

# HITACHI INDUSTRIAL UPS SYSTEM FOR TEXTILE INDUSTRY / APPLICATIONS

## ABOUT HITACHI INDUSTRIAL UPS SYSTEM

With a vision of “To be recognized as the most trusted Power Electronics Company by supplying superior products and services”, Hitachi Hi-Rel Power Electronics Private Limited has garnered a significant level of trust in Indian power electronics market segment wherein it serves the entire gamut of Industries.

UPS, an Uninterruptible Power Supply, also Uninterruptible Power Source, is an Electrical Apparatus that provides Emergency Power to a load when the Input Power Source, typically mains power, fails.

Hitachi Industrial UPS System, the flagship product, is regarded as the ultimate solution to power problems by providing both Uninterrupted Power Backup and Power Conditioning. It works as an exceptional safeguard against power disruption and reflects the industry's ultimate in advanced technology with proven track record in mission critical applications.

## ABOUT TEXTILE INDUSTRY / APPLICATIONS

The textile industry uses a wide variety of machines to sew fabrics and make clothes, carpets and other textile goods that we use every day. These machines range greatly in size, from massive heavy-duty industrial machines used almost solely in major textile factories, to small consumer-sized sewing machines.

Finishing machines are used once textiles have been knitted together, so that the fabrics are stronger and won't come apart as easily. There are a wide variety of these machines used for different types of finishing based on what these pieces of fabric will be used for in the future. Compactor machines compact pieces of cotton together so they can be sewn into different types of textile products like jerseys, ropes, interlock and rib. Hydro Extractor machines remove any water from the fabric that may cause its colour to bleed or the fabric to shrink before it is sold. Balloon squeezer machines keep wrinkles from forming easily in knitted fabrics.

Knitting machines allow larger pieces of textile and fabric to be made into different types of clothing. These knitting machines vary based on what type of clothing is being made. Fine gauge knitting machines are made for finer, lighter weight fabrics like thin pieces of wool for lightweight summer suits. Standard gauge knitting machines are used for fingering and sports weight yarns. Mid gauge knitting machines deliver the best of both worlds, because they are able to knit both lightweight fabrics and heavier fabrics quickly and efficiently. Different models of these machines produce items of clothing at different speeds, ranging from massive knitting machines which allow companies to produce hundreds of articles of clothing per day, to

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home knitting machines which will allow someone with the proper knowledge and skill to make one article of originally knitted clothing in a day.

Embroidery machine is used to create patterns on a piece of fabric. There are different types of embroidery stitches and designs that the machine can do. Free-motion sewing on an embroidery machine uses zig zag stitches. There are 3 kinds of machines available, which includes, single needle embroidery machines (between 800 and 4000 Euros), Sewing machines with an embroidery module or combined sewing/embroidery machines, Multi-needle semi-professional embroidery machines (between 4 and 10 needles), Multi-needle professional embroidery machines (between 9 and 16 needles).

## **CHALLENGE/ISSUES (What are the issues the customer used to face?)**

The failures and the breakdown of these textile machines bring the production lines to a direct standstill without any alternative to run the process and put the things back on the rails.

Since textile manufacturing process is a continuous process, where it involves many small to large machineries, which require power supply without any hindrance. If any hindrance occurs due to external factors, then total processing will be halted, which causes losses of raw materials and ultimately results in wastage of material. The materials which are damaged will be hard to reprocess, as half-processed materials will have to go for recycle, which is also a time-consuming activity.

Whereas, machine sensors, motors, drives require a specific voltage at the right frequency as per the standard specifications with zero tolerance. In case of sudden power failure, resulting in machinery damage, which causes production losses and increases the repairing cost.

## **NEED FOR THE SOLUTION (What is the need for utilizing Hitachi Product?)**

- To stop the damage of the machine's high-end costly sensors, cards, motors and drives which cause due to power fluctuation / frailer issues
- To stop manufacturing process interruption
- To stop losses of production, material and valuable time
- To stop losses of the machine's program data due to power failure issues

## **HITACHI SOLUTION (How it helps in solving the Challenges/Issues?)**

It's highly important to have uninterruptible power supply solution for the textile machineries which normally provides the total protection to machine by providing constant and stable power with backup time to critical load. These types of machineries are expensive and cause financial losses if it's failed due to power problems. Here, Hitachi Industrial UPS System plays the vital role to get the maximum out of these machines and reduce the payback period or bring down the cost of the operations by keeping the plant running and breakdown expenses.

Industrial UPS System offers;

- Continuous and stable power to critical load against input voltage fluctuations without any interruptions, as long as the backup is required
- Stable voltage and frequency as per the requirement of machine, to protect its processors, motors, drives, sensors and critical electrical components.
- Isolation between main supply and load
- Lesser machine repair cost
- Production growth and smoother operation
- Effective return on investment

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## BENEFITS OF USING HITACHI INDUSTRIAL UPS SYSTEM IN TEXTILE INDUSTRY / APPLICATIONS

- Suitable for rugged usage
- Increase production efficiency
- Protect machine against the power fluctuation
- Low maintenance cost
- No more losses of programmed data
- No more raw material losses
- No more production losses
- No more ideal manpower
- Timely fulfilment of commitments
- Customer loyalty

## HITACHI INDUSTRIAL UPS SYSTEMS FOR TEXTILE INDUSTRY / APPLICATIONS

### UPS “i6eT” – Three Phase Output

Range: 30 kVA to 500 kVA

- Highly efficient IGBT based rectifier and inverter
- High energy efficient product with in-built double wound isolation transformer
- 200% overload for 7sec. on UPS online mode (Specially design for motorised or High inertia applications)
- Suitable for regenerative power
- Capacity enhancement possible up to 6 units
- Bi-directional, 100% electronic static switch
- User friendly HMI interface



### UPS “i6 series” – Three Phase Output

Range: 10 kVA to 500 kVA

- Suitable for non AC environment (dust free)
- Digital Signal Processor (DSP) based control
- Input phase reversal protection
- In-built double wound isolation transformer
- Capable to withstand 100% unbalance load
- LCD display with keypad for fault diagnostic
- Bi-directional, 100% electronic static switch



## ABOUT HITACHI HI-REL POWER ELECTRONICS PRIVATE LIMITED

Founded & established in 1983 as Hi-Rel Electronics Pvt. Ltd., which later on in year 2015 had become the 100% subsidiary company of Hitachi, Japan which is one of the Global fortune 500 companies with a new name as Hitachi Hi-Rel Power Electronics Private Limited, which is being recognized as one of the pioneers in power electronics domain. Hitachi Hi-Rel, today, is a leading manufacturer of Industrial UPS, IT & Infra UPS, Medium & Low Voltage Variable Frequency Drives, Grid Tied Solar Inverters, Air Compressors and Railway Inverters.

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Hitachi Hi-Rel has state-of-the art manufacturing facility at Sanand near Ahmedabad in Gujarat-India. Hitachi Hi-Rel is helping a wide array of industries and organizations to meet the mission critical demands through technologically superior, low polluting and innovative products Solutions and continue to offer world class power electronics products, value added services & customized solutions.

With a vision of “To be recognized as the most trusted Power Electronics Company by supplying superior products and services”, Hitachi Hi-Rel has garnered a significant level of trust in Indian power electronics market segment wherein it serves the entire gamut of Industries, particularly in mission critical applications for Refineries, Petro-Chemicals, Power Generation, Steel & Metals, and Process Industries as well as Critical Data Processing Applications. Besides offering greater energy efficiency & lower carbon footprint, each of the company product streams bears the hallmark of excellence with company accreditations. Hitachi Hi-Rel is an ISO 9001:2015, ISO 14001:2015 & ISO 45001:2008 certified company having export house status. Hitachi Hi-Rel sales network & service infrastructure expands out to the world & with this network, we have made strong inroad in Global markets like South East Asia, Middle East, Africa and Brazil. Also, with a presence of strategically located skilled service engineers in India helps us to score high in terms of customer expectations on service deliverables & uptime of the product.

With expertise, experience and an efficient product line, Hitachi Hi-Rel will always try to be your power electronics partner. When you choose to do business with Hitachi Hi-Rel, you are partnering with a company who cares.

## FOR MORE INFORMATION

To know more about Hitachi Hi-Rel Power Electronics Private Limited and its offered products and solutions, please visit [www.hitachi-hirel.com](http://www.hitachi-hirel.com)

You may also share your requirements at <https://www.hitachi-hirel.com/inquiry> to receive the phone call or Hitachi product information email from our authorized sales representative of your region.

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