

GENERATOR & ACCESSORIES

- GENERATORS

- DIESEL GENERATORS
- NATURAL GAS GENERATORS
- COGENERATION & TRIGENERATION GENERATORS
- MOBILE GENERATORS
- MARIN GENERATORS
- WELDING GENERATORS
- BIO-GAS GENERATORS
- MOBILE LIGHTING TOWER GENERATORS
- SYNCHRONIZATION SYSTEMS *for* GENERATORS
- CONTROL PANELS & ATS SYSTEMS *for* GENERATORS

GENERATOR SYSTEMS



WHAT IS GENERATOR?

Generators are a device that converts mechanical energy into electrical energy, usually using electromagnetic induction. There are batteries that convert chemical energy into electrical energy, thermoelectric generators that convert heat energy into electrical energy, and photoelectric circuits that convert light energy into electrical energy.

It has a very simple operation of generators. The important point is that the rotational speed of the axis affects the magnitude of the current. This ensures that the efficiency of the generator is higher.

Generators can be powered by gasoline, diesel, propane, natural gas, solar energy or hybrid fueled generators. Some generator models also allow you to switch between fuel types.

APPLICATION

- Building and Public Works
- Data centre and Telecom Towers
- Hospitals
- Commercial and Industrial Facilities
- Utilities
- Agriculture and food processing
- Wastewater treatment plants
- Coal mines
- Landfills
- Military
- Power Plants
- Mining
- Specialty applications

ADVANTAGES

- Relatively Low Maintenance
- Durability
- Easy Access to Fuel
- Safe Storage
- Power output
- More Rugged and Reliable



PARTS of GENERATORS

Main Parts of the Generator;

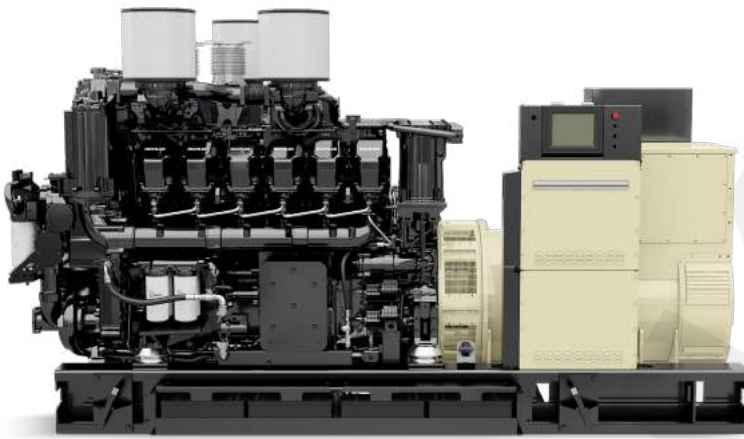
- Engine
- Alternator
- Control Panel
- Carrier Chassis and Fuel Tank
- Radiator
- Canopy

Other Generator Parts;

- Battery
- Output Switch Board
- Block Water Heater
- Cooling fan
- Electric Starter
- Exhaust Muffler
- Turbo Charger
- Anti-Vibration Wedges
- Lifting Hoist
- Grounding Point
- Dry Type Heavy Duty Filter



DIESEL GENERATORS



TECHNICAL DATA

Stand-by Power Range (kVA): from 12kVA up to 3000kVA

Stand-by Power Range (kW): from 9,60kW up to 2400kW

Prime Power Range (kVA): from 11kVA up to 2750kVA

Prime Power Range (kW): from 8,80kW up to 2200kW

Frequency(Hz): 50Hz

Canopy: Optional

Fuel Type: Diesel

ATS Panel: Optional

Synchronization Panel: Optional

Stand-by Power: It refers to limited time operation at variable load where the mains is good. Overloading is not allowed.

Prime Power: It means working for unlimited time at 70% average load as mains backup. 10% overload is allowed.

INTRODUCTION

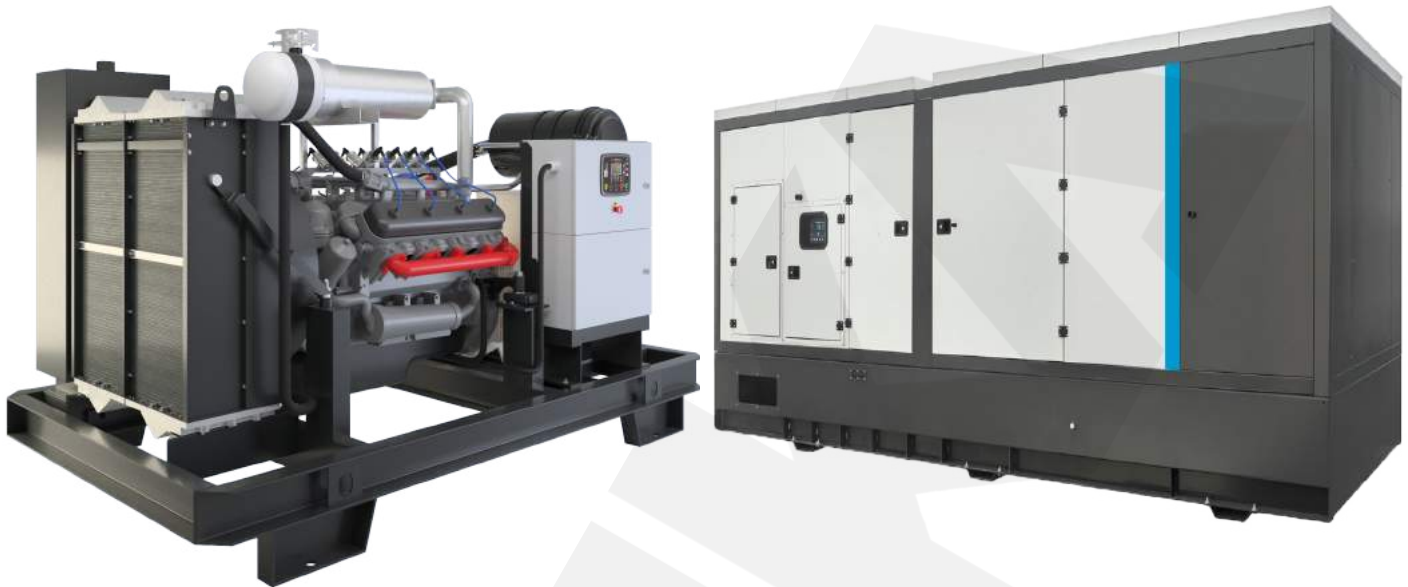
A diesel generator utilizes a diesel engine and electric generator to generate electrical energy. Liquid fuels or natural gas are usually used as the primary fuel of the diesel generator. Totally, a diesel generator works based on air compression and fuel. First, the air is blown into the generator until it is compressed. Subsequently, the proper fuel of the diesel generator is injected. The combination of air compression and subsequent injection of the fuel will contribute to generating the heat that triggers the inflammation of the fuel. In this way, the diesel generator starts combustion and causes the generator to start up. Thus the generator starts to produce the necessary electrical energy to be distributed according to the needs of the MG (loads) connected to the diesel generator.

APPLICATION

- Commercial Infrastructure
- Industry
- Military
- Power Plants
- Mining



NATURAL GAS GENERATORS



TECHNICAL DATA

Prime Power Range (kVA): from 30kVA up to 2375kVA

Prime Power Range (kW): from 24kW up to 1900kW

Frequency(Hz): 50Hz

Canopy: Optional

Fuel Type: Natural Gas

ATS Panel: Optional

Synchronization Panel: Optional

Stand-by Power: It refers to limited time operation at variable load where the mains is good. Overloading is not allowed.

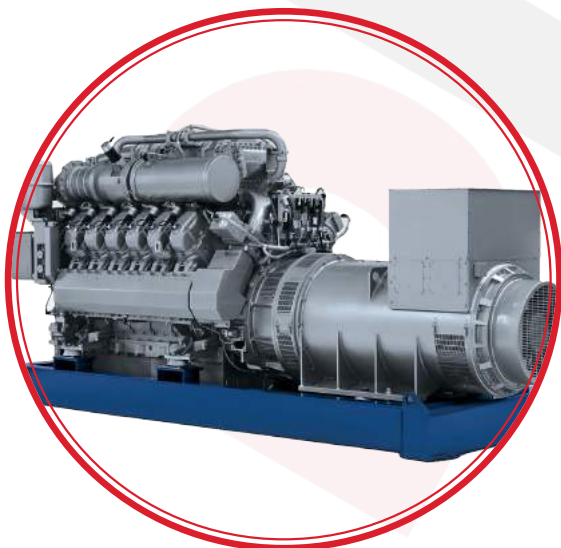
Prime Power: It means working for unlimited time at 70% average load as mains backup. 10% overload is allowed.

INTRODUCTION

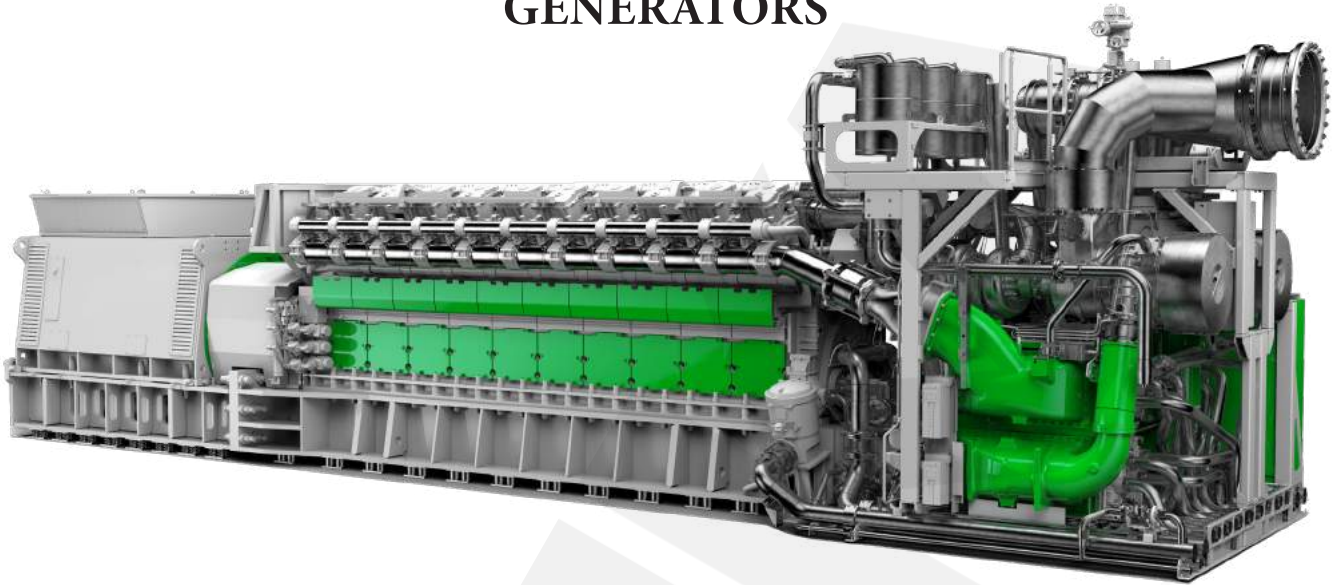
Natural gas-fueled generators are based on the same principle as diesel or gasoline generators. These are generators that only use natural gas, not diesel or gasoline, as fuel. Just like other generators, they convert the mechanical energy coming from the engine into electrical energy through the alternator. It can be used as a network backup as well as continuously used in electricity production. A natural gas generator is a tool used in factories to produce energy economically.

APPLICATION

- Commercial and industrial facilities
- Greenhouses
- Utilities
- Agriculture and food processing
- Wastewater treatment plants
- Coal mines
- Landfills
- Specialty applications



COGENERATION & TRIGENERATION GENERATORS



TECHNICAL DATA

Electrical output Power Range (kW):

From 330kW up to 10.400kW

Thermal output Power Range (kW):

From 409kW up to 10.021kW

Frequency(Hz): 50Hz

Fuel Type: Natural gas, Associated Petroleum gas (flare gas)

Propane, Bio-gas, Sewage gas, Landfill gas, Coal Mine gas

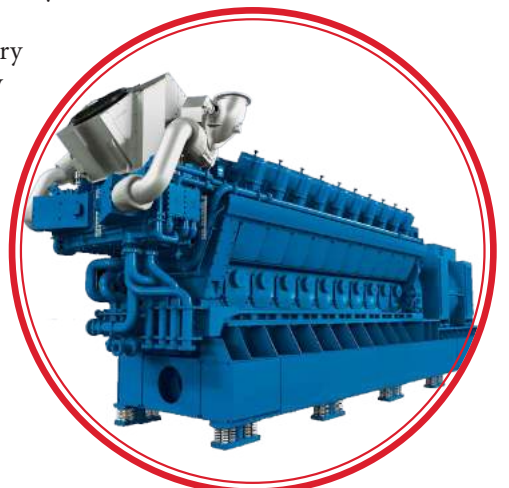
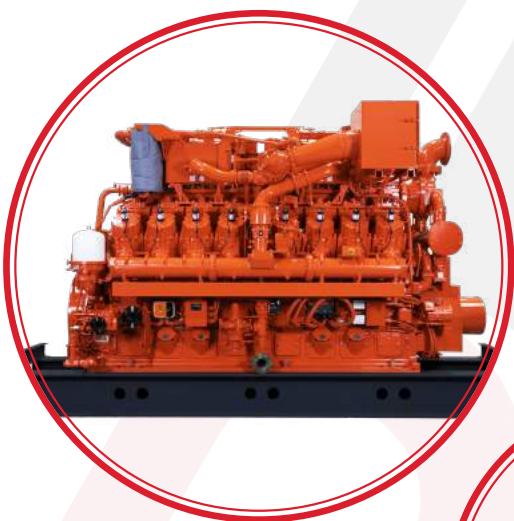
*Other special gases can be product upon the request

INTRODUCTION

A gas engine is an internal combustion engine that runs on gaseous fuel, such as coal gas, producer gas, biogas, landfill gas, or natural gas. Gas engines refer to heavy-duty industrial engines capable of running continuously at full load for periods approaching a high fraction of 8,760 hours per year. Gas engines, any of a class of internal combustion engines that generate power by burning a volatile liquid fuel (gasoline or a gasoline mixture such as ethanol) with ignition initiated by an electric spark. They can be built to meet practically any conceivable power-plant application requirements, the most important being passenger automobiles, small trucks and buses, general aviation aircraft, outboard, and small inboard marine units, moderate-sized stationary pumping, lighting plants, machine tools, and power tools.

APPLICATION

- Lighting Plants
- Marine Units
- Power Generation Systems
- Paper Industry
- Ceramic Industry
- Textile Industry



MOBILE GENERATORS



TECHNICAL DATA

Power Range (kVA): Mobile generators can be product upon the customers requests.

Frequency(Hz): 50Hz

Fuel Type: Diesel or Natural Gas

Canopy Colour: Optional

Synchronization Panel: Optional

INTRODUCTION

Mobile generators are generators used to energize equipment where there is no direct access to the supply system. These generators can be used on construction and assembly sites, rescue missions, and events. Also, mobile generators can be used in facilities such as animal shelters, fire stations, where a public power supply failure can result in critical situations.

APPLICATION

- Construction
- Mining
- Film & Drama Production Sets
- Oil Refining
- Agricultural
- Concerts and Events



MARINE GENERATORS



TECHNICAL DATA

Prime Power Range (kVA): from 4kVA up to 990kVA

Prime Power Range (kW): from 4kW up to 792kW

Frequency(Hz): 50Hz

Fuel Type: Diesel/Gas

Canopy Colour: Optional

ATS Panel: Optional

Synchronization Panel: Optional

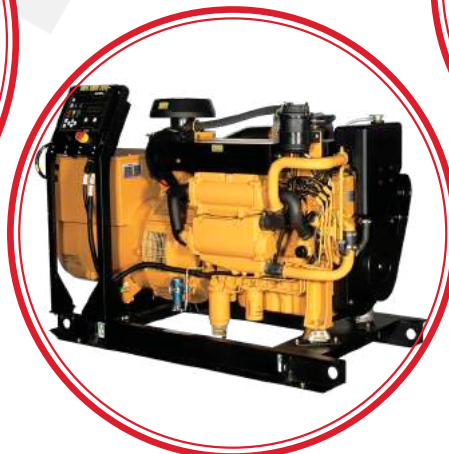
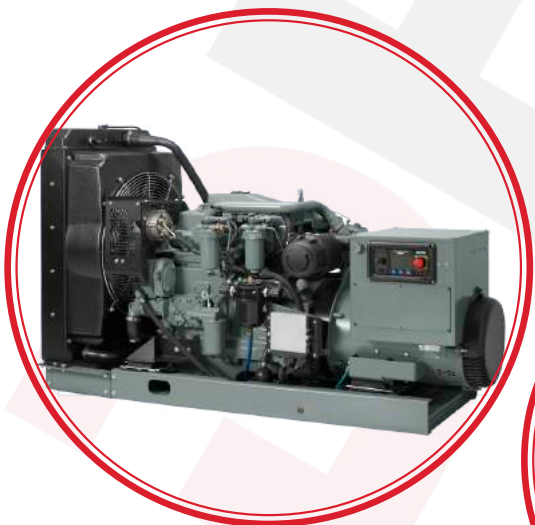
Stand-by Power: It refers to limited time operation at variable load where the mains is good. Overloading is not allowed.

Prime Power: It means working for unlimited time at 70% average load as mains backup. 10% overload is allowed.

INTRODUCTION

The marine generator is not much different than any generator. A marine generator is typically powered by diesel or gasoline to produce energy that is converted to electrical energy inside the generator. This electricity can then be used to power various appliances and equipment inside a boat. From fishing boats to yachts; marine generators have a large application area.

Marine generators are designed to survive the harsh and wet environment of the boat. This requires different design techniques on the outside and alternative components on the inside. Many marine generators may utilize hydraulic pump systems, use more durable material, and have other features that make them more efficient for life on a boat.



WELDING GENERATORS



TECHNICAL DATA

For 220V Welding Generator

Power Range (kVA): from 16kVA up to 30kVA

For 380V Welding Generator

Power Range (kVA): from 18kVA up to 35kVA

Frequency(Hz): 50Hz

Fuel Type: Diesel

Stand-by Power: It refers to limited time operation at variable load where the mains is good. Overloading is not allowed.

Prime Power: It means working for unlimited time at 70% average load as mains backup. 10% overload is allowed.

INTRODUCTION

Welder generator creates power for welding without reliance on mains electricity. Filling up the fuel tank process is the same as a regular generator, and the welder generator will power your welding equipment wherever you need it. The welding generator driven by diesel is used for welding purposes where the electric power supply is erratic or non-existent. Welding Generators create a steady and continuous power supply that can be used for powering standard electrical tools and equipment. Welder generators have become essential equipment for onshore, offshore, construction sites, farms, industry, and more.

APPLICATION

- Onshore & Offshore
- Construction
- Agriculture
- Industry



BIO-GAS GENERATORS



TECHNICAL DATA

Stand-by Power Range (kVA): from 77kVA up to 1261kVA

Stand-by Power Range (kW): from 62kW up to 1009kW

Prime Power Range (kVA): from 77kVA up to 1261kVA

Prime Power Range (kW): from 62kW up to 1009kW

Frequency(Hz): 50Hz

Fuel Type: Bio-gas

Canopy Colour: Optional

Synchronization Panel: Optional

Stand-by Power: It refers to limited time operation at variable load where the mains is good. Overloading is not allowed.

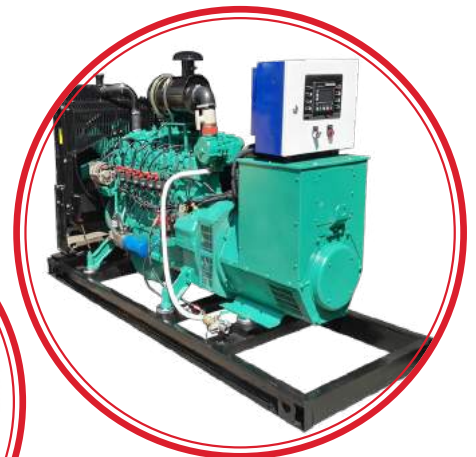
Prime Power: It means working for unlimited time at 70% average load as mains backup. 10% overload is allowed.

INTRODUCTION

Bio-gas generators are eco friendly and sustainable generators to produce bio-gas through the breakdown of organic matter, meaning less waste and more usable products for a variety of applications. A bio-gas digester is like a housing system for bio-gas production, allowing the process to go along without unwanted interference from outside influences. Working with bio-gas as a renewable energy source, these generator sets are the most environmentally friendly electricity generation systems. Organic wastes occur for different reasons. While these gas-powered generator sets prevent waste from being released to nature, they also reduce energy production costs.

APPLICATION

- Construction
- Agriculture
- Industry



MOBILE LIGHTING TOWER GENERATORS



TECHNICAL DATA

Stand-by Power Range (kVA): from 10kVA up to 22kVA

Stand-by Power Range (kW): from 4,2kW up to 18kW

Prime Power Range (kVA): from 9kVA up to 20 kVA

Prime Power Range (kW): from 7kW up to 16 kW

Frequency(Hz): 50Hz

Canopy Colour: Optional

Fuel Type: Diesel

Stand-by Power: It refers to limited time operation at variable load where the mains is good. Overloading is not allowed.

Prime Power: It means working for unlimited time at 70% average load as mains backup. 10% overload is allowed.

INTRODUCTION

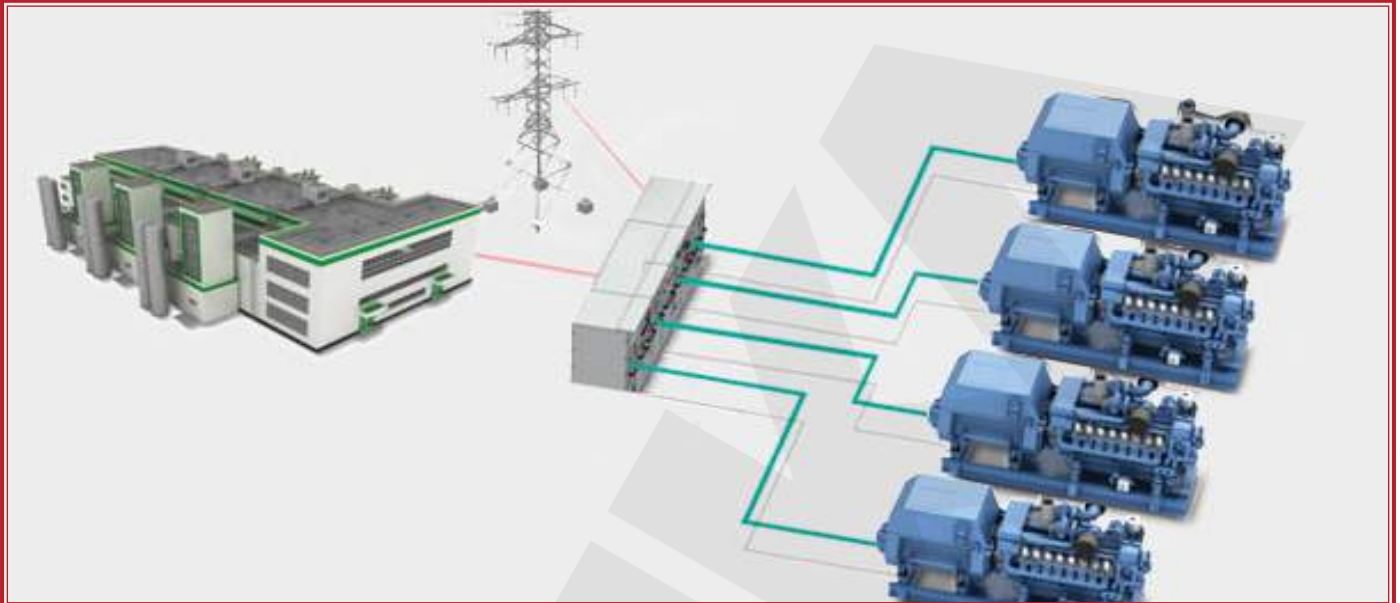
A light tower is a piece of mobile equipment that has one or more high-intensity electric lamps and a mast. The lights are attached to the mast, which is attached to a trailer, with a generator set to power the lamps. Normally the lamps are metal halide bulbs and the generator is powered by a diesel engine. Light towers are used for places where temporary, outdoor illumination may be wanted, such as construction, mining, motion picture production, demolition, emergency services, oil refining, sport, or agricultural sectors.

APPLICATION

- Construction
- Mining
- Film & Drama Production Sets
- Demolition
- Emergency Services
- Oil Refining
- Sport Arenas
- Agricultural



SYNCHRONIZATION SYSTEMS for GENERATORS



INTRODUCTION

Synchronization is to bring the frequency and voltage values of a different source (network or generator) to the same values at the same time by changing the frequency and voltage values of a generating group.

Generator synchronization, on the other hand, is the simultaneous operation of generators, that is, more than one generator as a single source.

The most basic feature of generator synchronization systems is that one or more generators work on the same energy line and share the load with another generator or network.

This mode of operation is provided by controlling the amplitude, frequency, and phase angle of the voltage signal produced by the generators.

ADVANTAGES

- Low operating cost
- Low initial setup cost
- Low maintenance cost
- Longer system life
- Flexible use
- Increased system reliability
- Service, spare parts and ease of maintenance

TYPES

Generator-Generator Synchronization:

It is the combination of the power of two or more generators in the busbar and active/reactive traffic jams in their power.

Generator-Grid Synchronization:

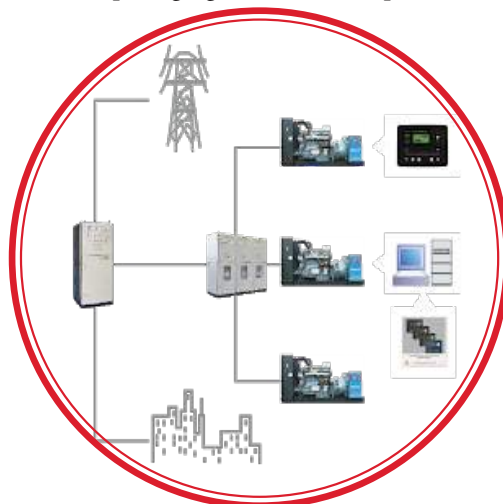
Depending on the application, the generator automatically becomes available and transitions to a transitional state with a subsistence state.

Multi-Grid - Generator Synchronization:

In case the control becomes control while the load is powered by the generator, it is transferred by the synchronous system to the generator being synchronous to the grid and from the generator for a defined period of time. The synchronous-soft operation ID may seem to be from smallest to largest in case it will be in case it is too much for the network.

Fail-over Operation:

It is the equal aging and fail-back operation of two generators.



CONTROL PANEL & ATS SYSTEMS for GENERATORS



INTRODUCTION

A generator control panel is a display parameter that presents various details and parameters, such as current, voltage, and frequency.

Whether the control panel has a built-in display, meters, or gauges, they are usually constructed in a metal weatherproof housing and mounted on the generator, along with vibration-proof padding to help insulate the control panel from shocks.

Larger commercial generators (industrial-grade generators and high voltage commercial generators) generally have control panels that are detached from the generator itself due to their size. Control panels that are fitted for these generators are usually able to be standalone, wall-mounted, or shelf-mounted due to sheer weight and size.

Generator control panels also have buttons and switches that help ensure the operation of the generator. In addition to having the on/off switch, generator control panels have buttons that allow the generator operator to program specific functions or to monitor specific parameters. Generally, all switches and gauges are clustered together and grouped by functionality. This makes the generator control panel user-friendly and safe for operational use, as it can help minimize the chances of a generator operator accidentally hitting the wrong control in the event of an emergency.

APPLICATION

An Automatic transfer switch panel, or ATS panel, is a type of transfer panel used with a diesel generator to automatically switch between the mains and generator in the event of a power failure. The generator will start/stop automatically depending on the mains supply.

A transfer switch is an electrical switch that switches a load between two sources. Some transfer switches are manual, in that operator affects the transfer by throwing a switch, while others are automatic and trigger when they sense one of the sources has lost or gained power.

An Automatic Transfer Switch (ATS) is often installed where a backup generator is located, so that the generator may provide temporary electrical power if the utility source fails.

