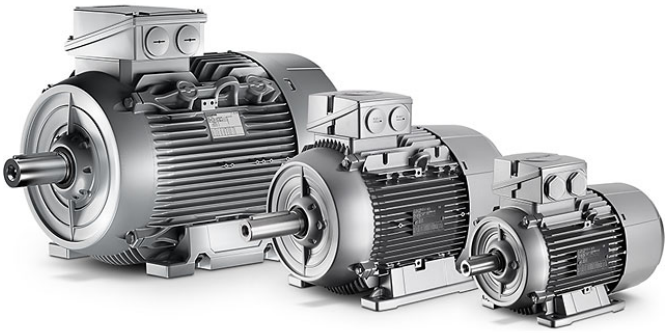

DIESEL GENERATORS

Web: www.alemdarenerji.com.tr
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LOW VOLTAGE DISTRIBUTION AND CONTROL PRODUCTS

Web: www.alemdarenerji.com.tr
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Address: Eti Mah. Birecik Sok. Gazi İş Merkezi
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Tel: +90 312 229 2990






MCC PANELS

Web: www.alemdarenerji.com.tr
E-mail: info@alemdarenerji.com.tr
GSM: +90 553 361 9448

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DISTRIBUTION PANELS

POWER PROTECTION AND CONTROL

Numerical relays are based on the use of microprocessors. The first numerical relays were released in 1985.

A big difference between conventional electromechanical and static relays is how the relays are wired. Electromechanical and static relays have fixed wiring and the setting is manual. Numeric relays, on the other hand, are programmable relays where the characteristics and behavior can be programmed. Most numerical relays are also multifunctional.

SUBSTATION AUTOMATION

The Intelligent Electronic Devices (IEDs) for protection and control are an integral part of the substation automation system. Combined together the SAS and IED lay the foundation for all the higher-level remote functions such as advanced power system management and the monitoring of the condition of the equipment while it is in service. Station level systems are easy to use and to adapt to customer specific requirements.

Increasing competition is driving many power providers to focus on system productivity, with a view to reducing costs and increasing customer satisfaction, which often involves upgrading aging infrastructure.

Older protection and control systems can be easily upgraded using modular systems. Updating substation automation offers the opportunity to reduce operational and maintenance costs, increasing plant productivity with the aid of enhanced schemes as well as condition monitoring for circuit breakers, power transformers, etc.

MEDIUM VOLTAGE T&D PRODUCTS

MV/LV POWER CABLES

Power cables with copper conductor used in local network or in indoor applications produced in accordance with international standards and customer specifications are available. Power cables are produced in different constructions for different applications listed below according to the specifications.

- **Mean Voltage : Low, Medium**
- **Insulation Type : Polyvinylchlorid (PVC), Cross-linked (XLPE)**
- **Construction : PVC filled, Armored**

All kind of cable construction is also available upon customer request. Cable production is achieved by using of best available raw materials at most updated machines according to the technical specification of cable. The cables are packed and supplied in wooden drums as per international transportation regulations.

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