



## Dynamic UPS, Airport Ground Power & Tailored Power Solutions

Hitzinger is a independent privately owned company founded in 1946, based in Linz, Austria, operating from over 30 worldwide locations. Producing tailored power solutions, form our core business of rotating electrical machines that today covers:

**Dynamic Battery-less Diesel UPS**

**Specialist Diesel Generators**

**Airport Ground Power Systems**

**Rotary Frequency & Voltage Converters**

### Service and Support:

Hitzinger offer through it's products, extensive know-how and expertise of a multi-disciplined team to provide a quality turnkey power solution from conception to handover and beyond for life long reliability and service.



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**POWER. AT THE RIGHT MOMENT**

## Converters

### RELIABLE AND TAILORMADE

There is an increasing emphasis on flexibility for individual electrical power supplies. HITZINGER is the experienced specialist for individual power supply - producing over a wide range of modern frequency / stabilizing / and voltage converters to ensure the quality of the power supply is always suited to the individual requirements. No matter whether for automatic process control for ships, aircraft, radar and computer systems; HITZINGER converters make electrical power in every form and quality available.

### DESIGN & DEVELOPMENT

HITZINGER converters distinguish themselves not only in their superior technical conception, but most of all with their proven reliability. The key focus of the converter development is best possible efficiency with extremely robust, wear-free and maintenance-free design for all types of converters. A development philosophy that stood the rigours of time in all conditions and this is one of the reasons why HITZINGER converters have an excellent reputation - worldwide.

### FOR EVERY KIND OF APPLICATION THERE IS A SPECIAL SOLUTION

The Hitzinger converters are available in many different construction variations, special monobloc designs available with anti friction bearings, two bearing designs, common excitation systems, horizontal or vertical mounting arrangements to meet every criteria.

### POWER THAT COVERS ALL DEMAND

- Frequency range 16.66 Hz - 800Hz
- DC Voltage 12V - 1000V
- AC Voltage UP to 12 kV



- High efficiency
- Low sound level
- Light weight
- Small dimensions
- Many different variations ...robust and reliable during operation
- Silent running
- Tropical- and seawater- proof insulation
- High sustained short circuit current
- Short interruption ride through capability
- Ability for overloads
- Low distortion factor
- High MTBF-value

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## Dynamic Diesel Uninterrupted Power supply Systems

The Hitzinger Dynamic Diesel UPS system comprises of four major components: diesel engine, generator, kinetic energy storage module and coupling choke. The kinetic energy module, generator and coupling choke work together to provide power conditioning and ride through energy for the UPS system, whilst the diesel engine provides the long-term back up for a mains failure.

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.

### Maximum availability and reliability

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

### 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 levelling irrespective of 100 % unbalanced output load -Input Power factor correction  $> 0.98$  from 0 - 100 % load at nominal voltage. 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 the current feed back to the mains is wholly reactive, ensuring all the kinetic stored energy can be fully utilised for the critical load.

### HITZINGER MONITORING AND DIAGNOSIS SYSTEM

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.



### System Features

- Rating: up to 2500 kVA
- Voltage: up to 11 kV direct
- Dual output units
- MTBF value:  $> 1\text{M}$  hours
- Availability:  $> 99.9999\%$
- Low MTTR value
- Low maintenance costs
- Battery less solution
- High overload capacity
- Efficiency up to 96 %
- Electromagnetic clutch
- Power factor improvement
- Brushless design, no slip rings
- Reduced plant room footprint
- Maximum availability and reliability



## Alternators

### ACCURACY

Hitzinger's software enables individual design of all components as well as connecting elements calculating torsional stress under all conditions including short circuit, mal synchronisation etc to ensure safety and equipment reliability.

### AVAILABILITY

Hitzinger alternators are extremely robust, almost free of maintenance and designed for trouble-free continuous operation and constructed with special protective and supervision devices to ensure availability. ADAPTABILITY Modern computerized construction methods enable Hitzinger's specialists to offer tailor-made alternator solutions as well as flexibility in design and installation.

### COMPACT DESIGN

With intensive research and development Hitzinger alternators have decisive characteristic, namely a minimum space requirement for difficult installations.

### LOW EMISSION

Environment influences are another essential advantage of our Hitzinger synchronous alternators: With low radio interference levels including to MIL-standards, low vibration and low noise through exact balancing and attenuation. Together with specialist machines including Low stray field alternators including the necessary equipment to measure magnetic fields up to 1/10.000 of the earth field.

### SAFE OPERATION

Hitzinger alternators are built for reliable and safe operation with a robust construction, resistant to shock and vibration. Own patented regulation system provides high-sustained short circuit current and is highly resistant against environmental influences with Hitzinger additional insulation technology together with a stringent QA-system

### ECONOMIC

Hitzinger specialise in optimising efficiency to the operating conditions and Power factor / Reactive load regulation. In addition to eliminate transmission losses multi pole option 2 - 32 pole to allow direct coupling to the prime mover.

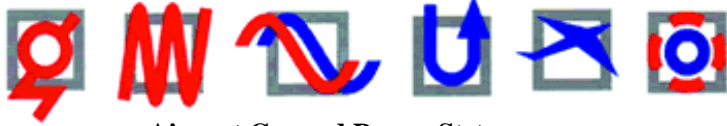


Hitzinger's synchronous alternators - not only meet every demand by their highest technical standard and quality - but with their flexible construction method and ability to provide tailor-made solution. No matter the application Hitzinger alternators can satisfy your individual power requirements

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### Airport Ground Power Ststems

Hitzinger is manufacturer of 400Hz Centralised and Decentralised Ground Power Systems, Mobile Ground Power units (Diesel or electrical driven) and cable management systems.

#### CENTRALISED SYSTEMS

Hitzinger has an international reputation for quality, reliability, design and experience on centralized 400Hz systems that in many international renowned like Aerospatiale (Toulouse), London (Stansted), Vienna, Rome, Frankfurt, Kuwait, Saudi Arabia, etc. Hitzinger have proven solution for fixed rotary 400Hz systems with systems outputs up to 2500kVA with all the necessary features including:

- Data Links for remote monitoring
- Automatic billing systems
- Line Drop Compensation
- Failure recorder
- Cable management systems

#### DECENTRALISED SYSTEMS

Hitzinger Converters distinguish themselves not only in their superior technical concepts, but also in the absolute reliability and resilience from the extremely robust, wear & maintenance free design of the proven rotary converters with features including:

- Standard Ratings: 10 - 315kVA
- Converter & Switch panel integrated into soundproof/weather proof canopy.
- Very High Reliability & Availability.
- Line drop compensation
- Low harmonic content (< 1.5%)
- Remote Operation monitoring (option)
- Trailer mounting (option)

#### DIESEL DRIVEN GPU's

Driven by the aim to minimise the operating costs and to improve handling as well as maintenance, with innovative materials, modern processing technologies and ingenious engineering produced the Hitzinger GPU in a range of 40-180 KVA, in conjunction with the major airlines through exhaustive testing and optimisation at the major airports.



#### Hitzinger GPU:

- 40-180 KVA
- Simple to operate with multi language panel automatic service indication
- Extremely low noise level
- Up to 26% lower fuel consumption & up to 50% lower service and maintenance costs compared to high speed units
- Excellent access for service
- Lifetime > 15years
- High reliability

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## Generators



### RANGE

- Diesel and gas powered sets
- Rating 10-3000 KVA
- Voltages up to 1100V
- Frequencies 50-400Hz

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