

AMTECH News

FOR PRIVATE CIRCULATION ONLY

April 2024



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PQEC GROUP

CUSTOMER'S VOICE

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Before you judge another, think of your own last mistake

Editor:
Atul Suthar

From the Desk of Managing Director



Working In Harmony

Once there was a quarrel between pencil and sharpener in a compass box.

"Why do you harass me from time to time? My life is getting reduced day by day. One day I will throw you out of this box!" Said pencil.

"You cannot do much without me. With blunt tip of yours you will be out of job! You will be thrown out and will be replaced, just think about it!" Sharpener fought back.

Eraser was listening to this. "I can make both of you overloaded. I will erase whatever you, write. Then you will have to rewrite and sharpener will have to work again on you. I can harass both of you. Dear sharpener you will also become blunt very soon, if you have to be overused. Hence don't neglect me. Give me more space in this box!"

Paper was sitting quiet so far. Seeing the quarrel going beyond limits, it intervened. "Please be quiet three of you! You three are useless without each other. Dear Pencil, sharpener is not to harass you. It is to keep you in good shape, so that you can write properly. Dear Sharpener If you cross your limits, you can become blunt very fast. Hence, help pencil just when ever required. Dear eraser, your job is to correct pencil from time to time. But if you over do your task, to harass the pencil or sharpener, you will deteriorate fast. Hence, three of you, understand your roles and stay within limits. Then this compass box will be a happy home for you. And one more thing, very soon this world will be paperless i.e. without me! Then all of us may not be required!! Therefore, whatever time we have got let us work in a team and enjoy our work."

Pencil, sharpener and eraser got convinced and happily stayed together thereafter.

Piyush Patel (M.D.)

TOTAL SOLUTION

DRIVE FOR SUCCESS

Motor Control

AC Drive, MVD & Soft Starter



AXPERT-EAZY+



AXPERT-EAZY mini



AXPERT-VT 240S



AXPERT-HIVERT MVD



AXPERT-OPTI TORQUE

Industrial Automation

Controlling Driving
Operating Networking



MACHINE AUTOMATION



LINE AUTOMATION



PLANT AUTOMATION



NETWORKING AUTOMATION

Power Quality

Active Harmonic Filter,
Active Front End Converter
Active Static VAR Compensator
Wideband Harmonic Filter



ACTIVE HARMONIC FILTER



ACTIVE FRONT END CONVERTER



STATCON: MULTIFUNCTIONAL
ACTIVE STATIC VAR COMPENSATOR



WIDEBAND HARMONIC FILTER

Industrial Electronics

Design & Development
for Customers in
Power Electronics



TRACTION DRIVE



WIND POWER CONVERTER



HIGH VOLTAGE POWER SUPPLY



AXPERT-OPTI POWER SERIES
POWER CONTROLLER



Happy Cheti Chand



Eid Al-Fitr Mubarak



Ambedkar Jayanti



Happy Ram Navami



Mahavir Jayanti

CUSTOMER'S VOICE

Ambuja Cement

Date: 21-11-2022

TO WHOM SO EVER IT MAY CONCERN

We would like to sincere appreciation to **Amtech Electronics (India) Limited, Gandhinagar, Gujarat**, who has been awarded work for power factor improvement at our Ambuja Cement Limited, Unit - Roorkee, Uttarakhand.

For this prestigious project, **M/s AMTECH** has supplied **1400 KVAR Hybrid Active Power Factor Correction System (900 KVAR STATCON and 500 KVAR Fixed Capacitors with 7% Detuned Reactor)** against our purchase order no.: **2800837088** dated: **24.03.2021**.

This Hybrid Active System have improved and maintained power factor from **0.991 to 0.999....1.000 (Unity)** irrespective of loading conditions. Also, Improved the overall reliability and efficiency of the system.

This supplied system is working satisfactorily since it's installation from December - 2021.

AEIL team has provided excellent support when and as required.

We wish them good luck and best wishes for all their future projects.

Yours Sincerely



Adarsh Jaiswal

Sr. Manager (E&I)

Ambuja Cement Limited (Unit - Roorkee)

Village Lakeshwari, P.O.Sikandarpur Bhainswal, Tehsil Roorkee, Distt. Haridwar - 247 661, Uttarakhand Tel. 01332-282400.
Corp Off. : Elegant Business Park, Near Kohinoor Continental Hotel, MIDC Cross Road -B, Opp. JB Nagar, Andheri Kurla Road,
Andheri (E) - 400 059 : Tel : 022-4066 7000, 66167000 CIN No. : L26942GJ1981PLC004717
Regd. Off.: **Adani Corporate House, Shantigram, Near Vaishnav Devi Circle, S. G. Highway, Khodiyar,**
Ahmedabad, Gujarat 382421.

How Variable Frequency Drives (VFDs) Help Save Energy?

How Variable Frequency Drives (VFDs) Help Save Energy?

Variable Frequency Drives (VFDs), or AC Drives, are used far less frequently than fixed speed controllers. However, VFDs can significantly reduce energy use, creating savings in production costs.

Traditionally, fixed speed motors are used to feed pumps and fans and flow is controlled using valves and dampers, but this system is a source of large amounts of energy loss. As against this when VFDs are used in a system without using valves and dampers, energy flow can be controlled without the high pressure and power needed to adjust flow.

Adjustable & Controlled Fan & Pump Speeds

Being able to easily adjust fan and pump speeds is a benefit in and of itself. If a fan only needs to be running at half speed, power requirements can be reduced exponentially. These adjustments are made based on the load requirements. Because a VFD can connect to multiple motors, the adjustments can be synchronized as well.

Decelerations and accelerations that are in sync more evenly distribute the load and reduce losses. This can all be done without brakes, further optimizing energy use. Other adjustments can change the voltage-to-frequency ratio to the ideal current to minimize losses in the motors.

They can also match the voltages in multiple motors and transfer load from one to another. Further synchronizing systems, software used with VFDs can improve communications between drives to improve efficiency.

Higher Power Factors

Energy is also used more effectively when VFDs raise a system's power factor. Higher power factors mean systems use more of the supplied energy in a productive way rather than losing it in the form of waste. Excess current draw can also be avoided with variable speeds. Varying speeds allow motors to be brought up to speed gradually, which can avoid peaks. This eliminates some peak-demand charges.

Other savings lie in less direct factors. If a VFD does not have a transformer, the size and weight can be reduced. This means that less heat is produced and there isn't as much need for air conditioners. Another option in some VFDs actually regenerates energy. This can be turned around and used in the system or sold as excess.

Product Portfolio



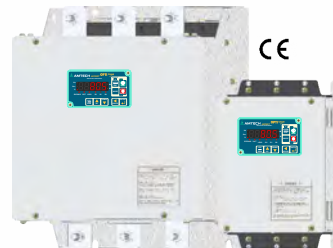
**AXPERT-EAZY* SERIES
VFD**

0.75...2100 kW (1...2815 HP)
380...480 V, 500...600 V & 601...690 V



**AXPERT-EAZY MINI SERIES
VFD**

400 V System (380...480 V)
0.75...7.5 kW (1...10 HP)



**AXPERT-OPTI TORQUE SERIES
SOFT STARTER**

15...1065 A, 3.7...1000 kW (5...1340 HP)
200...690 V



**AXPERT-HIVERT SERIES
MVD**

200...12500 kW (270...16750 HP)
3.3 kV, 4.16 kV, 6.6 kV & 11 kV



**ENGINEERED
SYSTEMS**

Customized as per requirements



**AXPERT- i-Sine Series
Active Harmonic Filter**

400...600 V
60...300 A,
>300 A connect in parallel



**AXPERT- i-Sine Series
Active Front-end Converter**

400...690 V
45...2100 kVA



**AXPERT- i-Sine Series
STATCON**

400...600 V,
up to 12000 kVA




**AXPERT-OPTI POWER SERIES
POWER CONTROLLER**

20...1200 A, 7...1400 kW
200...690 V

APPLICATION CASE STUDY

Application : Grinder Machine
Industry : Chemical (Process Industry)

Are You Looking Forward To Upgrade Your Existing VFD?



The image shows two side-by-side views of a VFD enclosure. The left view, labeled 'Existing VFD', shows a complex and cluttered interior with many wires and components. The right view, labeled 'New VFD', shows a much cleaner and more organized interior with a large green VFD unit installed, and the wiring is neatly bundled and managed.

Amtech has ideal retrofit solution,

In modern day industrial applications, VFDs play a vital role and have become essential and indispensable as they offer cost effective and energy efficient solutions in motor drive system. While taking an investment decision for a motor drive system, the user should explore all the available options.

Opting for a retrofit proves to be a sound investment proposition rather than going for an entirely new system. Retrofit solution ensures that a new VFD / Soft Starter is installed in the same place as that of the old without disturbing the existing wiring or general arrangement in the enclosure.

Retrofit solution not only takes care of the existing problems but also ensures that the upgraded system performs in line with requirements of modern applications. Retrofit helps improve System Topology and existing production environment and provides modern outlook.

Amtech offers excellent retrofit solutions for the existing VFD / Soft Starter while retaining existing enclosure & wiring in the shortest possible time and ensuring minimum down time. As a result of this huge amount of monitory saving becomes possible. Amtech has a vast experience of providing quick and efficient retrofit solutions and has a work force of highly qualified and experienced professionals who are always ready to take up any challenge and execute tasks in shortest possible time.

Previous System : Motor drive system with old & obsolete version of VFD
New System : Highly efficient Apxert AC VFD (Retrofit Solution)

CHALLENGES	SOLUTIONS
<ul style="list-style-type: none">Reduction in breakdown and maintenance cost due to frequent failures and stoppages of the old system.	<ul style="list-style-type: none">Smooth, efficient, trouble free & reliable operation of new retrofitted Amtech Apxert VFD System.

- Limitations Of The Old System:**
- Repeated failures due to old & aged components
 - Difficulty in finding faults
 - Problems of implementing latest serial communication feature
 - Non availability of spares

- Benefits Of The Retrofit Solution:**
- Increased reliability
 - Huge amount of Energy Savings
 - Significantly less maintenance
 - Smooth starting of all Motors
 - Improved power factor

AMTECH POWER PRODUCT OVERVIEW

ANNUAL MAINTENANCE CONTRACT FOR EXCITATION SYSTEM FOR POWER PLANTS

AMTECH Power Limited is a renowned leader in the field of Power Generation, Protection and Control System especially Analog and Digital Excitation System which is technologically superior, extremely reliable, contains never before features with an international service back-up. It is Value for Money. **AMTECH** Group is highly reputed in Indian Market and serving the industries since 1987.

AMTECH Power Limited specializes in the manufacture, supply and commissioning of Excitation Systems, i.e., Brush less and Static systems. **AMTECH** also provides Annual Maintenance for the Excitation Systems used in Power Plants and Various Industrial Sectors.

A well-maintained hardware is the key to keep your business moving and AMC services are crucial to ensure fully functional devices. If the health of your hardware is good, it will perform efficiently and consistently throughout the year.

WHAT IT COVERS?:

- Condition monitoring of the excitation panel and its working components.
- Replacement of the components if required and checking of the spares for the same.
- Makes aware the customer about the importance of major spares of the panel and its availability to avoid unwanted breakdown during faulty conditions.

ADVANTAGES OF ANNUAL MAINTENANCE CONTRACTS:

- Helps save cost as the systems are periodically maintained at regular intervals.
- Equipment life increases, as regular service is provided.
- Committed schedule for service.
- Emergency services are also available at crisis time.
- Specialist technicians are available for service.
- The assurance of the quality is guaranteed and maintained.

Excitation system is life line product for power plant. Plant breakdown results in loss of generation for plants, which is of high value. Hence, it is always advisable to take services from the authorized company and authorized person.

Area of Business



Power Plant Automation



Protection, Monitoring & Control Systems



Dual channel for Static System

A COMPLETE ELECTRICAL SOLUTION PROVIDER FOR POWER PLANT

PRODUCT OVERVIEW

NextGen Axpert-Opti torque Series Soft Starter

Dear Readers,

Amtech Electronics is a leader in Power Electronics in design and manufacturing of power electronics products like Variable Frequency Drive, Regenerative Drive, Soft Starter, Active Harmonic Filter, Static VAR compensator, Heater controller etc...

All our products are designed, developed and manufactured in our state-of-the-art facility at Gandhinagar, Gujarat. Amtech is continuously investing in R&D to remain ahead in technology to have an edge over competitors in the business we are.

In this article, we will have an overview of another flagship product NextGen **Axpert-Opti torque** Series Fully Electronic & Digital Soft Starter, the outcome of Amtech's three decades of experience in motor control and automation.

The most advance, energy efficient and full three phase controlled, digital soft starter series is designed to meet the ever increasing expectations of wide industrial customers; delivers highest performance, protection in the toughest environment without compromising the user friendliness.

The product is available in two voltage class (200...480 VAC) and (200...690VAC). The power capacity ranges from 3.7...1000 kW (5...1340 HP).

It comes with most advanced integrated electronic class 2 to 30 motor overload and over current protection (even in bypass mode). It is highly reliable and resilient to harsh industrial conditions, having Conformal coating on all circuit boards (PCBs) as standard to protect against 3C3 environment.

The In-built PLC Function with Axpert-Drive logic programming tool for easy programming, fully configurable I/O's and Functional Safety functions are outclass in the Soft-Starter market.

It is designed to meet the global standards like UL 508, UL 60947-4-2, CSA C22.2 60947-4-2, IEC 60947-4-2, IEC 60947-1, CE (EN 60947-4-2), IEC 60529 and having Ambient operational temperature range of -15...50 °C (5...122 °F) is really unique in the market place.

Some of the Salient Features of Axpert-Opti torque are as below:

- In-line (3 - wire) / Inside Delta (6 - wire) operating modes
- Universal control supply 90...270V AC 50/60Hz
- IP20 protection up to 110A
- Three Motor Starting Modes: Voltage, Current and Torque Ramp
- Four Motor Stopping Modes: Voltage, Torque, Brake Stop and Coast-to-stop
- Three Control Modes: Local, Terminal and Serial
- Energy Meter, displayed in both kWH & MWH
- Motor PTC for motor over temperature protection
- Commissioning mode for easy commissioning
- Auto/Line Start function
- 3 user settable preventive maintenance timer
- Kick Voltage Start / Jog Function
- Digital Operation Panel (5 digit, 7-segment LED display, Starter's status LEDs display, 9-Key Keypad, 3-LED for Run, Stop, Fault).
- RS-485 Modbus Communication with Axpert-Communicator software for remote monitoring
- Stores last 20 Diagnostic faults with of 8 key operational parameter values and status at the time of fault.
- Senses current in all three phases and provides Current, Voltage & Power information; protection even in bypass mode.
- Cooling fan control as per heat sink temperature. This will increase fan life and also reduce the power consumption.
- External fan control option

The Axpert-Opti torque is a perfect solution for Soft-Start; full Protection and intelligent control of AC Induction Motor. Some of the applications like STP/ETP Pumps, Lift Irrigation Pumps, ID/FD Fans, Air Compressors, Crushers, Crane are been successfully commissioned with Axpert-Opti torque in Industries like Water & Waste Water, Steel, Oil & Gas, Cement & aggregate, hydro power etc.





PERFORMANCE CERTIFICATE

TO WHOM IT MAY CONCERN

This is to certify that M/s Amtech Electronics (India) Limited has design, engineering, manufacturing, supplied and commissioning of Variable frequency drives Apxert Eazy & Eazy + model at our M/s Bajaj Hindusthan Sugar Ltd. Unit- Maqsoodapur.

We have thanks to AMTECH for successfully commissioning of VFD drives at ID fans, Injection pump & Cane Carriers application 07 Nos.

This supplied system is working satisfactory. It's installation from five years.

We wish them good luck and best wishes for all their future projects.



Authorized Signature.

Dated: 14.08.2023

Bajaj Hindusthan Sugar Ltd.
Unit : Maqsoodapur (Banda-Bilsanda Road), Tehsil. Powayan, Distt. Shahjahanpur- 242042 (U.P.)
Regd. Office : Golagokarannath, Lakhimpur-Kheri, District Kheri, Uttar Pradesh - 262 802
Tel: +91-5876-233754/5/7/8, 233403 | Fax: +91-5876-233401 | E-mail : investors@bajajhindusthan.com | CIN: L15420UP1931PLC065243

bajaj GROUP
THINK TOMORROW

PRESENCE ACROSS THE GLOBE

AMTECH News

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