Engineered Solutions

Trading Excellence

VISION

البعد

شركة البعد الثاقب للتجارة العامة

AlBaud AlThaqeb General Trading LLC

Overview

With Dubai becoming an important center for businesses and enterprises and with the demand for efficient and green energy in constant growth, a company meeting that demand is essential. To that end, we, AlBaud AlThaqeb (ABAT) General Trading LLC, dedicate ourselves to making the gulf region more efficient and environmentally friendly in terms of energy consumption and generation, while providing it with state-of-the-art electrical equipment and first-grade services.This brochure shall serve as an introduction to our products and services. We look forward to working alongside you, to supplying all your needs and to achieving a cooperative relationship by gaining your confidence in us and our products.

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Introduction

ABAT GT LLC is a newly forming electrical trading company, in the city of Dubai, offering a multitude of electrical products, complete power systems, detailed grid and efficiency analysis and energy solution services. The company will mainly focus on delivering innovative solution services, providing complete automation and control systems, offering critical power analysis and supplying high quality electrical products made in accordance with the latest IEC standards to various industry sectors including:

- Construction
- Utility
- Health
- Telecommunications
- Energy
- Manufacturing
- Electrical Panel Builder Companies

Having experienced engineers at its core and being an electrical trading company, AlBaud AlThaqeb LLC, befitting that responsibility, will introduce products and services that will benefit the economy and promote the constant growth of the country. These products and services will encompass all electrical system and solution needs for the intended customers, and will in turn help them in preserving their machinery, improving their facilities, lowering their electric bills, shifting to more efficient electrical systems, switching to more environmentally friendly forms of energy and thus increasing their productivity.

Our Mission:

AlBaud AlThaqeb LLC is committed to achieving customer satisfaction by maintaining strong and lasting relations with our clients and to providing top quality products, high-tech systems, innovative energy solutions and first-rate services at competitive prices. We will strive for continuous growth and diversification of our products and know-how.

Our Vision:

AlBaud AlThaqeb LLC will aim to be Best-in-Class as a trader of quality electrical products and innovative and advanced systems and solutions and to become one of the electrical trading companies in the gulf area. We will distinguish ourselves through an unwavering commitment to the growth and development of the UAE industrial and labor markets.

AlBaud AlThaqeb LLC Products and Services at a Glance:

- Automation and Control Systems
  - Medium and Low Voltage (MV and LV) Synchronization and Paralleling Control Panels
  - Medium and Low Voltage (MV and LV) Switchgear
    - Medium Voltage Switchgear
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  - Fleet Management System
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    - Oil Conditioning
  - Web System Integration Software

- Critical Power Analysis and Other Services
  - Electrical Energy Efficiency Analysis
  - Power Quality Studies
  - After-Sales Service, Commissioning and Support

Automation and Control Systems

MV and LV Synchronization and Paralleling Control Panels

For applications requiring basic remote and/or multiple parallel startups, we supply MV and LV Electrical Synchronization and Paralleling Control Panels. These are used in cases of mains power failures and thus allow startup, control and synchronization of backup gen-sets.

Systems Available:

- Mains Parallel: Used in handling multiple mains applications
- Standby Power: Used for generator protection, engine support and standby applications needing back synchronization
- Prime Power: Used for power management by implementing simple panels

MV and LV Control Panel Key Features:

- Customer or General Specifications
- Automatic or Manual Synchronization
- With or Without Load Testing
- Main Fail Test
- Load Sharing and Shedding
- VAR Sharing
- Smooth Load Transfer
- Redundancy and Data Archiving
- Advanced Communication Protocols Support
- Remote Control and Monitoring
- Duty and Standby Switching
- Load Demand Start and Stop
- Complying Protections

MV and LV Switchgear

To protect your facilities from interruptions of short-circuit and overload fault currents, all the while maintaining service to unaffected areas, we supply reliable MV (1 kV AC up to a maximum of 24 kV AC) and LV (Less than 1 kV AC) Switchgear.

System Configurations:

- Enclosed CB Panels
- MDB
- SMDB
- DB
- ATS
- MCC
- Circuit Breakers
- Contactors and Load Break Switches

– Medium Voltage Switchgear

The MV Switchgear supplied are air-insulated units that can interface with control systems. They are mainly utilized as contactors, load break switches and circuit breakers.

MV Switchgear Key Features:
- Customer Specific or General Specifications
- Modularity, Reliability and Accessibility
- Mechanical Locking Mechanisms
- Integrated Control, Fuse and Instrumentation Systems
- Minimized Use of Fire Load and Plastics

We supply two types of MV Switchgear, BasicBlock MC1 and BasicBlock MC3.

BasicBlock MC1 Key Features:
- Rated Voltage (up to 24 kV, 50/60 Hz)
- Rated Current (up to 1250 A)
- Rated Short-Time Withstanding Current (up to 25 kA)
- Metal-Enclosed and Air-Insulation
- Type-Tested to IEC 62271-200, LSC2A-PI, AFL
- Arc Fault Tested (up to 25 kA)
- Permanent Fitting or Withdrawable Units

BasicBlock MC3 Key Features:
- Rated Voltage (12 kV and 24 kV, 50/60 Hz)
- Rated Current (up to 4000 A)
- Rated Short-Time Withstanding Current (up to 40 kA)
- Metal Clad Compartmentalization and Air-Insulation
- Type-Tested to IEC 62271-200, LSC2B-PM, AFLR
- Arc Fault Tested (up to 40 kA) between Compartments
- Withdrawable Units

– Low Voltage Switchgear

The LV Switchgear are indoor, entirely enclosed robust units that can interface with control systems. They perform superbly under repetitive switching equipment.

LV Switchgear Key Features:
- Customer Specific or General Specifications
- Modularity, Reliability and Accessibility
- Electrical Network Protection and Monitoring
- Electrocution Protection
- Remote Access and Control

Construction Types:
- Indoor/Outdoor Classified by:
  - Ingress Protection (IP) Class
  - NEMA Enclosure Type
- Metal-Clad/Metal-Enclosed
- Dead-Front/Live-Front
- Open
- Draw-Out/Fixed Elements
- Marine/Industrial/Utility

Product Ranges:
- Fully-Type-Tested Panels (up to 6300A)
- Non-Type-Tested Panels (up to 8000A)

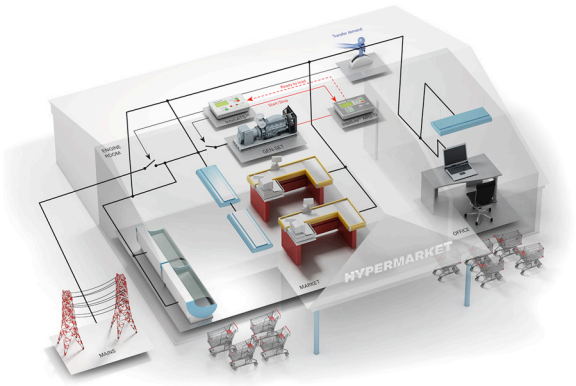
Automation and Control Systems

Automatic Transfer Switches (ATS)

In the event of a main electrical source failure, the Automatic Transfer Switches ensure the power supply would automatically switch to the backup supply in order to maintain a continuous flow of electricity.

ATS Description:

- Continuous monitoring of mains supply for under/over voltages, under/over frequencies and voltage unbalances.
- In the case of mains failure, a start command is sent to the standby gen-set, after which the load is switches there.
- In the case of mains returning, the load is switches back to mains, and the standby gen-set is sent a stop command.
- Manual switch is permitted and different switching intervals are available for choosing.
- ATS can work with both backup batteries and without any.



Fleet Management System

GreenGuard, the Fleet Management System we supply, will give users the ability to control and monitor machinery and rental assets remotely, and as a result will reduce the carbon footprint and mark the movement towards greener power production.

GreenGuard Key Features:

- Customer Specific Enhancement and Integration
- Alarming and Remote Monitoring of Engine Applications
- Link Gensets to Virtual Power Plants
- Customer Login for Rental Equipment
- Functions to Optimize Fuel Consumption
- Powerful Reports and Service Forecasts
- Secure Remote Access
- GPS Localization and Tracking
- Receive Engine Data from Can Bus or Sensors

SCADA/PLC Interfaced System

A system that permits the control and monitoring of production processes is the Supervisory Control and Data Acquisition SCADA System. The SCADA system that we supply is the Zenon System, as we felt, after some extensive market research, that it has a high potential for our customers in its simplicity and integration capability.

The Field Device is interfaced and handled by a Programmable Logic Controller (PLC) System through discrete signals. These signals are processed and translated to easy-to-analyze formats by Zenon, which in turn could be displayed on Graphical Screens for Plant Representation as well as Records, Alarms, Trends and Reports Continuous Generation. This PLC/SCADA/PC Integration is among leading high-end technologies found on the market today.

Zenon Key Features:

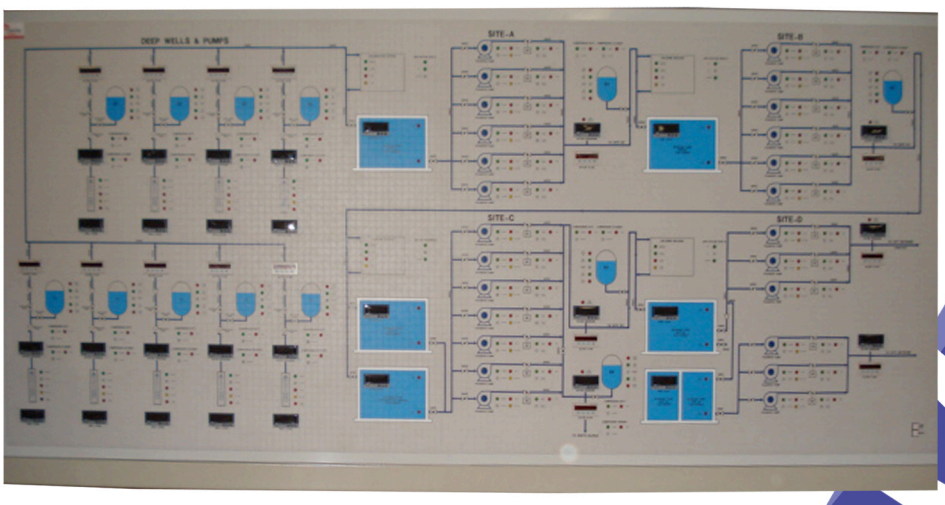
- Redundancy
- Geographic Information System
- Best-in-Class Usability
- Map Zooming
- Multi-Touch Gesture
- Substation and Network Level
- More than 300 Native Communication Drivers
- Supporting most Recent Standards and Requirements in the Energy Industry (IEC-61850, ISO50001, FDA and others)

– MIMIC Annunciation Units

We supply Annunciation Panels ranging from miniature LED Panels to large Mosaic Blocks. The LED Panels include touch displays for Alarm and Process (ON/OFF) Statuses. The Mosaic Panels give a symbolic representation of the process flow for Large Plants by having dynamic indicators, lighting devices and measurement and sensor data. In general, the annunciation system gives the operators a complete plant overview by showing real-time changes and updates.

Some Components of Annunciation Panels:

- Signage
- LED Push Buttons
- Semaphore Indicators
- Block and Tile Size Meters
- And More



Automation and Control Systems

Motor Control Centers (MCC)

Applications needing simple or complex motor control require the MCC we supply, as we offer them with a wide range of specifications to meet all the needs.

MCC Key Features:

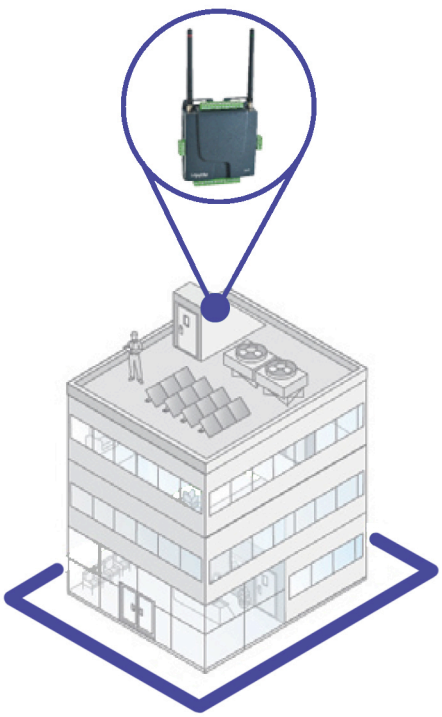
- Different Starting Methods
  - Softstarter
  - Direct On Line (DOL) – constant speed
  - Star-Delta Starter (Y-D) – constant speed
  - Two Speed Starters (Low and High)
- PLC Logic or Manual Operation
- Simple and Complex Logic Control Circuits
- Speed Control via a Variable Frequency Driver (VFD)
- Industrial Communication System
- Accessibility, Safety and Reliability
- Digital Power Meters
- Floor and Surface Mounting Types

Building Management Systems (BMS)

To maximize business performance and create high performance buildings, energy efficiency and high security are essential. This is accomplished by using the building management system that we supply. After a thorough study of the building is done and after the client clarifies their needs, the necessary system is supplied, which controls and monitors the building's mechanical and electrical equipment. In some cases the BMS is connected to Plumbing, PA systems, Elevators, Access Doors, Fire Alarm and much more. This helps in increasing the control and security of the building while managing the energy more efficiently

BMS Key Features:

- Control of Internal Conditions
- Beneficial Monitoring
- Increased Productivity
- Early Problem Detection
- Information Availability
- Reducing Installation and Operation Costs
- Building Space Flexibility
- Guiding Owners in Meeting Legal Building Regulations



– Heat, Ventilation and Air Conditioning Systems (HVAC)

For indoor environmental comfort, enhanced performance of indoor climate systems and energy efficiency, we supply HVAC systems that will satisfy every client's and business owner's needs as well as maintenance requirements.

HVAC Key Features:

- Lower Installation Costs
- Customized Display
- Customizable Design
- Beneficial Climate Control for Work Efficiency
- Building Management via Control, Comfort and Energy Savings.

– Home Automation Systems

Our system provides a comprehensive interface to control and monitor all building/home functions, while achieving the relevant energy awareness required by the home regulations.

Home Automation System Applications:

- Combination of Technologies: blinds, lighting and heating to fit the residential needs
- Scheduler Built-In Functions: helps residents to plan occupations
- Temperature Control: enabled according to the moods
- Real-Time Consumption Display: planning water, gas and electricity usage (data logging)
- IP Camera Connectivity: for security to be accessed through tablets or laptops

Home Automation System Key Features:

- For Owners and Residents, Increased Control In:
  - Comfort
  - Security
  - Flexibility
- System Overall:
  - Open
  - Complete
  - Scalable
- Ease of Installation and Programming
- Differentiation According to Customers' Needs
- Interfaces from:
  - Local Devices
  - Mobile Devices

– Lighting Control Systems

About 30% of buildings' electrical costs are attributed to lighting, especially if it is wasted due to poor designs, poor controls and inefficient equipment. To resolve these issues, we supply lighting control systems ranging from simple timers to complex, customizable solutions. These systems optimize lighting based on multiple variables, building occupancy, light intensity and time.

Lighting Control Systems Key Features:

- Motion Control Capability
- Timer Controls
- Remote Override
- Wide Voltage Range Operation
- Light Sensing Capability

Energy and Power Solutions

Critical Power Quality Solutions

With the expectation for the energy demand to double within the twenty years ahead, energy is envisioned to be both efficient and green, and this is accomplished through what is called "Power Quality Solutions" aimed at:

- Power Quality Monitoring
- Power Factor Correction
- Protection against Voltage Surges
- Undesired Harmonic Reduction

Poor power quality is what hits facilities either from grid faults or from internal equipment, and it often causes poor power factors, which is a measure of efficient power delivery. At the same time, undesired harmonics exist within the power network, and often cause suboptimum equipment operations.

AlBaud AlThaqeb specializes in fully engineered studies and power quality analysis to determine the optimum solutions, for fixing the undesired harmonics and improving the power factors, in the form of Capacitor Banks and Active Harmonic Filters (Protection Filters).

Capacitor Banks utilize smart power factor correction by compensating reactive power delivered and providing energy loss reduction, thereby improving the motor efficiency, minimizing energy wastage, improving voltage and increasing power flow capacity.

Protection Filters compensate the power factor at the fundamental frequency, prevent overload caused by harmonic currents and lower Total Harmonic Distortion (THD).

Critical Power Quality Solution Key Features:

Capacitor Banks:

- Fully Type-Tested
- Reliability and Durability
- Safety and Simplicity
- Complete Protection
- Wall Mounted vs. Floor Standing Units

Protection Filters

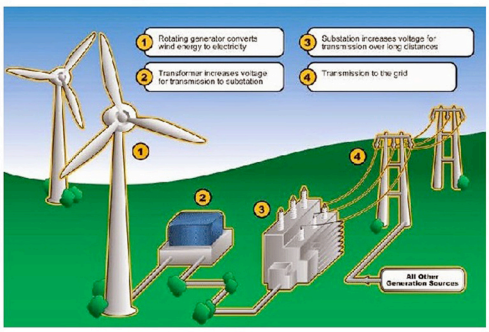
- Flexibility
- Reliability
- Scalability
- Simplicity of Installation and Operation
- Offsite Communication and Monitoring

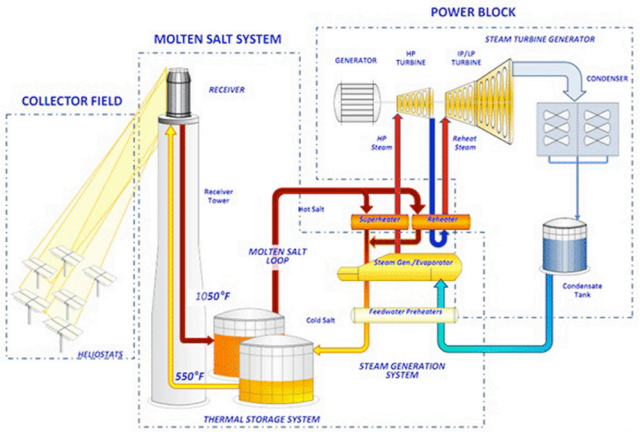
Innovative/Alternative Solar and Wind Energy Solutions

Energy independence can be achieved through the implementation of solar and wind energy solutions, which are considered clean, green and renewable energy sources today. Our solutions include the analysis and scheme providing of the renewable source integration with the utility grids. We also supply equipment essential for the functioning of the wind turbines and the solar panels.

Solar and Wind Solutions Key Features:

- Clean and Green Energy
- Consistent in favorable conditions
- Sustainable (no carbon footprint)





Smart Energy Solutions

Smart Energy Panels are electrical panels equipped with metering, control and communication systems and are designed such that they allow automated metering of energy consumption at the source and enable data access both locally and remotely. These panels give experts the access they need to provide advice based on the constantly updated site data.

Smart Energy Solution Key Features:

- Reliability
- Simplicity to Install
- Enerlin'X Digital System Interface to:
  - Displays
  - Modbus and Ethernet Networks
- Safely and Efficiently Transmit through:
  - Modbus SL: among components and switchboards
  - Ethernet (Cable or Wifi): among computers and switchboards
  - Ethernet (DSL or GPRS): to access online services

High Quality Electrical Products

Controllers

– Gen-set Controllers

We supply a comprehensive range of configurable Gen-set controllers suitable for managing applications ranging from simple to complex ones. The Gen-set controllers feature a single piece of software allowing universal compatibility with most of the leading manufacturers of electronic engines.

Gen-set Controller Key Features:

- Increased Memory
- Greater Processing Speed
- Simple Monitoring
- User-Friendly Remote Supervising and Servicing
- Redundancy and Integrated Protection
- Parallel or Standby Modes for Single or Multiple Sets
- Auto Synchronization and Power Control
- PLC Programmability Functions

– Generator Controllers

For generator protection and control, we supply generator controllers that protect the generators in preference to the engine (not a direct concern). These controllers are suitable for marine and land-based applications and have a built-in synchronizer and a digital isochronous load sharer.

Generator Controller Key Features:

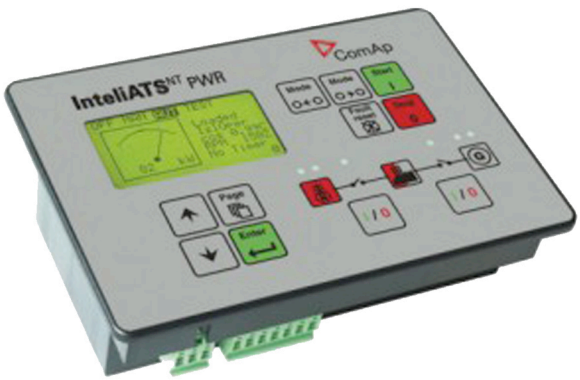
- Parallel or Standby Modes of Single or Multiple Sets
- Communication Options Available
- Integrated PLC Functions
- Automatic Synchronization
- Redundancy and Integrated Protection
- AMF Function, Base-load, and PF Control
- Generator and Mains Measurement

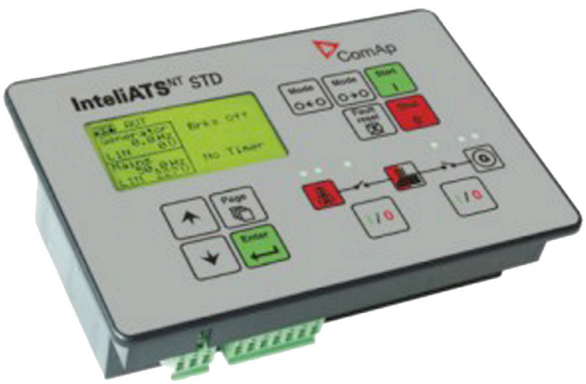
– ATS Controllers

The Automatic Transfer Switch Controllers supplied by us are designed to monitor the AC mains supply for under/over voltages, under/over frequencies and voltage unbalances and then send a start command on detection to the gen-sets. The different models supplied provide a wide choice of control features and user configuration options.

ATS Controller Key Features:

- Mains Monitoring (1 or 3 phase)
- Remote Gen-set Start
- True Voltage and Current RMS Measurements
- Test Run Ability





– Engine Controllers

Where a wide range of engine-driven platforms and applications need innovative and universal system integration, we supply engine controllers, which can operate in the most demanding environments. These controllers give multiple advantages in control, communication and command to engine pumps, compressors, crushers, screeners, and emergency and propulsion engines.

Engine Controller Key Features:

- Control, Monitoring and Protection of Mechanical and Electronic Diesel/Gas Engines
- Automatic or Manual Engine Start or Stop
- Programmable ON/OFF Button
- Real-Time Clock
- PLC Functions
- Selectable Protections
- Land-Based or Marine Applications

High Quality Electrical Products

Controllers

– Bi-Fuel Accessories and Controllers

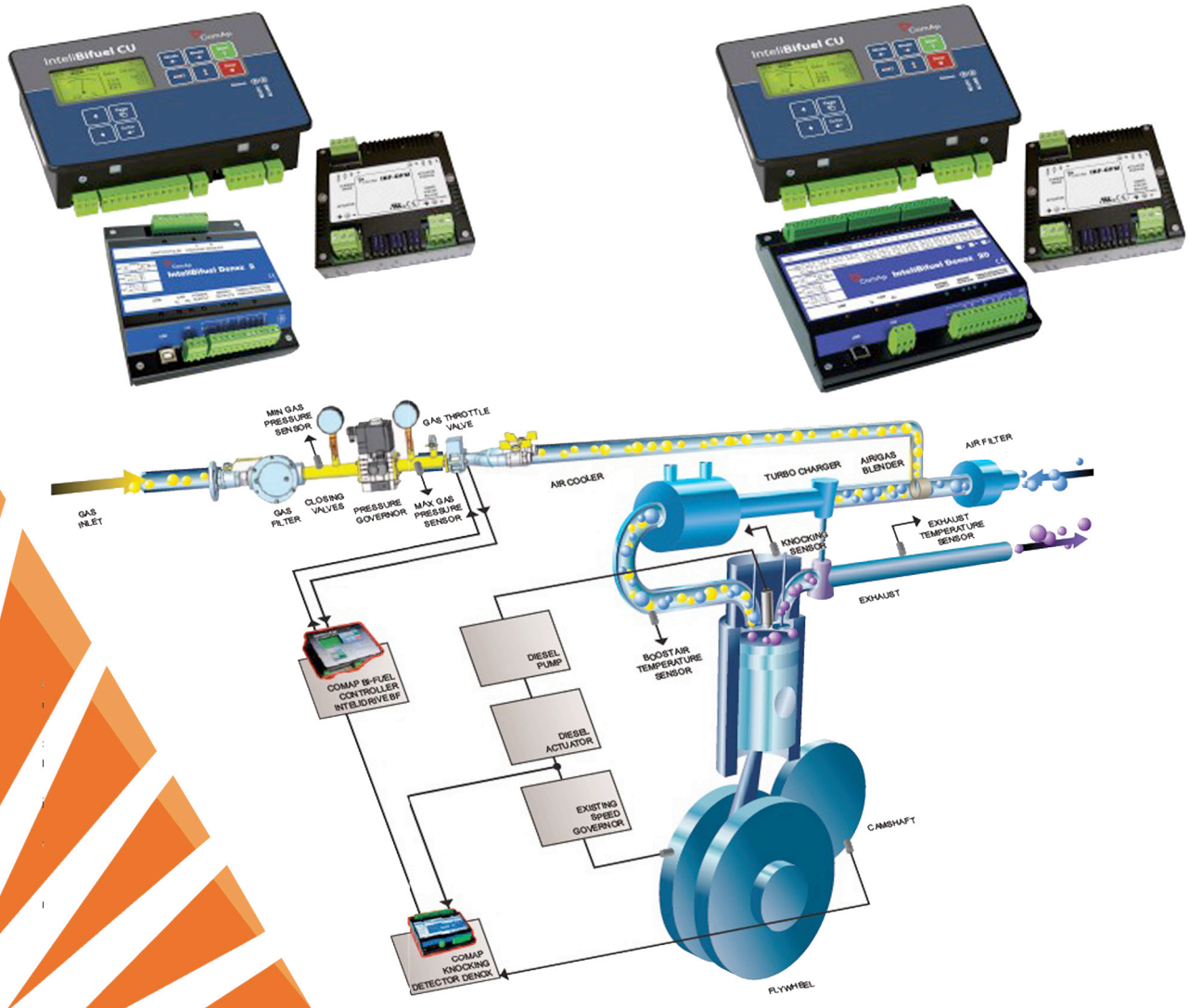
For use as a standard control platform for diesel generators, we supply Bi-Fuel Controllers, which modify the original diesel generator engine to accommodate for the use of natural gas as the main fuel. They electronically control the introduction of the natural gas into the engine and its flow depending on the engine speed and output.

Bi-Fuel Controller Benefits:

- Allows for the Combination of Affordable Diesel Engines with Inexpensive Natural Gas
- Guaranteed Power Output
- Flexible Use of Fuel
- Longer Engine Life
- Reduced Maintenance Costs
- Efficient and Safe Operation with Lower Emissions

Bi-Fuel Controller Key Features:

- Allow 4 Stroke Diesel Engines, Gen-Sets or Pumps for Bi-Fuel Operation
- Various Gas Compatibility
- Full Automation and Dynamics
- Primary Parameters Enable Engines' Safety, Monitoring and Protection
- Configurable PLC Options
- RS232, Modem, Modbus and Internet Communication
- Remote Control and Monitoring



– Engine Governing and System Controllers

We provide a family of electromechanical and electronic devices for precise engine control and system integration.

Engine Governing and System Controller Key Features:

- Technology Range:
  - Enhanced Analog Controls
  - Advanced Microprocessor Controlled Systems
- User Defined Parameters
- Full System Metering
- Start/Stop Control
- Protection and Communication Capabilities

Engine Governing and System Controller Applications:

- Power Generation: innovate products for the power generation industry
- Heavy Equipment: variable speed governors and complete engine control and protection systems
- Transportation: basic and advanced control systems adaptable to engine applications worldwide
- Gaseous: gaseous fuel products of industrial grade that meet stringent emissions requirements
- Military/Government/Defense: products incorporated as military control systems
- Marine: built to survive any extreme, certified for the marine industry and built to last

GOVERNORS AMERICA CORP.®

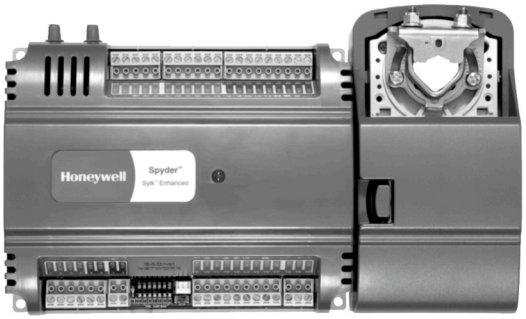
High Quality Electrical Products

– Spyder BACnet Programmable Controllers

We provide the PUB and PVB controllers, which are part of the Spyder Family. They are BACnet MS/TP network devices designed to control HVAC equipment and to be used in VAV (Variable Air Volume). These controllers allow state-of-the-art commercial building control.

PUB and PVB Controller Key Features:

- Programmable and Configurable
- Flexible and Universal Inputs for External Sensors
- Digital Inputs
- Digital and Analog Triac Outputs



– Building Management Controllers

As part of our BMS, we provide the HAWK Series 200/600 Controller. It is a compact platform utilizing the NiagaraAX Framework® for the integration of HVAC systems and non-HVAC systems in a building or hospital. The platform combines integrated control, supervision, data logging, alarming, scheduling and network management functions with Internet connectivity and web serving capabilities within one device.

HAWK Key Features:

- Support Common Open Communication Networks
  - LONWORKS
  - BACnet
  - EIB_KNX
  - Modbus
  - M-bus
  - SNMP
  - Z-wave
  - oBIX
- Built-In Web Supervisor with GUI via Internet Browsers
- Email and SMS Functionality

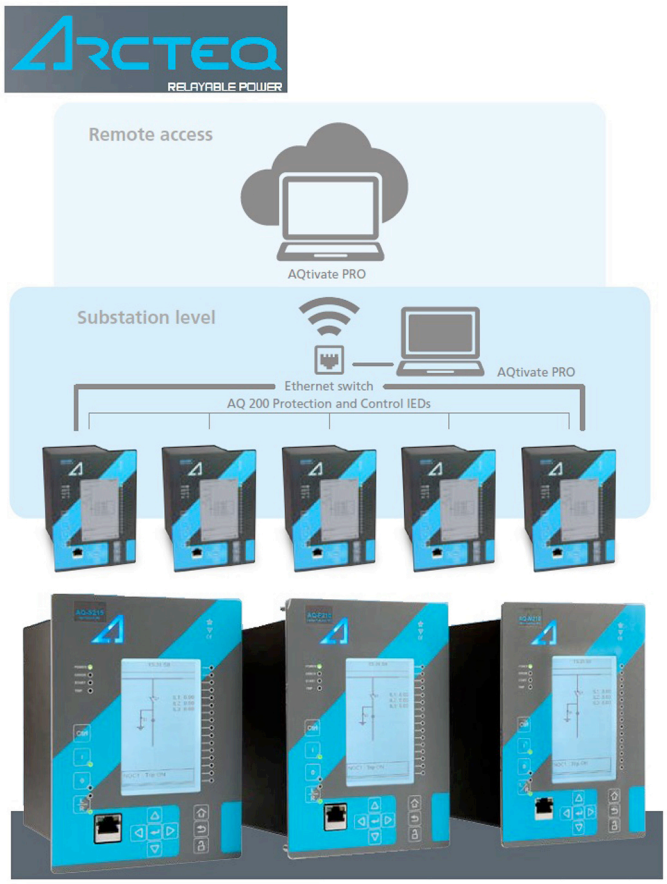
Relays

– Protection Relays

We supply protection relays, which are intelligent electronic devices customized to completely protect electrical networks and devices from detected faults and unnecessary trips, while providing system information for system management.

Protection Relay Applications:
- Over-current Protection
- Generation Protection
- Voltage and Frequency Protection
- Motor Protection
- Transformer Protection and Control
- Thermal Overload
- Rail Protection
- Arc Protection
- Capacitor Protection
- Marine Protection
- And Much More

Protection Relay Key Features:
- Fault and Event Recording
- Different Communication Ports
- Compact Models
- Multiple Mounting Options
- Selectable Measurement Criteria

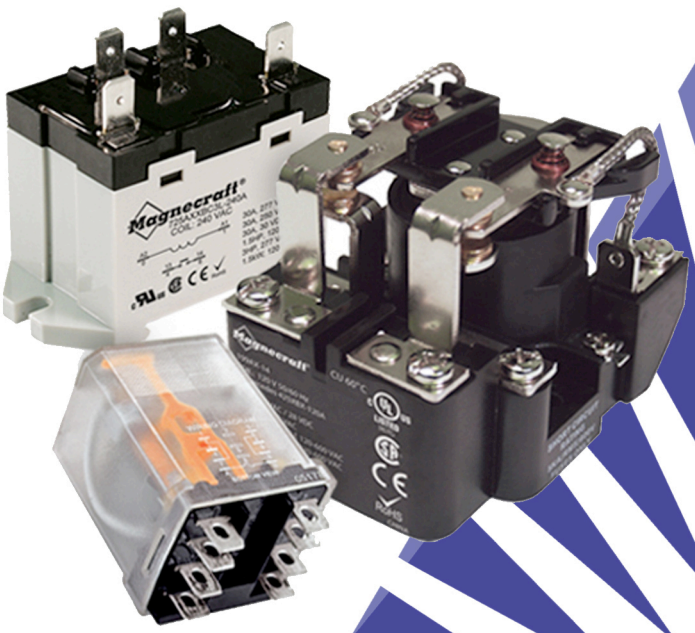


– Power Relays

For use in high power applications, power relays designed with heavy-duty contacts, magnetic armatures and springs are supplied.

Power Relay Applications:
- Lighting Control Systems
- Automotive Electronics
- Heavy Machinery
- And Much More

Power Relay Key Features:
- Rated Currents up to 50 A
- Different Cover and Mounting Options Available
- Socket Compatibility
- Flux-tight Option



High Quality Electrical Products

MV and LV Circuit Breakers

To meet the demands of power distribution systems, we supply both Medium Voltage (MV) and Low Voltage (LV) Circuit Breakers. The LV Circuit Breaker is a molded case with compact design.

MV Breaker Key Features:

- Gas or Vacuum Technologies
- Outdoor or Indoor Breakers
- Fixed or Withdrawable Versions
- Different (kV) and (A) Ratings
- Long Life Structures with Great Reliability
- Key-Locking Option
- IEC Standards

LV Breaker Key Features:

- Current Ratings (16 – 630 – 1600 – 3200 – 4300 – 6000 A)
- Compact and Consistent Designs
- Different Mounting Options
- Data and Event Logging
- Flexibility of Protection (Generator, Motor, AC/DC Installation and Other Protections)
- Open-Endedness (Addition, Removal and Changes Done without Disassembling)

DC Charging Systems

We accommodate DC Charging demands for Switchgear, Process Control, Oil Exploration and other DC power applications by supplying DC/Battery Charging Systems.

DC Charging System Key Features:

- DC Output Voltage Ranges (24, 48 and 130 VDC)
- DC Output Current Ranges (6 – 500 A)
- Single/Three Phase Input Voltage Ranges (120, 208, 240, 400 or 600 VAC)
- Input Frequency Range (60Hz +/- 5%)
- +/- 0.5% DC Voltage Regulation from No Load to Full Load
- SCR Technology and Load Sharing
- AC/DC Surge Protection
- Automatic AC Voltage Compensation
- AC Input/DC Output Breakers
- LCD Display (DC Voltage, DC Current and Alarms)
- Internal Temperature Compensation
- LED Indications and Remote Annunciations
- Equalize Timer

Uninterruptible Power Supplies (UPS)

We supply UPS, which are electrical equipment providing uninterruptible emergency power to loads in cases of power failure, to eliminate those unexpected power disruptions that could affect productivity and result in unrecoverable data losses. The UPS differ from backup generators in that they provide almost instantaneous protection in the event of power failure.

UPS Applications:

- Computers and Peripherals
- Networks and Servers
- Data Centers and Facilities
- Industrial, Marine and Telecommunication Equipment

UPS General Key Features:

- Flexible Designs
- Power Conditioning
- Generator Compatibility
- Life Cycle Monitoring
- Remote Monitoring and Control
- Status Indicators
- Ease of Installation and Serviceability
- High Efficiency and Robustness

One important product we provide is the ELECTA series UPS, which is ideal for the protection of IT systems and critical systems in general. This series includes 10-12-15-20 kVA models with three- and one-phase input and one-phase output, as well as 10-12-15-20-30-40-60-80-100-120 kVA models with three-phase input and output, with double conversion Line following the IEC EN 62040-3 standard.

ELECTA UPS Key Features:

- Insurance of:
  - Input Stage:
    - Power Factor (~1)
    - Low Current Distortion
  - Output:
    - Power Factor of (0.9)
    - Providing Active Power up to 15% greater than normal UPS
- Smart Active and Standby Operating Modes
- Frequency Converter Mode
- Configurable Power Share Sockets
- Cold Start
- Optional Double Supply Network Input
- Advanced Multiple Platform Communication
- Compatible with TeleNetGuard for Remote Support Service
- Serial RS232 or USB Port
- 3 Slots for the Optional Communication Accessories
- Remote Emergency Power Off
- External Manual Bypass Input
- External Source Synchronization Input
- Graphic Display Board

Another product we provide is the VEGA series UPS, which is designed by LEVER SRL. This series is available in three phase models 100-120-160-200-250-300-400-500-600-800 kVA with On Line double conversion technology as defined by standard IEC EN 62040-3 with transformer in output to the inverter.

VEGA UPS Key Features:

- Easy Source:
  - Low Input Voltage Distortion (up to 3 %) and Power Factor (up to 0.95)
  - Compatibility with the Motor Generator due to:
    - Power Walk-In
    - Power Walk-In Delay Timer
    - Battery Inhibition
- Battery Care System:
  - Battery Recharge (2 voltage levels - IU1 U2) and Battery Test
  - Voltage Recharge with Temperature Compensation
  - Compatibility to Recharge Battery with Long Autonomy
- Back-Feed Protection
- System Expandability (up to 8 units, Dual BUS and Dynamic Dual Bus Systems)
- Isolation Transformer Protecting the Load from Mains Interference
- Double Protection of the Load (powered by the battery)
- Inverter Thermal Overrating (guarantee an overload kVA at 110% for 60 minutes)
- Capacity to Power Output Loads of 0.8 Inductive to 0.9 Capacitive (maintaining the active power)

High Quality Electrical Products

Hospital Application Products

– Isolation Panels

Hazardous currents can cause malfunctions in electrical systems, and this could prove fatal in critical systems that need to remain online at all times, such as in medical settings. Our system provides means of early detection of such hazardous currents by giving real-time visual indication of current levels, which if passes a threshold, visual and audible alarms would be triggered. This system provides isolated power for operating rooms and critical hospital areas.

Isolated Panel Components:

- Isolation Transformer: isolation between system voltage and load (rate based on requirements)
- Primary Circuit Breaker: for 120, 208 and 240 V systems
- Branch Circuit Breaker: two pole breaker (20, 30, 50 or 60 A/208 or 240 V)
- Panel Board Interiors: accepting plug-in or bolt-on branch circuit breakers
- Line Isolation Monitor (LIM):
  - Automatic Operating Voltage Selection
  - Automatic Self-Testing and Data Logging
  - Plain Text Menu: for ease of use and alarm reading
  - Electrical System Measurements: to help determine the fault root cause

Isolated Panel Optional Features:

- Circuit Control via PLC
- Integrated Ground Fault Location System
- Transformer Load Monitoring
- Remote Communication System Integration

Isolation Panel Types:

- Standard Panels: most compact solution for a single isolated system
  - Four Options: 3, 5, 7.5 or 10 kVA
  - Up to 16 Circuits
- Duplex Panels: single panel and two systems isolated by a barrier
  - Each Panel Supplies 120 V and 208 V
  - 208 V Options:
    - 5 kVA System and a 30 A Secondary Main
    - 7.5 kVA System and a 40 A Secondary Main
    - 10 kVA System and a 50 A Secondary Main
  - Use: if more than 16 circuits are required
- Dual Voltage Panels: supply both 120 V and 208 V to an operating room
  - Back Box Requiring 14-inch-deep wall
  - Each Pael Supplies 16 x 120 V Circuits and:
    - One 30 A and 208 V Circuit
    - One 50 A and 208 V Circuit
- Controlled Panels: supply 208 V of isolated power to multiple areas from a central location
  - Used to Add 208 V to Existing Rooms

– Visocall IP

VISOCALL IP is a common functional platform, bringing care, information, service, organization and billing together in hospitals. Being IP based, the network technology within forms the economical, secure and extendible structure for all functions and services in the care sector.

Visocall IP Key Features:

- Completely Upstream Open System
- Comprehensive Compatibility and Substantial Servicing Advantages
- Maximum Fail Safety
- Remote Maintenance
- Self-Disconnecting Plugs
- High Security Level
- Antimicrobial Construction of Operating Devices
- Reduced Overall Investment and Maintenance Costs
- One System / Many Functions

– Space Pressurization Monitors and Controllers

For space pressurization of hospital rooms, we provide the SPM-4000 Guardian Infinity Space Pressurization Monitor and Controller. It is a true differential space pressure measurement system that is engineered to combine the operability of today's microprocessor technology with state-of-the-art, industrial grade, highly accurate, ultra low range, and differential pressure sensing cells.

SPM-4000 Guardian Infinity Key Features:

- Long-Term Stability
- ±0.25% Measurement Accuracy
- No Sensor Fouling due to Airborne Particulate
- Nine Full Scale Ranges
- Positive/Negative Pressure Monitoring
- Simple Field Configuration and Adjustment
- High-Accuracy and Long-Term Stability
- Eight Line Graphic Display
- Audible and LED Alarms
- Additional Alarm, Mode and Application Sensors
- LonWorks® and BACnet® Certified

High Quality Electrical Products

Hospital Application Products

– TV and Multimedia Terminals

With hospitals becoming centers for healthcare and with their direct competition, the use of top class patient entertainment, in the form of TV and Multimedia Terminals, can provide an undeniable advantage.

For Patients:

- Increases patients' state of well-being
- Takes their mind of things
- Provides them with information

TV and Multimedia Terminal Key Features:

- Top Class Patient Entertainment
- Comprehensive Use of Modern Media:
  - Modern Communication Technology
  - Analogue and Digital TV and Radio Reception
  - AV and USB Interfaces
  - RJ45 Telephone Connection
  - Integrate Stereo Low Speakers
  - Headphone Socket
  - Additional Models Available:
    - Internet Access
    - Games and Video on Demand
    - IP-TV
- Ideal Screen Sizes
- Latest Technology
- Simplest Operation

Conditioning

– Fuel Conditioning

Our Fuel Conditioning Products provide means of detection and eradication of harmful diesel fuel contaminants. The products are suited for bulk fuel tanks, day tanks, vehicles and gen-sets.

We offer a fuel polishing system that preserves the quality of stored diesel fuel for applications such as standby generators and fire pumps. Our polishing system combines filtration, circulation and treatment in the following way:

- Single/Multiple Stage Filtration: removes solids/microbial contaminants (<6 microns)
- Water Extraction
- Fuel Circulation: eradicates contaminant pockets
- Governing and Alerting:
  - Touch Screen Panels
  - Direct Passing to BMS

We also offer a fuel biocide that is suitable for fuel tank cleaning as well as prevention and eradication of microbial growths. If left untreated, the present microbes would eventually cause the following:

- Reduce Fuel Quality and Performance
- Reduce the Effectiveness of Fuel Additives
- Produce Corrosive Acids (damaging storage, distribution and vehicle fuel systems)
- Produce Slime and Sediments (blocking fuel lines, filters and vehicle injection equipment)

Fuel Biocide Key Features:

- Maintenance of Fuel Quality and Performance
- Suitable for Biofuels and Hydrocarbon Fuels
- Is a Preventative Measure as Shock Treatment
- Protection against Bacteria, Yeast and Molds

We also offer an on-vehicle diesel fuel purifier system that works in conjunction with a conventional water/fuel separator to ensure the engines are protected against harmful water and contaminating particles. The fuel purifier can be used on different vehicles with diesel engines as well as diesel generators and pumps.

High Quality Electrical Products

Conditioning

– Oil Conditioning

Our Oil Conditioning Products help in the extension of the life of engine and transmission oils and hydraulic fluids by monitoring and analyzing levels and properties of contaminants as well as removing contaminants that are harmful.

We offer a kidney loop filtration system that can be installed in parallel with existing filtration systems, in order to use a dual filtration action to remove particles down to 1 micron. Also, it uses an evaporation process to remove damaging liquids and gases from the oil.

Kidney Loop Filtration System Key Benefits:

- Extension of Oil Drain Intervals by around 4 Times
- Reduction of Oil Disposing and Usage Costs
- Reduction of Unpredictable Maintenance and Filter Replacements
- Reduction of Engine Wear and Damage

We also offer oil conditioning sensors, which deliver real-time oil condition monitoring of lubricating oil.

Oil Conditioning Sensor Detect:

- Contaminants:
  - Oil Oxidation
  - Water
  - Glycol
  - Fuel
  - Dirt
- Viscosity
- Wear Particles
- Temperature:
  - Soot
  - Oil

Oil Conditioning Sensor Key Features:

- Extreme Sensitivity (over 60 times)
- Robustness and Reliability
- Input 9 – 30 VDC
- Average Power Consumption (0.4W)
- Analog Output (4 – 20mA)
- Digital Output (RS232, RS485, Modbus and CANbus)
- Operating Temperature (-20°C to +120°C)
- Fluid Pressure (up to 20 bar)
- M32 hexagon head Connection

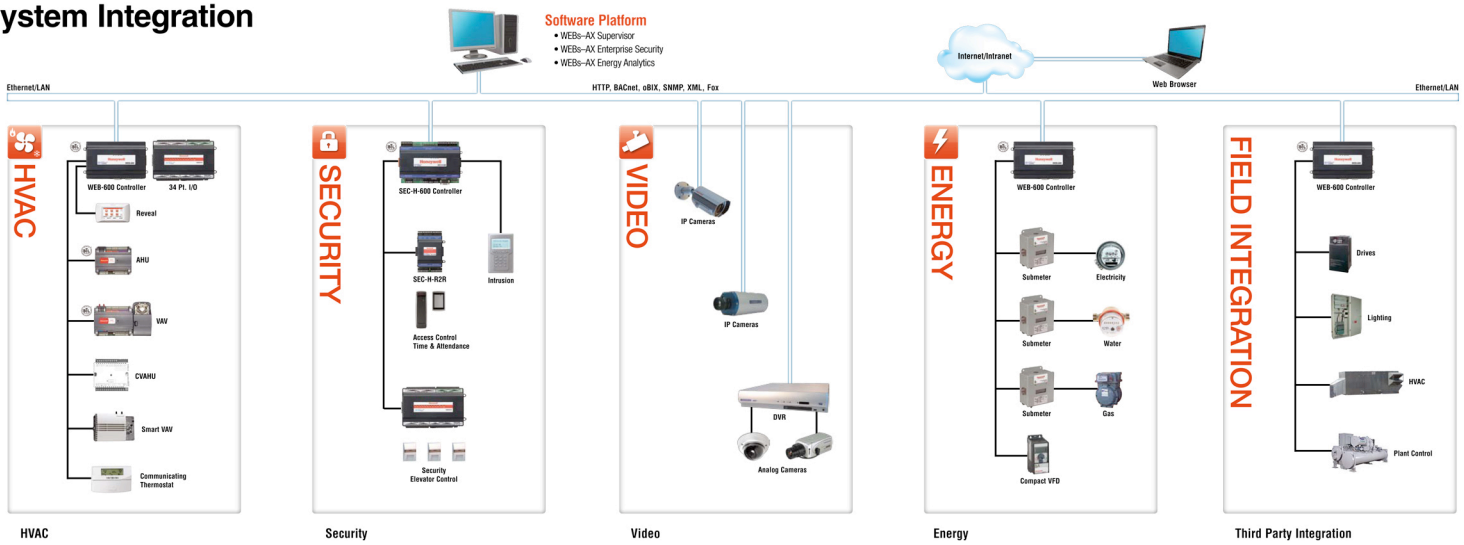
We also offer remote oil condition monitoring applications for real-time detection of oil contaminations, failures and faults.

Web System Integration Software

For system integration to be achieved, we provide the WEBs-AXTM System Integration Software Platform which includes:
- WEBs-AX Supervisor
- WEBs-AX Enterprise Security
- WEBs-AX Analytics

WEBs-AX Applications:
- HVAC: WEBs-AX Controllers provide an open communication solution for web-enabled buildings
- Security: can work as a stand-alone or an integrated system for information-sharing
- Video: WEBs-AX drivers provide an open video framework for device and protocol integration
- Energy: WEBs-AX Energy Analytics software for remote energy management
- Third Party: can integrate to third party devices via BACnet, LonWorks, Modbus and oBIX

WEBs–AX™
System Integration



Critical Power Analysis and Other Services

Electrical Energy Efficiency Analysis

Companies face enormous cost pressures, for which the cost distributions are unknown, due to the little awareness they have when it comes to energy data. At the same time, new energy requirements are being enacted, as is the need for them to be met. Looking at the fact that a substantial amount of production costs are energy-related, energy efficiency becomes more essential at this time.

We offer you the analysis that you need, where you need it most, whether it is your factory or your building complex.

Electrical Energy Efficiencey Analysis Plan:

- Energy Consumption Study: We analyze your facilities and buildings and then assess and quantify needed savings.
- Conception: We formulate an elaborate plan by doing complex computations. Multiple courses of action could be also formulated, based on financial standpoints of our clients.
- Execution: We assist in the execution stage to insure the complete success.

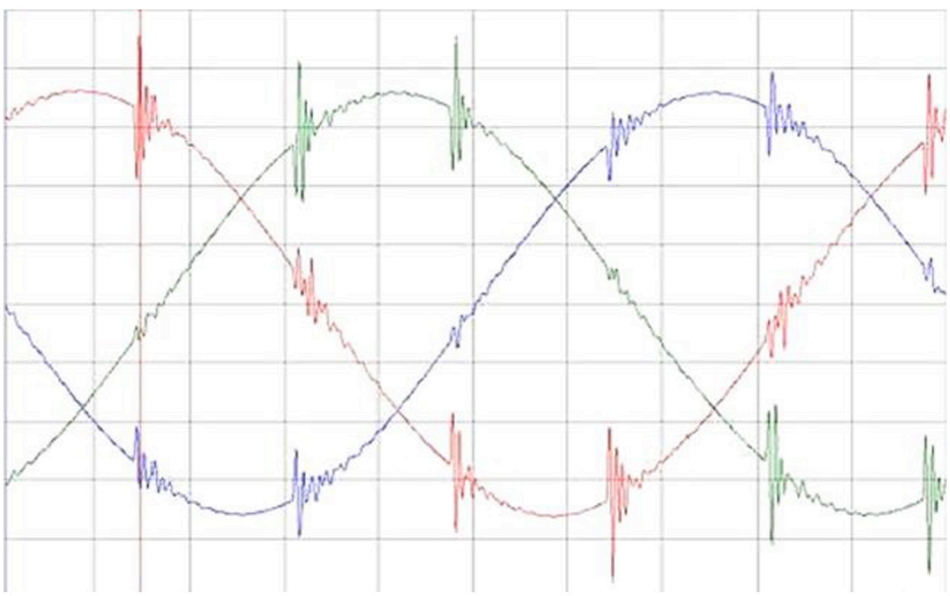
Power Quality Studies

Companies and Facilities face problems from the power grids including momentary outages, power surges, voltage spikes and flickers, dips, harmonics, improper grounding, voltage sags, interruptions, etc.

We offer you the needed analysis and studies that can rectify these problems. We insure that your electrical distribution systems provide safe and reliable power for your processes, we supply equipment assessment services and we propose alternative approaches you should consider to minimize the problems' intensity.

Power Quality Services:

- Power Flow and Factor Calculations
- Reliability Analysis
- Short-Circuit Analysis
- Switching Analysis
- Harmonic Analysis
- Motor Starting Analysis
- Transient State Analysis



After-Sales Service, Commissioning and Support

To completely insure clients' satisfaction and to retain mutual relations, we begin by supplying top-notch products and services of exceptional quality at competitive prices and within the shortest time-frames.

After-Sales Services:

- Giving Necessary Support, if needed
- Maintaining Professional Communications
- Training of Customers and Technicians in the Products Supplied
- Thorough and Professional Commissioning, of sold products or supplied solutions/services

VISION
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