

# Ride Through Solutions

Output power from 400 kVA up to 1250 kVA



**POWER  
TO RELY ON**



## Environmentally-Friendly Continuous Power

- Bridges short voltage interruptions
- Continuous Power Conditioning
- Up to 30 seconds Ride Through time
- Power Stabilization
- Battery Free solution
- Beneficial life cycle costs

## Hitec Power Protection

For critical applications, a continuous, clean and uninterruptible power supply is a necessity. This is, for more than 50 years, the world of Hitec

Power Protection. Our challenge is to provide customers worldwide with a solution for their power quality problems before any losses occur.

Hitec Power Protection has a proven track record of delivering high quality power solutions in demanding industries such as:

- Data centres
- Finance
- Aviation
- Process
- Healthcare
- Telecommunication
- Semiconductor



## Features & Benefits Hitec Ride Through system

### Fits industry's power quality system requirements

- Protects against disturbances, dips, spikes and short mains interruptions
- Filters utility borne harmonic voltages
- Filters load side borne harmonic currents
- Provides high short circuit output capacity

### Easy maintenance & operation

- Reliable due to use of long-time proven technology and components
- Simplicity of design; easy to operate and maintain
- No re-investment every 3-5 years for new batteries, no chemical waste!
- Long technical lifetime compared to systems with power electronics

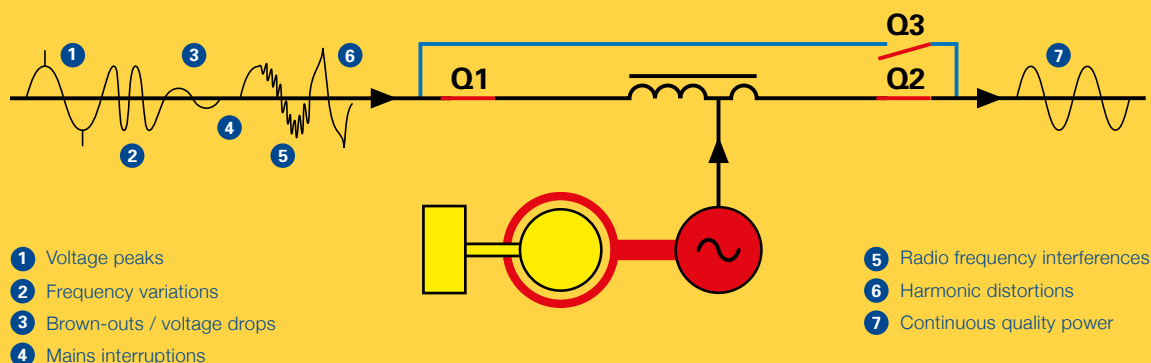
### Easy installation

- Plug and play system
- Small footprint, reduced floor space requirements
- Requires modest environmental conditions
- No batteries means no dedicated climate control
- No special installation requirements such as exhaust and fuelling systems
- Easy to parallel
- Optional available as containerized system

### Beneficial cost of ownership

- Low system investment
- High energy efficiency
- Low maintenance cost
- Long economical lifetime
- High return of investment

## A Hitec Ride Through system acts as a filter for all sorts of utility disturbances



## Rotary Ride Through system

Electrical power problems annually cost hundreds of billions in estimated lost data, material and productivity. Hitec Ride Through systems are developed to prevent downtime of your critical processes while keeping the investment low, saving you trouble and money.

Hitec Ride Through systems bridge short interruptions in the utility supply, providing 15 seconds of

Ride Through power at full load and up to 30 seconds at half load. The system easily bridges the gap between a power outage and the time required to switch to gen-set power. In addition it also operates as a continuous voltage conditioner whenever the utility or gen-set power is available.

Total Cost of Ownership of a Ride Through solution is low and it is far more Environmentally-Friendly when compared to alternative power-electronic/battery based systems. A Ride Through system is a profitable investment, especially in processes where the costs/risks of downtime are moderate.



## Different Customers, Different Needs

At many locations the continuity and quality of the utility supply is very reliable, and as such power outages and voltage disturbances are not frequent and short. Nevertheless when they do occur, the business disruption and financial loss can be quite substantial.

In many countries statistics show that more than 95% of power disturbances have duration of less than a few seconds. As such, 15-30 seconds of ride through time will greatly improve uptime performance by substantially reducing the number of process interruptions. A stand-alone Ride Through system in these cases is an adequate and justifiable investment.

For customers who already have sufficient back-up power from gen-sets, the Ride Through system is a cost-efficient complementary product that enables full Diesel-UPS functionality additional to the existing infrastructure. The Ride Through system will close the gap between a power outage and the required time to start up the gen-sets.

Hitec Power Protection Ride Through systems can easily be connected in parallel to support larger output powers. In all applications the Ride Through system continuously provides quality power for your mission-critical processes and avoids downtime.

## Main Characteristics

In case of power outages the Ride Through system provides 15 - 30 seconds of Ride Through power. In utility and gen-set operation, the Ride Through system functions as an active harmonic filter, cleaning and regulating the output voltage to ensure that a smooth and constant sine wave is presented to the load. In addition it provides all the reactive power demand required by the load and so greatly improves the power factor requirement from the supply.

In case of a short circuit of the utility or gen-set supply, the Ride Through system output voltage will be maintained regardless. Variations in the mains voltage will not influence the Ride Through output voltage. Whenever a short circuit occurs within the load distribution network,



the system will produce sufficient fault current to enable correct operation of the over-current protection devices.

The Ride Through system improves power factor at its input and has an excellent efficiency. Quality is a must, so all Hitec Ride Through systems are factory tested prior to installation. Hitec Power Protection owns the world's largest test field at its headquarters in Almelo, The Netherlands, for both 50 and 60 Hz applications up to 20MVA. With Ride Through you can rely on 50 years of proven technology.

## Human Machine Interface

Hitec Ride Through systems have a control cabinet with an easy access touch screen. With this touch screen or HMI (Human Machine Interface) the systems performance can be monitored.

Features:

- Full system history review for efficient support and service
- Several interface platforms including on-site and remote access are available to communicate with the Ride Through system

## Customer Support

The Hitec Power Protection name is synonymous with reliability, quality and excellent service. We believe that the best technology is only as good as the service that supports it. We have therefore established a worldwide network of subsidiaries and qualified service partners.

Our service can offer you:

- Customized maintenance solutions, in line with your needs and additional to your internal capacity
- Help Desk Services - available 24x7- for operational questions, remote monitoring, support, troubleshooting, etc.
- Remote monitoring and diagnostic support. Our service department can access your Ride Through system through the Internet or a modem connection and assist with operational issues, offer maintenance advice, provide troubleshooting, etc.
- Training programs at various skill levels for the operation and maintenance of your system.

## UPS Rental Service

Hitec Rental Service offers containerized Ride Through units for unforeseen problems in your power supply, like temporary power problems, short to long time causes by maintenance works, capacity extensions, awaiting installation of a newly ordered system, etc. Of course it is also an ideal solution to provide temporary cover whilst upgrade or maintenance works are being performed upon existing power supply infrastructures.

Renting a containerized Ride Through system, with or without gen-sets, is an excellent way to validate that the Ride Through system offers a great solution to solve specific power problems.

Our contact for UPS Rental Services

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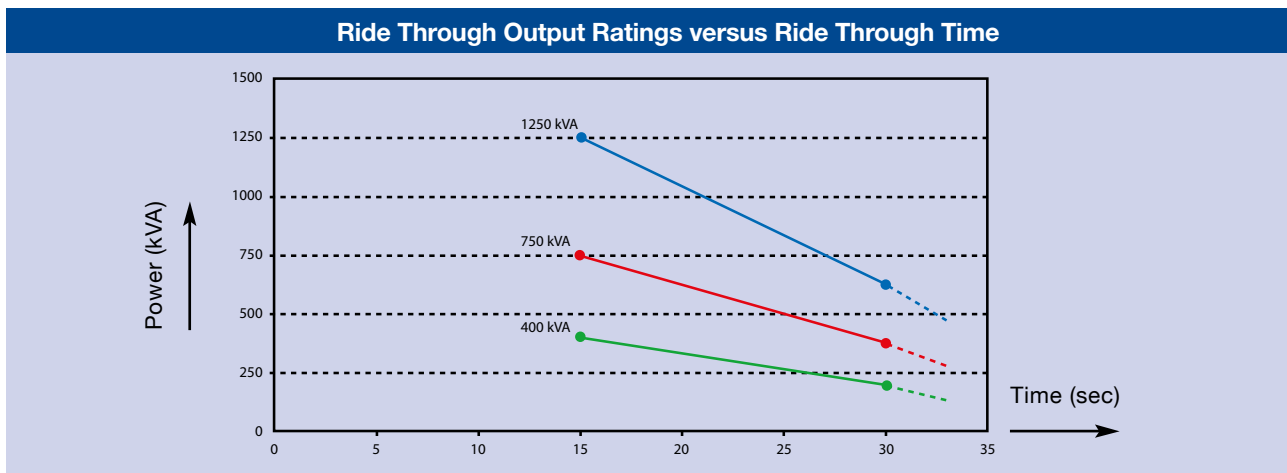
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	RT 400	RT 750	RT 1250	RT Parallel
System power (load) [kVA]	400	750	1250	System power x units
Active power (load) [kW]	320	600	1000	Active power x units
Power factor (load)	Between 0,8 inductive and 0,9 capacitive without derating			
Rated voltage [V]	400/480 up to 24KV			

### Input Data

Voltage	400V / 480V $\pm$ 10% 3 phase 4 wire
Power factor	0,98
Frequency	50/60 Hz $\pm$ 1,5 - 4 % (adjustable)
Starting current	10% x I nom

*Medium Voltage Hitec Ride Through System on request*



### Output Data

Ride through time	15 sec. 100% load 30 sec. half load (longer time on request)
Voltage (static)	$\pm$ 1%
Voltage (dynamic)	$\pm$ 5%
Recovery time	250 ms (50% load step) $\leq$ 1000 ms (100% load step)
Voltage THD	3,5% (phase-phase with linear load)
Frequency	according to mains input frequency
Overload capacity	1hr 110% ,10 min. 125%, 1 min. 150% (at mains operation)
Voltage symmetry	120° $\pm$ 1%
Fault clearing capacity	> 10 x I nom

Dimensions	RT 400	RT 750	RT 1250
Weight (kg)	8000	11000	15000
Length (mm)	5230	5770	6380
Width (mm)	1250	1250	1580
Height (mm)	1460	1590	1780

### General Data

Flywheel speed all types	max 2900 rpm
Efficiency	up to 96%
Cable entry	bottom entry (optional top entry)
Ambient temperature	0°C – 40 °C
Altitude	max 3000 m without power de-rating
Degree of protection	IP21
Classification	G3 acc. to IEC 88528-11

*Data for the containerised Ride Through systems or specific requirements at request.*



## A global partner you can rely on

Hitec Power Protection has its worldwide headquarters and production & test facilities in Almelo, The Netherlands.

Our sales and service offices are in North America (Houston, Texas), the UK (Birmingham), Spain (Barcelona), China (Beijing, Shanghai), Singapore, Malaysia and Australia. We maintain a regional support office in Taiwan, as well as numerous representatives and agents strategically placed throughout the world.

Our efforts begin with a thought out technical recommendation targeted to your power quality and reliability need.

If desired, we can take care of the complete electrical and mechanical installation and commissioning. Our commitment continues with training, instruction and maintenance. In case of emergency, our service organisation is 24x7 stand by to assist you with your needs.



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