



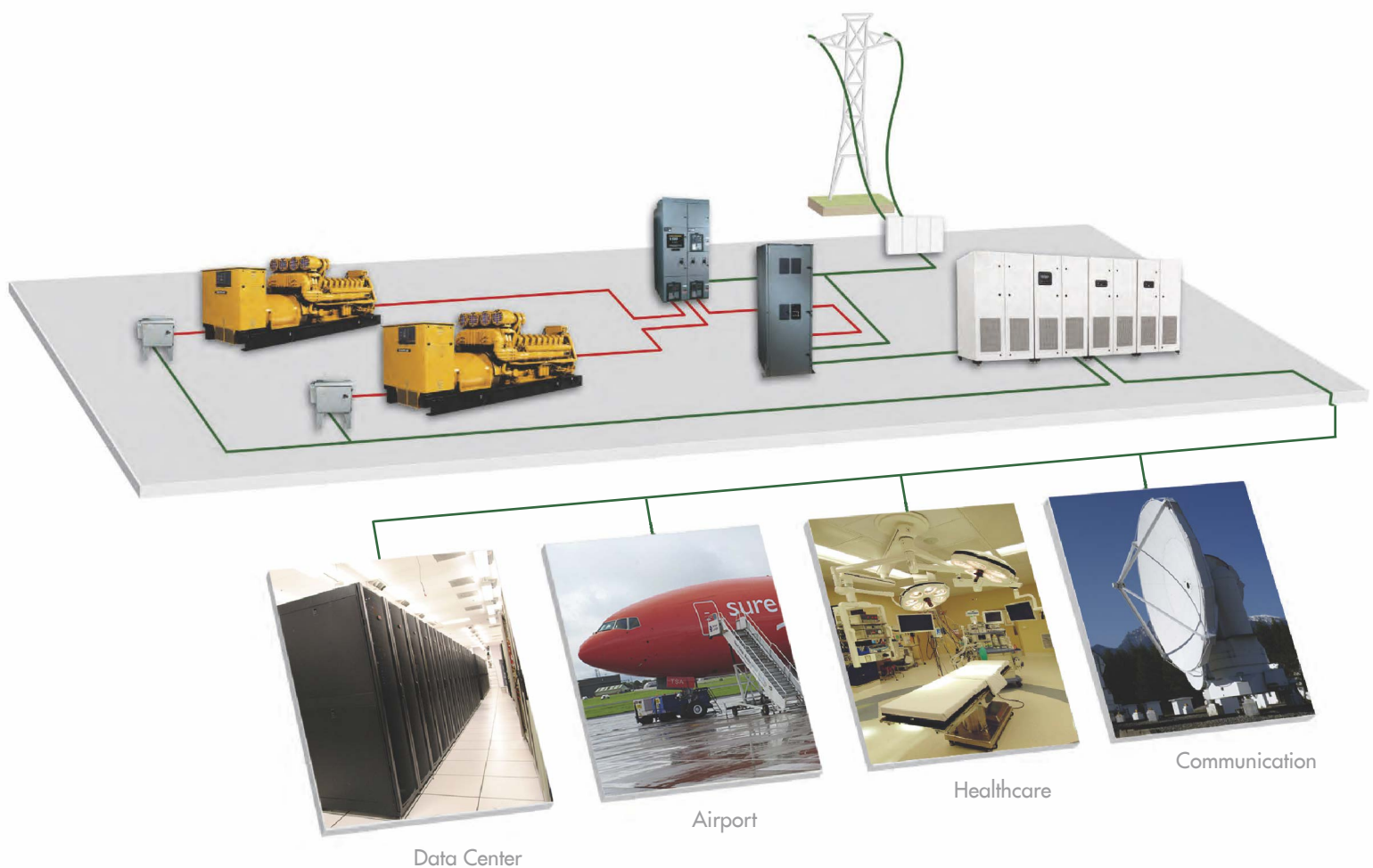
POWER GENERATORS & UPS



HALLEY POWER SUPPLY
GENERATORS & UPS

Total System Integration

All Halley Cables products are designed to work together, with all elements relating to the generator sets production, control and monitoring function integrated into a single-source package. You'll also have the benefit of a single source for parts and service. We are always available to provide the support you need, from system design to long term maintenance.



Our company provides a wide range of generators and uninterruptible power supplies, which are designed for all kinds of applications and conditions. We offer our professional services and expertise in order to improve our customers' processes over the total life cycle of our products, and beyond.



Our power, your confidence

Established in 2006, Halley Cables is a dynamic company specialized in power supply, which focuses on customer satisfaction.

Our vision is to establish ourselves as leader in providing high quality power supplies, maintenance at a fair market value in terms of speed and commitment.

Our mission is to provide the best products, technologies and services which contribute to a better life in the society in compliance with the principles of customer's satisfaction of 21st century.

Improving our product and service quality, increasing customer satisfaction in maximum level by providing premium products and services with low cost and superior technical solutions to all customers.

Our values that guide us through our daily activity are professionalism, reliability, efficiency, positive attitude and determination.

Our business strategy is to offer the best solutions in terms of desired product customization, design, service and maintenance, both nationally and internationally, as well as flexible payment terms.

Our goal is to stand out on the market as a reference name regarding the quality of products and services.

Halley Cables provides all its equipments in compliance with international standards for the purpose of presenting products and services with the highest quality to its customers.

Regardless of the field of activity, whether it is IT, telecommunications, medical, hotels, schools or industrial, Halley Cables is the partner next to whom you manage to eliminate risks/losses due to under voltage, overvoltage, short circuit, spikes, or even interruptions of the power supply electrical equipment.

Our Quality Policy is to develop, provide and deliver on time products and services that meet and exceed customer expectations. In order to this, Halley Cables has reliable partners that support us in achieving full satisfaction from our customers.

Choose from a variety of field-proven models offering on-board and remote diagnostics and control, low vibration and noise, and high-quality output.

With Halley Cables you also get the peace of mind associated with an enthusiastic and professional support team.

Generator sets are the modern solution to ensure continuity of power supply to any type of objective, regardless of place, time or season.

Halley Cables also provides power and welding generators such as: professional generators with soundproof, P.T.O. driven generators, travel generators, industrial and special application generators, marine generators and tower light generators.

The generator sets that **Halley Cables** offers are equipped with engines from companies with tradition in this field, such as: Perkins, Cummins, Lovol, Volvo, Iveco, Honda, Subaru, Yanmar, Lombardini, Deutz, John Deere, SDEC, Foton, Doosan, Doosan Natural Gas, Ricardo and Diamond Diesel with powers ranging from 2.2 kVA to 3200 kVA.

Also, alternator sets used for our generators are very reliable, from the following manufacturers: Stamford, Marelli, Linz, MeccAlte, Leroy Somer and Lisite.

Generators are recommended in:

- inaccessible areas that lack an electricity supply network;
- inside buildings, such as: hospitals, banks, shops, firms, airports, embassies;
- inside-stop production locations and inside military units.

Advantages of generator sets are:

- mobility & reliability;
- virtually unlimited range;
- total energy independence;
- a network line is not necessary at installation.



Classifying Generators

Groups can be equipped with gasoline engines or diesel power for the low and high powers. In terms of functionality, generators are divided into two categories:

- ➔ **Automatic:** That is overseeing the three-phased public network and automatically starts up at the fall of the network and then stops automatically when network returns, transferring the consumers back on the network. It can be equipped with an ATS (Automatic Transfer Switch),
- ➔ **Manual:** Which is being handled by a human operator - starting, switching and stopping are performed by a human operator.

Diesel Generators

Most sets are powered by diesel fuel and are recommended due to very long time life and low operating costs. They are silent because of reduced speed and the maintenance is simple and easy. In addition, product yield is typically 30% higher than gasoline power generators. Generator sets are sources of reserve power supply systems of priority consumers. The generators are self excited through their automatic voltage controller (AVR), that maintains constant pressure regardless of the variation of electrical charge. Starting can be string or electric, and from 10 kVA stand-by power (9 kVA nominal power) automatic starting is available and run. If mounting in places where noise is a problem, for noise attenuation you can select sound enclosure, that protects the generator against atmospheric factors and assures a low sound level.

In terms of engine coolant, heat generator sets can be water or air cooled. Regarding water-cooled engine (liquid) coolant is a mixture of water and antifreeze and the engine cooling is

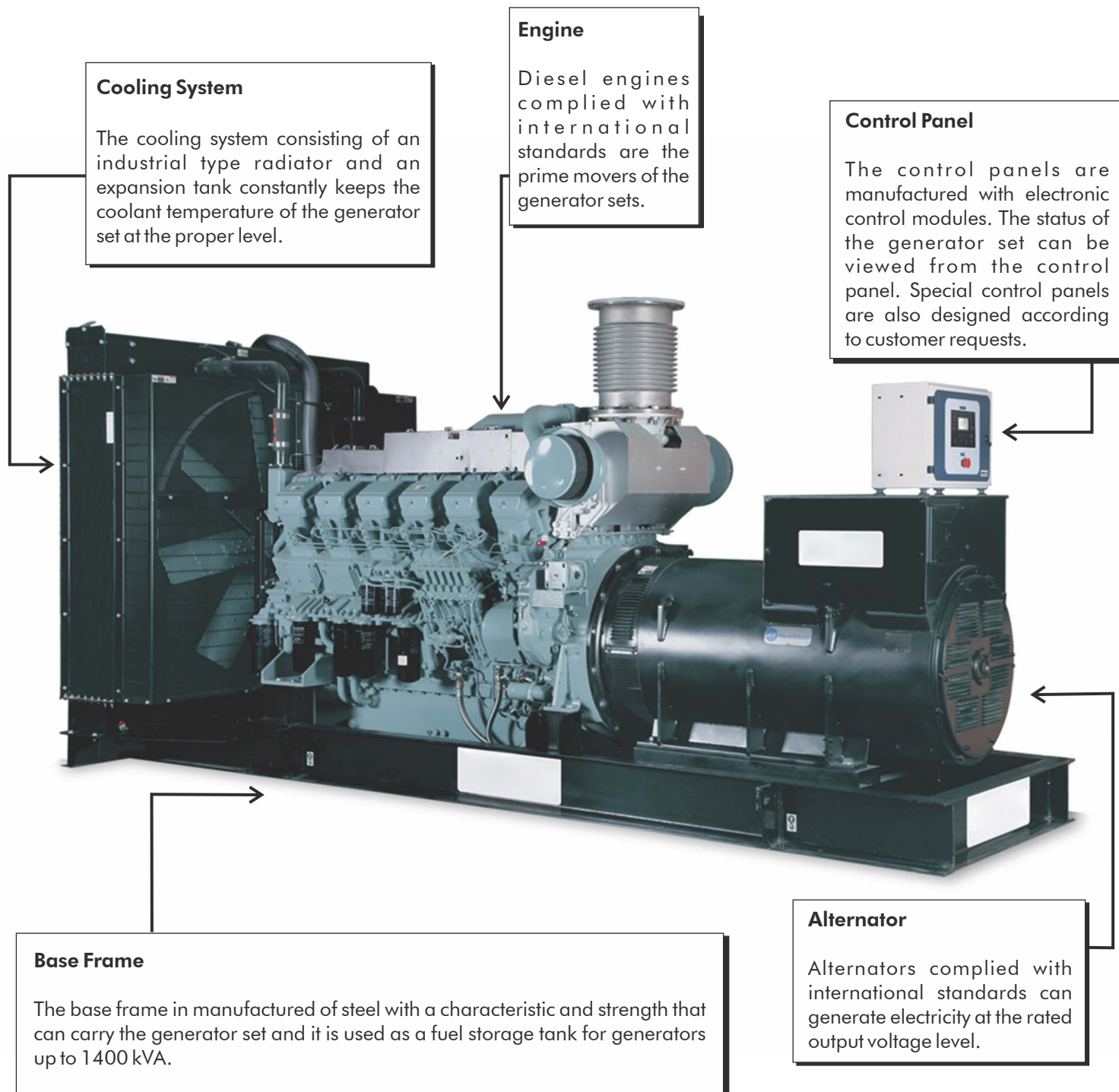
made using the radiator. When the cooling agent of the engine is air, the cooling is forced by a ventilator driven by the motor.

Continuous power isn't the only issue when it comes to electrical supply. Even when the electricity is on, the quality of the power can be compromised. Dips, sags and surges create an unstable flow of electricity that can be just as damaging as a complete outage – if not more so – making a clean power supply an equally critical priority. The most common sources of power quality issues are: natural causes (such as weather), technological problems (that involve the equipment or wiring malfunctions) and human error. These issues can create a myriad of problems, including: loss of critical data, dropped sales or service calls, damage to manufacturing equipment, loss of product or a batch of materials, environmental safety risks or legal liabilities resulting from service lapses.

Halley Cables by its experts in the field sets can provide technical support to choose the optimal configuration, which features meet the desired applications.

Get to know our generator sets better...

Each generator set provided by **Halley Cables** has the quality of being superior.



While protecting your generator sets, you can prevent noise pollution as well

Halley Cables provides canopied generators that assure a weather and sound proof capability, high protection against corrosion and rust. The canopy is designed for easy transportation and maintenance, better safety in use and enhanced performance in terms of isolation.

Halley Cables offers comprehensive range of generating sets with:

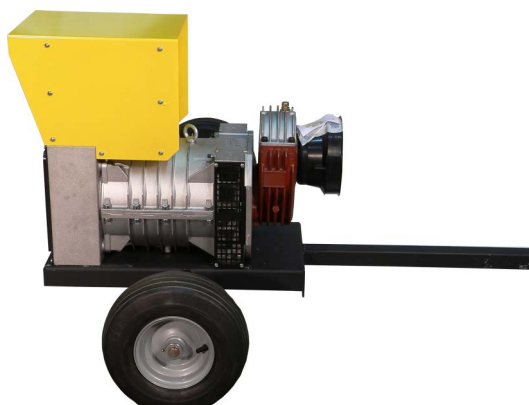
- choice of an international range of engines;
- different enclosures: from sound-attenuated up to super silenced models that meet or exceed the latest noise regulations;
- specially designed alternators for special applications where a smooth waveform and low harmonic distortion is required;
- availability of an automatic start operation range.

Regarding the **Engine Driven Welders** range that delivers from 165A to 1000A, we can provide a special version available with two, three or four stand-alone welding units. It has been designed to meet requirements of customers needing highly professional welding equipment. This result has been achieved through the unique features of our manufacturer asynchronous brushless alternator:

- **versatility** (stepped current regulation, also remotely controlled; MIG welding; lift TIG welding facility; carbon Arc Gouging; auxiliary AC power available also while welding);
- **reliability** (no alternator brushes or rotating diodes, only a single bearing „squirrel cage“ rotor: no maintenance required);
- **efficiency** (the asynchronous brushless alternator is more efficient than common alternators, which results in: no more welding capacity; better quality current with a smooth waveform and a very low harmonic distortion; without spikes: suitable for powering sensitive equipments; more auxiliary power available in single-phase; lower fuel consumption; longer engine life).

Whether you need to weld a pipeline in Siberia or in Saudi Arabia, operate in strict sound regulation area, carry out industrial maintenance jobs involving steel structures, we can provide you the right welding equipment in terms of: several makes of air and water cooled engines; highly effective soundproofing; different welding processes and a wide range of available options.

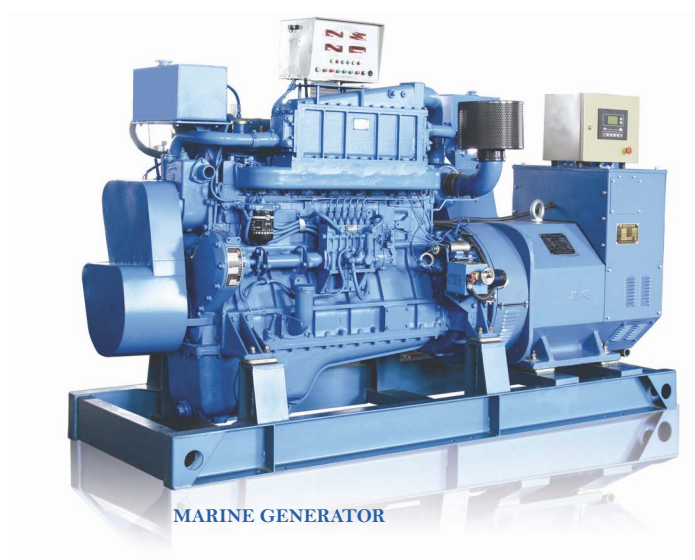




Halley Cables also provides **P.T.O. driven generating sets** (11 kVA-33 kVA), developed to satisfy strict farm requirements and different applications in particular rough areas. Easy to use, they ensure safety operation, minimum maintenance and reliable performances.



The new **Halley Cables** range of **event generators** has been developed for all uses where reliability high performance and very low noise operation are essential requirements. Event generators are especially designed for outdoor events, live concerts, film sets, exhibitions, utilities and telecommunications applications. Their power range from 10 kVA to 70 kVA and they use water cooled diesel engines. Upon request, 1800 rpm – 60 Hz models are available.



Marine Generator Sets provided by **Halley Cables** are specifically manufactured and designed for installation on board boats. The intercooler system diesel generators assure shipbuilders and end users easy installation with efficiency and performance. Designed for the special demands of the marine environment, the gensets features low sound levels and very low emissions.

Halley Cables products portfolio also encompasses **motor vehicle power generators**. They are specifically designed for installation in motor vehicles which require an independent power supply. Emergency rescue vehicles, mobile workshops, demonstration vans, mobile catering vehicles, are the main applications of this product range.

Motor vehicle power generators are single-phase or three-phase models, featuring power ratings between 2,8 kVA and 20 kVA. A wide range of diesel engines (Lombardini - Ruggerini - Kubota) and petrol (Honda) with water or air cooling system is available.



The generating sets for motor vehicles are directly fed by the vehicle fuel tank and battery, they are very compact and they have the following specific features:

- ➔ Extremely low noise level;
- ➔ Easy maintenance thanks to a large front access door;
- ➔ Sledge mounting which allows the generator pulling out from its housing;
- ➔ One side service;
- ➔ Reduced overall dimensions;
- ➔ Separate control panel to be placed inside the motor vehicle.

The latest motor vehicle power generators models are powered by water cooled engines with the radiator separated from the engine compartment, allowing a total isolation of the noisy area. Engine cooling is carried out away from the unit, by means of a radiator equipped with electric fans fed by the generator.

Our company provides very **mobile lighting towers** with a simple design, easy to use, robust and reliable. These lighting towers are available with mounting kit, easily suitable for a wide range of single-phase and three/single phase generating sets, as well as engine driven welders from 5 kVA to 22 kVA powered by gasoline or diesel engine.

Above these power outputs, the towers are fitted on a site or road tow undercarriage. They are also supplied as standalone units fitted on three stabilizers, connectable to the generator single-phase outlet or to the mains. Two of those generators features are two wheels trolleys for an easy maneuverability, or two wheels trailers with towing bar and stabilizers that ensure secure operation, on flat surface, even in high winds (max. 110 km/h – 70 mph).

Generator sets can be supplied with trailers for mobile usage. Tires allow easy movement on sites where power is required. These generator sets can be utilized in lighting tower, rental power, military, construction and other applications.



With a complete range of products, Halley Cables also offers auto mains failure panels that are designed to automatically start the generator and supply power within a few seconds after the loss of the mains.

The AMF panel:

- controls the generator operating conditions;
- protects the generator in case of any malfunction;
- stops the generator when the mains supply returns and then prepares the generator for a new start.

The Automatic Start Panel is available as a wall mountable panel or a free standing cubicle.

The front panel includes:

- digital read-out selection for frequency;
- battery level;
- mains/generator voltage, current supplied by generator;
- stop and start controls;
- operating functions selection switch;
- led warning lights for operating conditions control;
- timer device for operating control program;
- engine hour meter.

All circuits are controlled by a led programmable microprocessor which enables the programming of the functioning parameters, according to the requirements of the particular application. All the panels are provided with a four pole changing over, an automatic battery charger and a multiple cable for the connection with the generator. Other optional features available on request are: long distance transmission remote control facilities for the alarm and operating conditions, as well as PC interfaces.



ACCESORIES

P-BOX – This portable unit (6.5 kg) permits paralleling of two equal power engine driven welders doubling the welding current output. It is equipped with welding voltmeter and ammeter and connecting cables.

Remote control kit – Remote hand amperage control supplied with 20 m cable and plug.

Reverse polarity switch kit – Electrically operated device to reverse polarity, suitable for electronic control welders up to 500 Amps, including: polarity switch box, connecting cables between the welder and the polarity switch box, remote control with 20 m cable and plug (composed of welding current potentiometer and polarity selector switch with warning light).

Spark Arrestor Muffler – Safety device which stops sparks emission from the muffler. Recommended for use in particular areas such as refineries or petro-chemical storage areas.

Bounded Tank – A bounded tank placed at the base, capable to contain all the liquids present in the machine, thus avoiding fluids spillage on the ground.

Welding cables with accessories – The kit includes: one dark screen, one transparent glass, one chipping hammer, one steel brush, one electrode holder with 5 m cable, section 25 mm² and one ground clamp with 3 m cable section 25 mm² plus 2 electrode holders.



ACCESORIES FOR TRAILERING GENERATORS



Two wheels site tow undercarriage

Trolley wheelbarrow type

Four-wheels site tow undercarriage

Wheels undercarriage with leaf springs and tower bar

HALLEY CABLES

Power engineering your future



Uninterruptible Power Source's are designed to maintain power to the mains switch on a generator or a power line to another. Due to the advanced technologies available, they can solve problems such as voltage and frequency variations.

Depending on conditions specific to each goal, our company supplies a wide range of UPS (with power from 650 kVA to 800 kVA). If the UPS system capacity increases, several UPS's can be connected in parallel, available voltage provided by the assembly increasing appropriately.

Halley Cables provides a complete gamma of UPS: Challenger, HP Power Pack, Power Pack DSP, Power Pack Plus, Power Pack Plus PRO, Power Pack RT and Integral. Nothing is more important than protecting your critical telecommunications and networking systems.

The uninterruptible power supply keeps your systems up and running in the event of any power problems. Featuring an online UPS design, power irregularities such as spikes, surges, brownouts and blackouts are corrected before they are passed on to critical equipment.

The most two important factors to consider when choosing a UPS are the size of your load and the amount of backup time needed for your systems.

Also, the location of your equipment may determine the number of UPS's needed; sometimes it is simpler to place a few UPS's strategically throughout your business than it is to connect everything to a single UPS.

To provide the fullest range of power products for your voice and data applications, Halley Cables has partnered with the best companies. For many years, our partners have designed and manufactured innovative, end-to-end power protection and management solutions that are deployed by a broad range of businesses and institutions worldwide.

Benefits:

- ➔ Guarantees total isolation between input voltage and constantly provides protected equipment voltage and frequency regulation;
- ➔ Assures a pure voltage and frequency output to the protected equipment all the time, not just during power outages;
- ➔ Power output from UPS remains within $\pm 3\%$ of nominal voltage;
- ➔ Prevents power loss to the protected equipment when utility power is interrupted;
- ➔ Results in negligible battery usage during brownouts thus a longer battery service life, increased reliability and reduced maintenance;
- ➔ Provides alternate power path to protected equipment, keeping the load on, in the event of UPS failure or equipment overload;
- ➔ Eliminates damage to protected equipment's power supply.

Features:

- ➔ Converts alternating current (AC) to direct current (DC), then regenerates alternating current (AC) to the protected equipment;
- ➔ Inverter is online during normal operation;
- ➔ Zero transfer time when switching from utility to battery;
- ➔ Wide input voltage window (85-144 VAC on low voltage models and 176-276 VAC on high voltage models);
- ➔ Automatic internal bypass circuit;
- ➔ Low output voltage distortion (THD <5%).



Online UPS Technology

Online UPS's are designed to provide complete power protection. They isolate equipment from all types of power problems by continuously regulating the AC power for your systems.

Online UPS's isolate equipment from harmonic distortions and are strongly recommended for critical applications that must meet the 5% maximum harmonic requirement (stated in major computer manufacturer specifications and installation guides). Battery conservation is an essential factor for a customer deciding to purchase an online UPS. An online UPS uses the battery less often than any other UPS technology, therefore increasing the life expectancy of the battery. Our robust, state-of-the-art online UPS's provide superior protection for your communication and networking systems.



Line-interactive UPS Technology

Line-interactive UPS's offer basic power protection at mid-range prices. In addition to protection against power failures, power sags and power surges, line-interactive UPS's protect against brownouts and electrical line noise. Although line-interactive UPS's provide more voltage regulation than standby UPS's, battery life is often sacrificed. The number of transfers to and from battery in this case exceeds that of the online UPS's by as much as 20 to 1 during brownouts and power surges.

Standby UPS Technology

Standby UPS's are intended to provide a low price solution for power failures, power sags and power surges. Utility power is provided during normal operation. Utility voltage and frequency changes are not regulated by the UPS and pass through to the equipment. Standby UPS's provide effective protection for consumers and intelligent battery management, features that have proven to be of utmost importance, due to their manual control function and automatic control at each starting time.

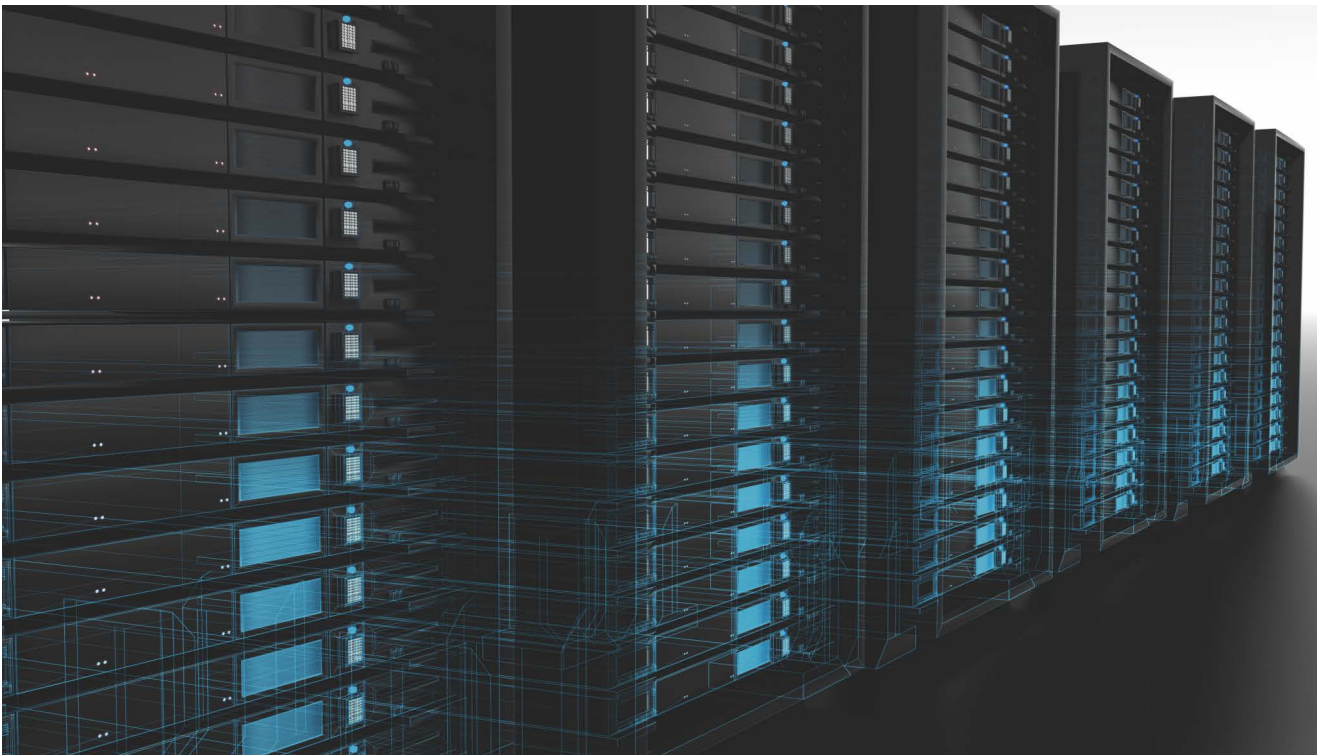


Purchasing a quality UPS can avoid unpleasant events like the damage of equipment or sensitive data loss.

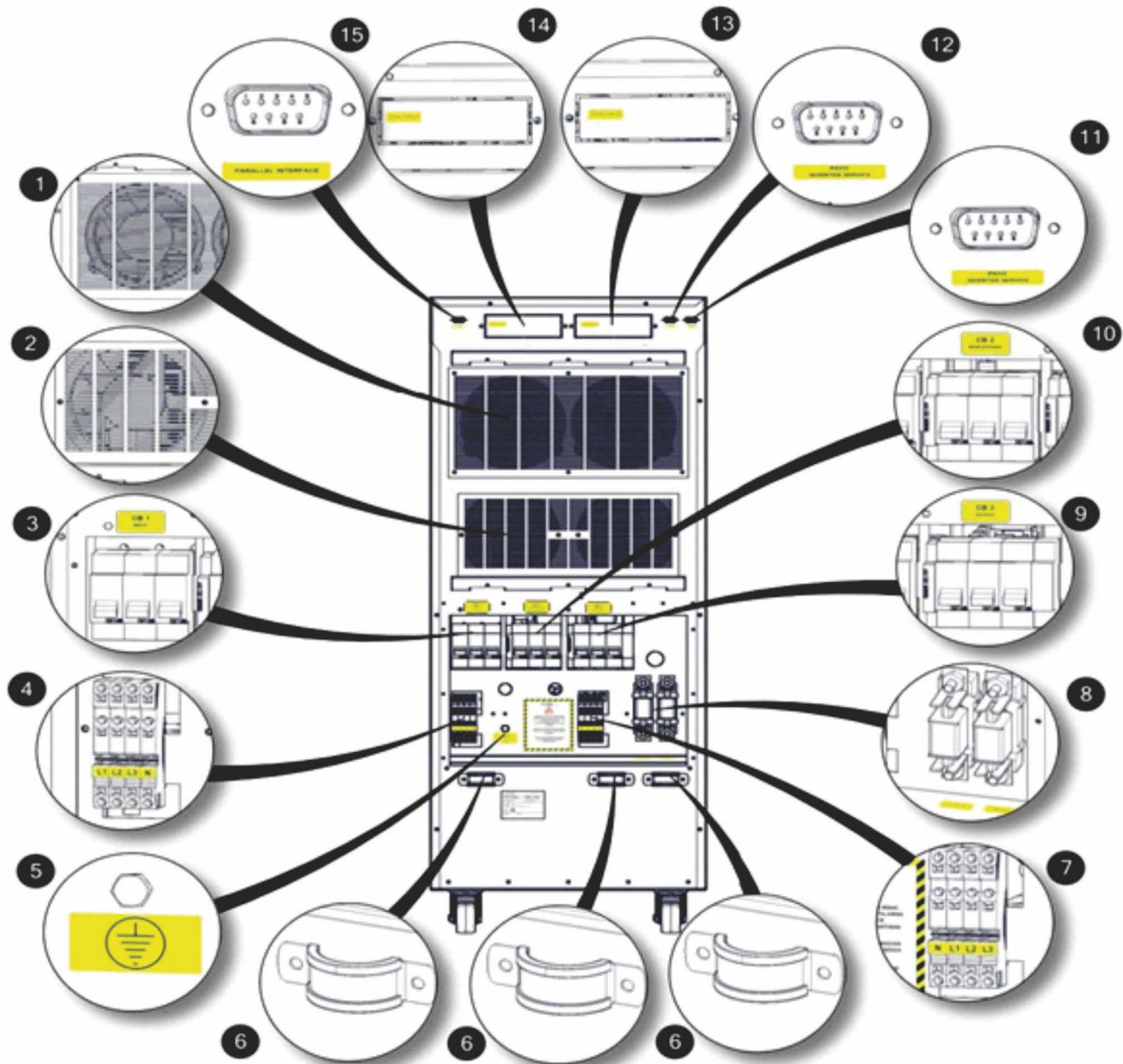
Problems of supply networks solved by UPS:

- ➔ Under voltages are produced by connecting loads, general switches, decoupling of equipment, lighting, undersized network request to the building, in addition to the fall of hardware damage.
- ➔ Voltage surges are caused by rapid declines in network load, stops large equipment or general switches. The result is damage to hardware.
- ➔ Frequency variations are common in safety systems such as generating sets and they can cause system crashes and equipment damage. They rarely happen in power networks.
- ➔ Spikes are a short and intense surge, often no more than one cycle or two but with voltages of 100% or more above normal. Transients cause processing errors, data corruption, incorrect data transfer and hardware malfunctions.
- ➔ Frequency distortion as integer multiple of the standard voltage 220 V/50 Hz frequency are called harmonics. Harmonics can be generated even hundreds of miles away from the electrical network. Produced by variable speed motors or even computers themselves, harmonics lead to communication errors and hardware malfunctions.
- ➔ Interruption is often described as a lack of power for more than half the times Power termination may be caused by failure of distribution equipment, accident, lightning, fuses and breakers. The result: crashes and hardware failure.

Given the variety of ranges and options available, any supply problem can be solved using **Halley Cables** equipment.



An overview of an UPS



1. Rectifier / Charger-Inverter Cooling Fans
2. Winding Hot Air Evacuation Channel
3. Mains (Input) Breaker
4. Mains (Input) Connection Terminal
5. Ground Connection
6. Input-Output-Battery Cable Fixing Terminals
7. Output Connection Terminals

8. Battery Rapid Fuses and Battery Connection
9. Output Circuit Breaker
10. External (Maintenance) Bypass Breaker
11. RS232 Terminal for Communication Socket of Rectifier
12. RS232 Terminal for Communication Socket of Inverter
13. Optional card slots
14. Optional card slots
15. Optional Parallel Port Terminal

Halley Cables has no competitors when it comes to offer custom solutions according to your specifications and needs.



ROMANIA

Romanian Central Bank – Standby rates 150 kVA Diesel Generating Sets with Sound Proof Canopy
Oradea Central Hospital - Standby rates 275 kVA Diesel Generating Sets
Hotel Hilton – Iasi - 275 kVA Diesel Generating Sets with Sound Proof Canopy
Hotel Delta – Tulcea -150 kVA Diesel Generating Sets with Sound Proof Canopy
Alsys Telecommunication - Standby rates 275 kVA Diesel Generating Sets with Sound Proof Canopy working in Master Slave Mode
Police Academy – Bucharest - Standby rates 150 kVA Diesel Generating Sets

GEORGIA

Procredit Bank – Standby rates 11/15/20/27/35/46/51/ 2 pieces of 116 kVA Diesel generating Sets with Sound Proof Canopy and 3 pieces of 40 kVA UPS

ALBANIA

ELDA Petrol – 8 pieces of Standby rates from 47 to 150 kVA Diesel Generating Sets

JORDAN

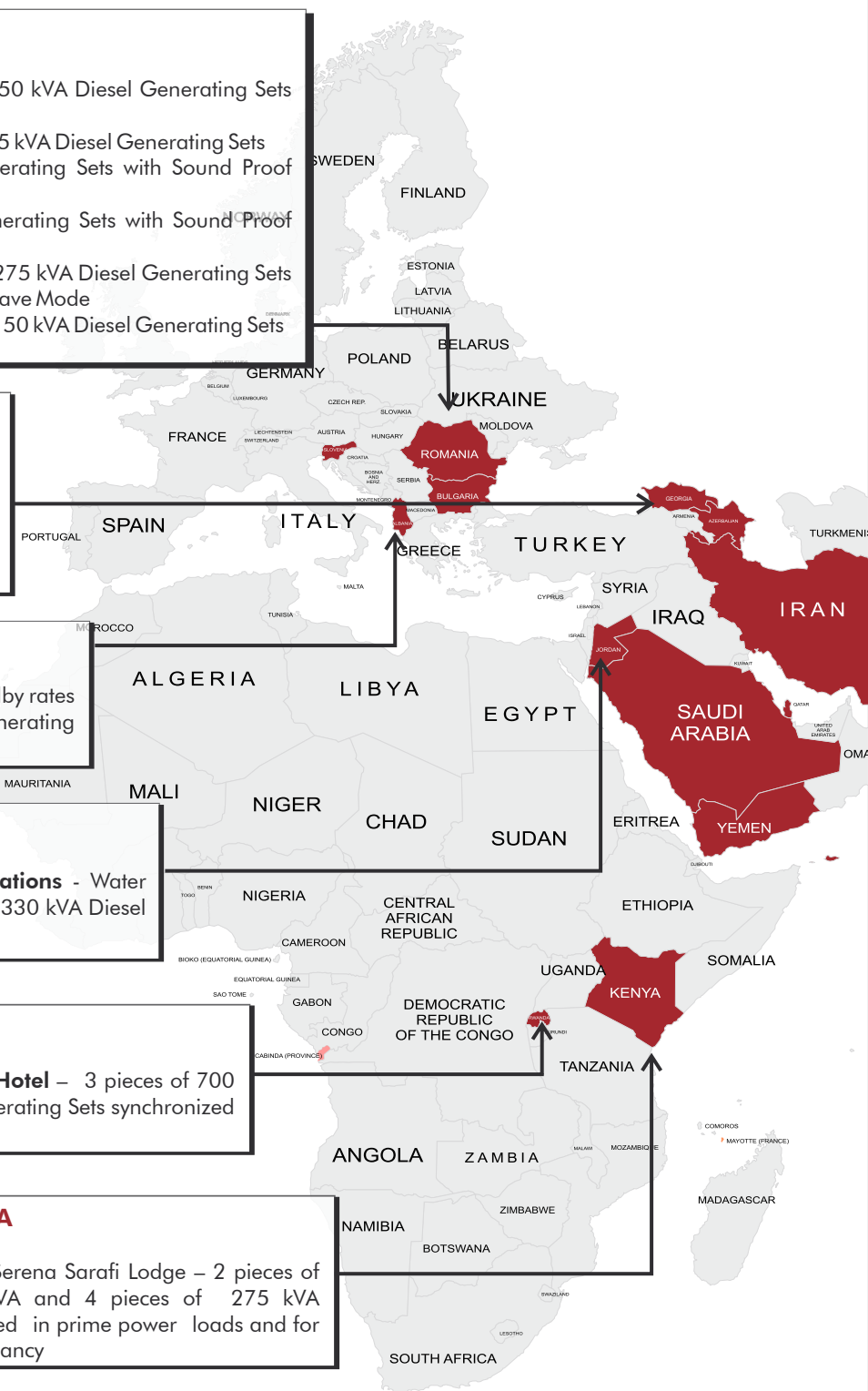
Ministry of Water Irrigations - Water Authority – Standby rates 330 kVA Diesel Generating Sets

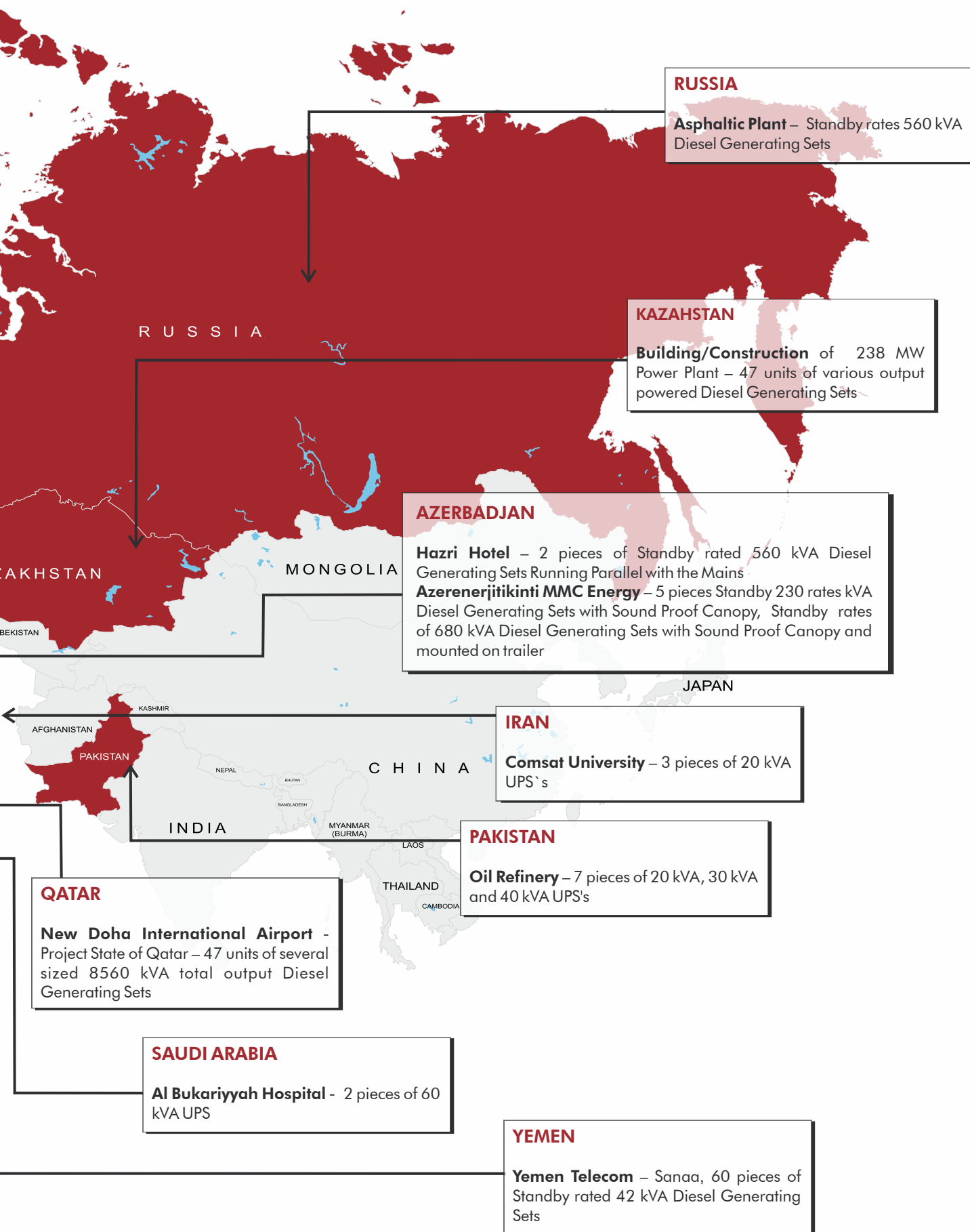
RWANDA

Kigali Serena Hotel – 3 pieces of 700 kVA Diesel Generating Sets synchronized with each other

KENYA

Mara Serena Sarafi Lodge – 2 pieces of 400 kVA and 4 pieces of 275 kVA operated in prime power loads and for redundancy





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HALLEY CABLES team focuses on customer preferences and offers free consulting via e-mail, telephone and to the place of installation of the generator or UPS.

Our special attention is designing the best systems in terms of quality and costs, in accordance to your needs.

By choosing to work with us, you will have the safety of quality and the power of knowledge.

Our team is able to encounter any requirement, regardless of its exigency, with a creative, ingenious and efficient solution.

We are committed to rising to our clients expectations. We encourage customer involvement in the creative process, because we believe that a point of view expressed can make the difference between a final product effectively and an excellent final product.

We assure you that we will provide all the necessary resources in order to ensure a satisfying collaboration for both parts.



HALLEY POWER SUPPLY

GENERATORS & UPS



HC – BUCHAREST

EDWARDS Business Center,
Str. Calusei nr.7, sector 2
021351, Bucharest, Romania
Tel/Fax: +4 (0)21 2560888
office@halleycables.com
www.halleycables.com



HC - GALATI

16, str. Gheorghe Asachi,
Micro 16, Galati - 800457
Tel: +4 (0)236 319000
Fax: +4 (0)236 319085
office@halleycables.com
www.halleycables.com



HC - QATAR

Airport Street, Doha
P.O. BOX 9709
Tel/Fax: +974 44644133
Mobile : +974 55566131
q@halleycables.com
www.halleycables.com



HC - SWITZERLAND

4, Gimenenstrasse
CH - 6300, Zug
Tel: +41 767260875
Fax: +41 417287363
office@halleycables.com
www.halleycables.com