

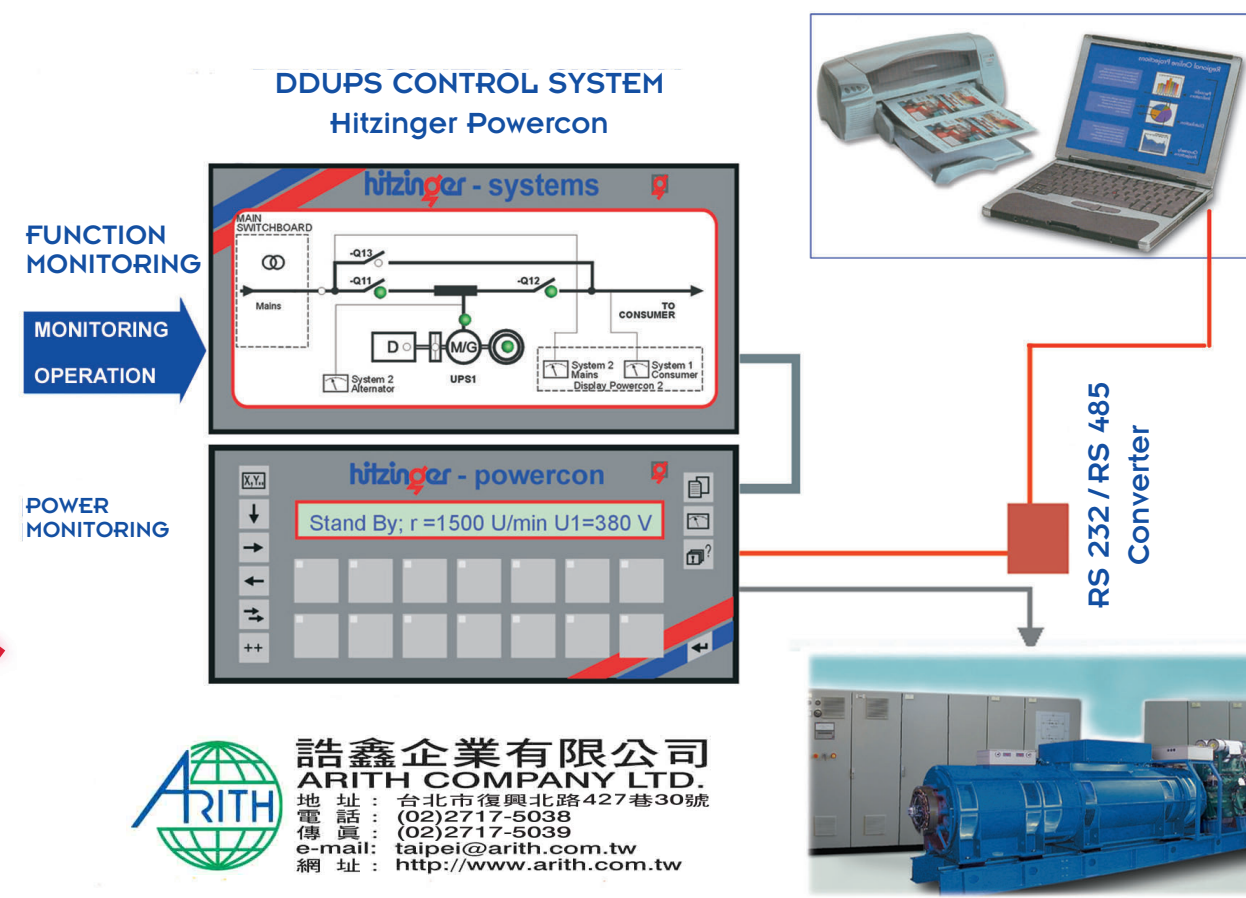
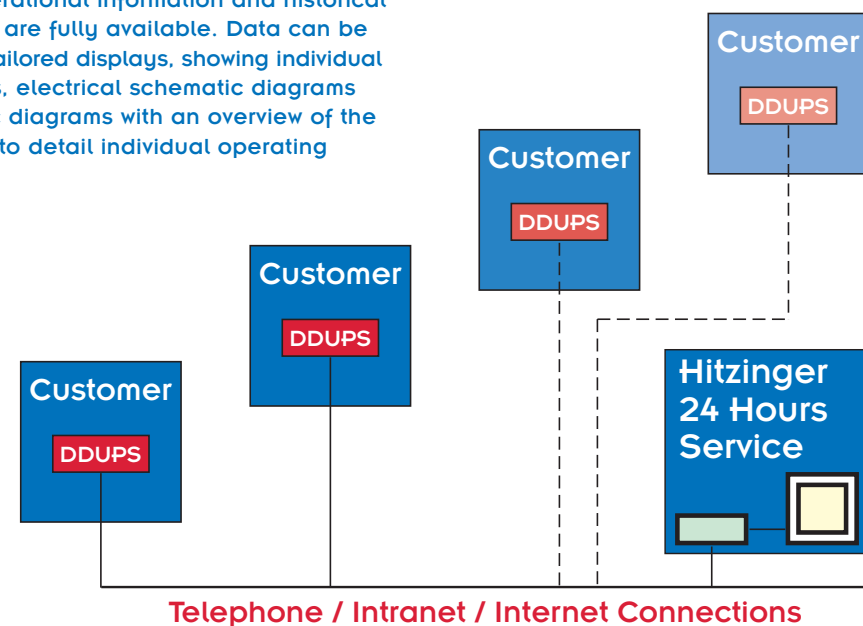


HITZINGER MONITORING AND DIAGNOSIS SYSTEM FOR CENTRAL OPERATION AND MONITORING

HitZinger offers complete information software package for monitoring and control of the power supply systems through serial interfaces over a network, intranet or remote connectivity via modem links etc.

1. Real-time Operational information and historical data & events are fully available. Data can be presented in tailored displays, showing individual building plans, electrical schematic diagrams and / or mimic diagrams with an overview of the system tiered to detail individual operating elements.

2. The HitZinger Powercon will provide tailored current or historical data reports for event logging and allows future operation requirements to be forecast by trend analysis of loads etc. The software is an efficient tool, simply and easy to handle, even for the non-expert.



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POWER. AT THE RIGHT MOMENT.

DDUPS UNITS: A PERFECT RESULT OF HITZINGER KNOW HOW

SERVICE & SUPPORT

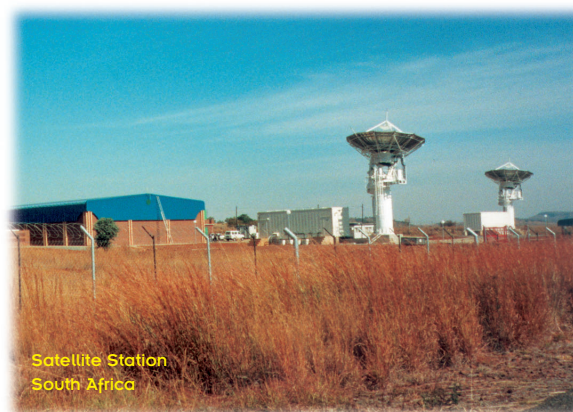
ENGINEERING

HitZinger has more than 20 years experience in the field of engineering, installation and commissioning of turnkey DDUPS projects.

MAINTENANCE

24 hours a day, 365 days a year

Excellent after sales service is an essential requirement for the reliable DDUPS-Systems operation and prolonged lifetime. HITZINGER technicians are at customers disposal throughout the world.



SELECTED REFERENCES:

TELKOM Pretoria, South Africa
 1st SILICON Kuching, Malaysia
 New Athens International Airport, Greece
 Salzburg International Airport, Austria
 General Hospital Graz, Austria
 Site Agriculture Manila, Philippines
 Veterans Hospital Taipei, Taiwan
 Piaget Geneva, Switzerland

Highest quality standards are guaranteed by the use of ISO 9001 Quality assurance system. HitZinger DDUPS systems operate worldwide guaranteeing power quality to sensitive loads

hitZinger

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COSTUMER FOCUS

Our success can only be measured by that of our customers.

True understanding of a customer and his needs combined with experience and a global view allows us to engineer innovative and unique power solutions.

Expertly conceived, uniquely tailored and efficiently executed – a mutual success.

PROBLEM-SOLVING COMPETENCE

A clear product vision and continuous research brings cutting edge technological developments all requirements for global competitiveness.

HITZINGER offers through its products extensive know-how and expertise of a multi-disciplined team

This innovative thinking, creativity and effective project management is our key to create professional customer solutions.

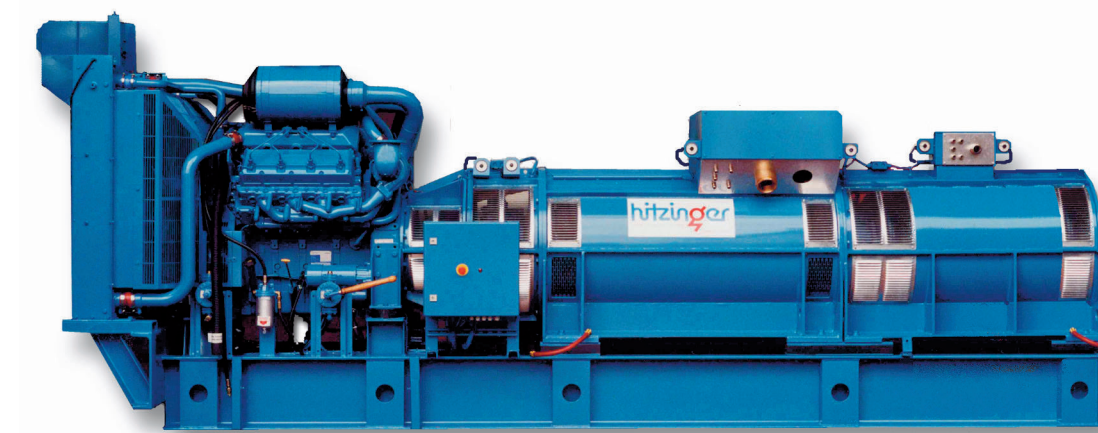


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DYNAMIC DIESEL UNINTERRUPTED POWER SUPPLY SYSTEMS

<http://www.hitZinger.at>



hitZinger

UNINTERRUPTED POWER SUPPLY SYSTEMS

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INTRODUCTION

The reliability and quality of the public electricity supply is insufficient for growing numbers of consumers. Mains surges, sags and black outs however small can cause disruption, having serious consequences with loss of production / data / reputation / revenue even life. Such areas where faulty power supplies result in serious breakdown and consequential loss include:

- Data processing centres
- Semi conductor production plants
- Telecommunication
- Airports
- Hospitals
- Food Processing plants
- Chemical Industry
- Plastics-technology
- Computer controlled Industrial plants etc.

The increasing degree of automation and computerisation, demand more than ever, an absolute reliable and uninterrupted close tolerance power supply for today's mission critical processes.

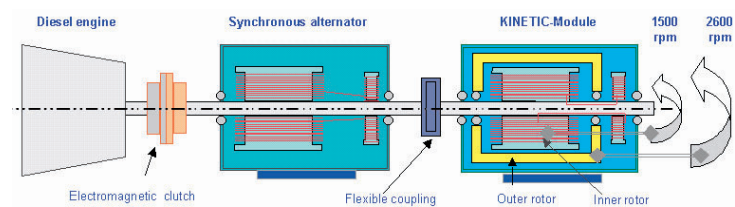
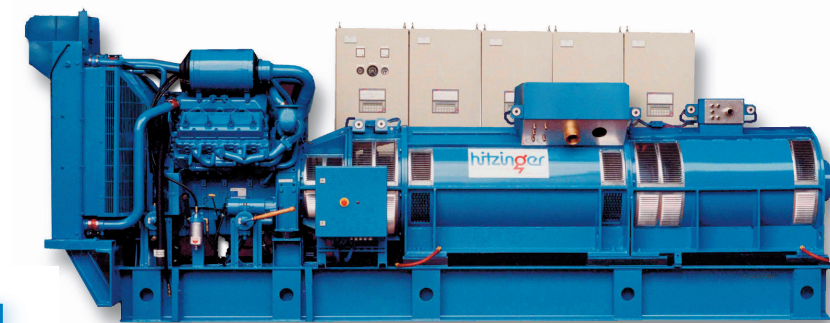
A reliable power supply system often means a lot more than the quality provided by the local electricity board .

Hitzingers Two DDUPS Systems

System NBDD: DDUPS with Flywheel for a frequency accuracy < 5 %

System NBDK: DDUPS with Kinetic Energy Storage Module for frequency accuracy < 1 %

These systems provide extremely high availability and reliability in case of mains failure and high efficiency during stand-by operation because of carefully design and individual components selection. Our well-proven resilient control system assures our costumers, that malfunction and operator error is impossible. Therefore operation of the UPS systems does not require specialised personnel.



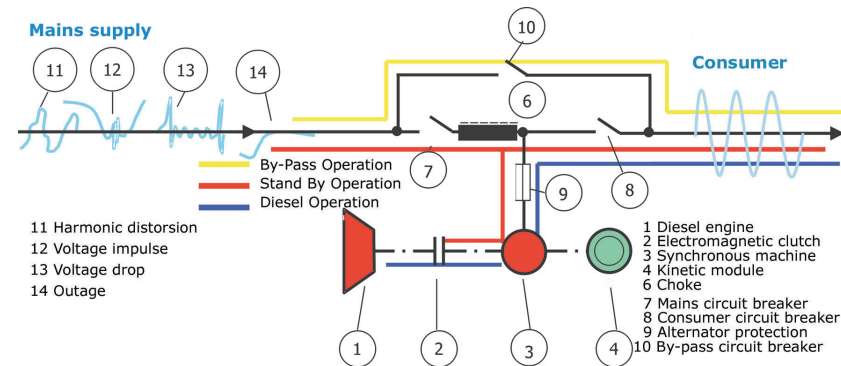
The KINETIC- Storage Module KIN

Simplified description of function:

The Kinetic Energy Storage Module (KIN) consists of two rotating parts – the inner rotor and the outer rotor. The outer rotor equipped with a squirrel cage, rotates at approximately 2600 rpm and runs freely on the shaft of the inner rotor. The inner rotor equipped with a DC winding rotates at synchronous speed (1500rpm) coupled via flexible coupling to the Hitinger high performance synchronous alternator. In case of mains failure the magnetic field of the inner rotor brakes the outer rotor and keeps the speed of the synchronous alternator constantly via electronic control unit.



Schematic Diagram NBDK System

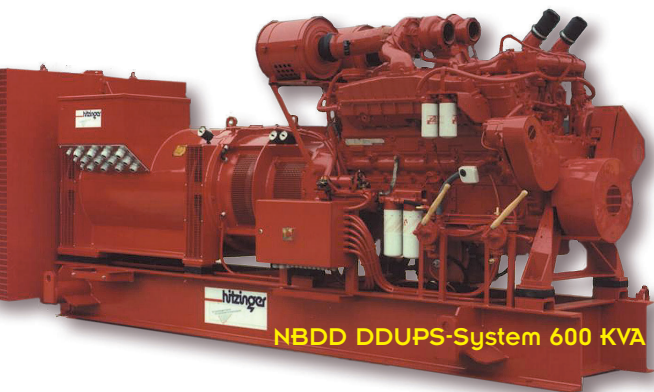
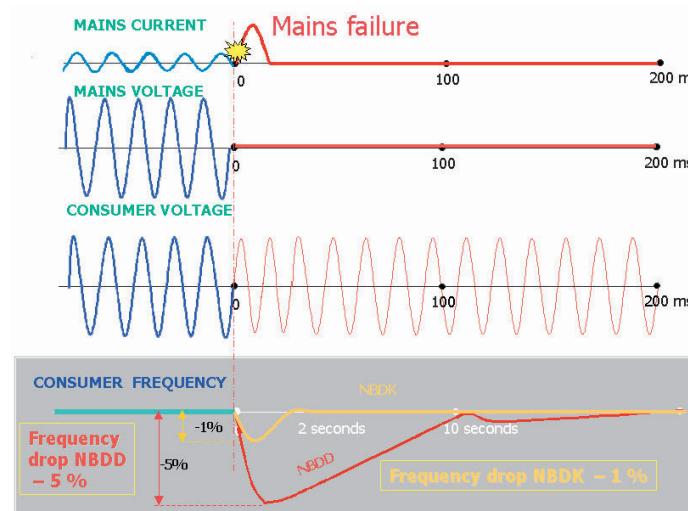


Dynamic Diesel UPS System Features

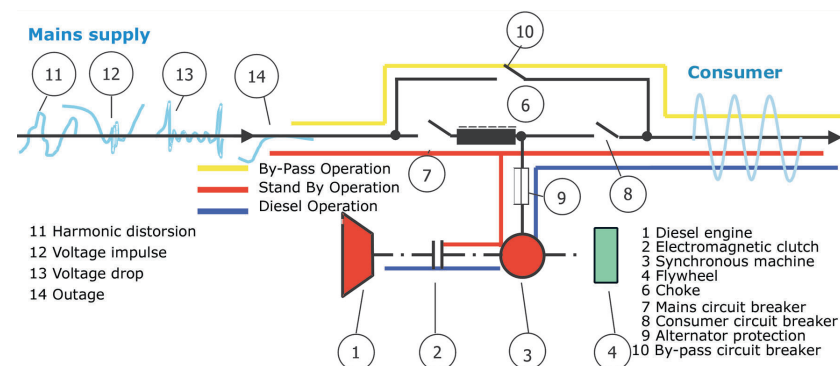
- rating: up to 2200 kVA
- voltage: up to 11 kV
- dual output units
- MTBF value: > 1M hours
- availability : > 99.9999 %
- low MTTR value
- low maintenance costs
- high choke quality
- high overload capacity
- efficiency up to 96 %
- electromagnetic clutch
- power factor improvement
- optimum mains failure supervision
- In house developed control system
- brushless design, no slip rings
- reduced plant room footprint



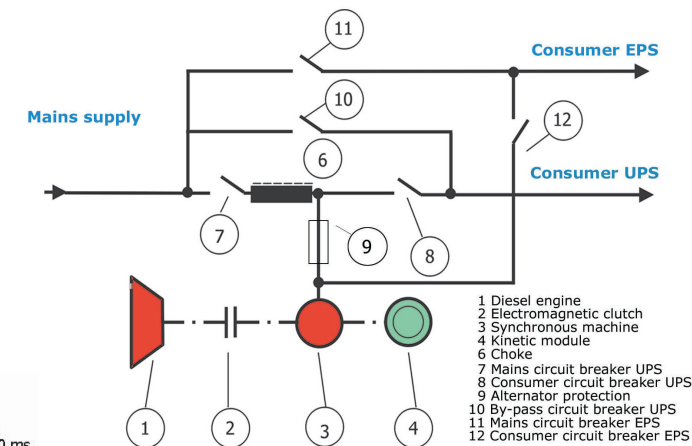
Voltage & Frequency Diagramm NBDD & NBDK System



Schematic Diagram NBDD System



Schematic Diagram - NBDK Dual Output System



Maximum availability and reliability:

The reliability of Hitinger DDUPS systems is the result of product philosophy with the use of a minimum number of system components having an optimum quality standard.



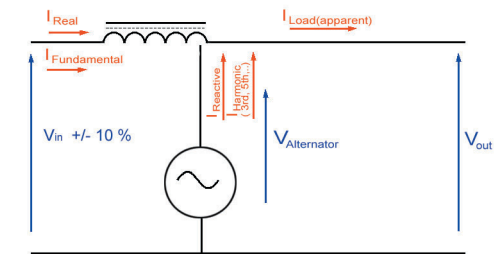
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DDUPS COUPLING CHOKE

Within a Diesel UPS System the coupling choke connects the input grid supply with the UPS high quality output supply. It allows large voltage differences between both AC systems by means of reactive currents for any direction, independent of the active power flow. The special design of the choke provides a high degree of de-coupling in both directions between the input and the output.

The Coupling choke provides:

- Static and transient voltage decoupling of the input mains and the UPS bus
- Harmonic filtering
- Input load leveling irrespective of 100% unbalanced output load
- Input Power factor correction > 0.98 from 0 – 100% load at nominal voltage



The output voltage and input current are completely independent of each other. It is possible with the coupling choke to prevent all the harmonics and transient events between input and output. Harmonics in the output current are not transmitted to the input side. The input current consists only of the sinusoidal fundamental waveform required for power transfer. Likewise, harmonics and transients in the input voltage have no effect on the quality of the output voltage.

The output voltage independence is achieved through the calculated combination of the coupling choke high impedance characteristics to harmonic currents and the special design synchronous machine windings and selective damper cage representing a short circuit to these harmonics preventing reflection to the mains supply.

In the event of input short circuit the current flow towards the grid network is limited by the choke to < 200% I nominal until the input is disconnected. During this transient situation the coupling choke maintains the UPS bus voltage and the critical load. During this transient the current feed back to the mains is wholly reactive, ensuring all the kinetic stored energy can be fully utilised for the critical load.

