



K A F A A A

مجموعة للتنمية والتطوير



لماذا مجموعة كفاء للتنمية والتطوير ؟

شهد العالم مع نهاية القرن العشرين تطوراً سريعاً في مجال تقنية المعلومات ومصادر الطاقة والطاقة البديلة. أصبح استغلال هذه التقنيات أمراً ضرورياً لمواكبة المتطلبات الجديدة ، فتنوعت الحلول والاحتياجات. لذلك عملت مجموعة كفاء للتنمية والتطوير على اقتراح وتطوير وتنفيذ حلول متكاملة تلبي احتياجات المؤسسات والشركات المتعلقة بمصادر الطاقة وتجهيزاتها وملحقاتها. تفتخر مجموعة كفاء بكونها ممثلة لمجموعة من الشركات المختصة بتقنيات الطاقة وتطبيقاتها ذات التكنولوجيا العالية المصنعة بأرقى المواصفات الأوروبية والحائزة على شهادات و مقاييس ومعايير الجودة العالمية . تتميز المجموعة عن منافسيها في هذا المجال بالكفاءة الحقيقية، وخدمات ما بعد البيع التي تقدمها الشركة عبر كوادر المتابعة والصيانة. وكل ذلك ضمن إطار الأسعار المنافسة.

Why?

Why KAFAA Group For evolution and development

The world has witnessed the end of the twentieth century witnessed rapid development in the field of information technology and energy sources and alternative energy.

Became the exploitation of these technologies is essential to keep pace with the new requirements, a variety of solutions and possibilities

Respectfully: We offer ourselves to you by one of the companies specialized in the field of energy solutions.

Worked KAFAA Group For evolution and development on develop and implement integrated solutions that meet the needs of companies and institutions relating to energy sources and equipment and accessories.

And proud to be the representative of a group of companies specialized energy technologies and high-tech applications

Manufactured to the highest European standards and Certified standards and international quality standards.

And characterized by the company from its competitors in this area real bail, and after-sales services offered by the company through the follow-up and maintenance cadres.

All this in the context of the appropriate price.



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VACON
DRIVEN BY DRIVES

 **legrand**®

 **FORMFLOOR**

CABLOFIL®

 **brennenstuhl**®
_ smart technology.

CyberPower®
Reliability. Quality. Value.

 **PILLER**
Power Systems

 **nsm**
generators

 **inform**

 **TECH**
POWER

 **Perkins**®

 **LEROY**®
SOMER

 **socomec**
Innovative Power Solutions

KOHLER

 **LEOCH**

 **LOMBARDINI**
Marine

SMA

Mitas
Generators



 **SUNLIGHT**
creating energy

Panasonic
Motor Driver

TEM

EZPath®
FIRE RATED PATHWAY



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<p><u>UPS</u></p> 	<p><u>Regulator</u></p> 	<p><u>Generator</u></p> 
<p><u>DC system</u></p> 	<p><u>Inverter</u></p> 	<p><u>Frequency converter</u></p> 
<p><u>STS series</u></p> 	<p><u>Electrical Panel</u></p> 	<p><u>Lineverter</u></p> 
<p><u>Motor Driver</u></p> 	<p><u>Battery Charger</u></p> 	<p><u>Isolation power system</u></p> 
<p><u>PF correction</u></p> 	<p><u>Batteries</u></p> 	<p><u>Raised Access Floor Systems</u></p> 
<p><u>Wind Turbine</u></p> 	<p><u>Solar energy system</u></p> 	<p><u>Accessories</u></p> 

UPS

- ✓ Power: 0.6-1000 KVA
- ✓ Type :
 - ✓ 1 phase in- 1 out phase with minimum input voltage 80V
 - ✓ 3 phase In- 3 out phase
 - ✓ 3 phase in- 1 out phase

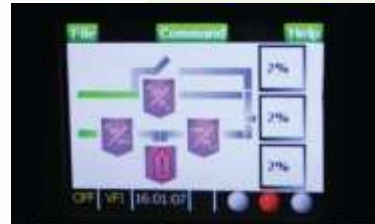
- ✓ Technology:

- ✓ IGBT
- ✓ DSP
- ✓ PWM
- ✓ Modular DSP
 - ✓ Dual conversion
 - ✓ Soft start
 - ✓ Eco mode
 - ✓ Boost charger
 - ✓ THCDL



- ✓ System :

- ✓ Line interactive (semi full sine wave)
- ✓ Line interactive (full sine wave)
- ✓ True on line



- ✓ Properties:

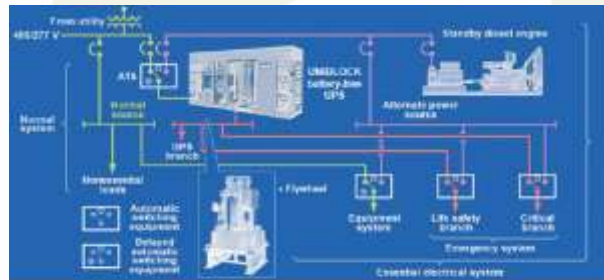
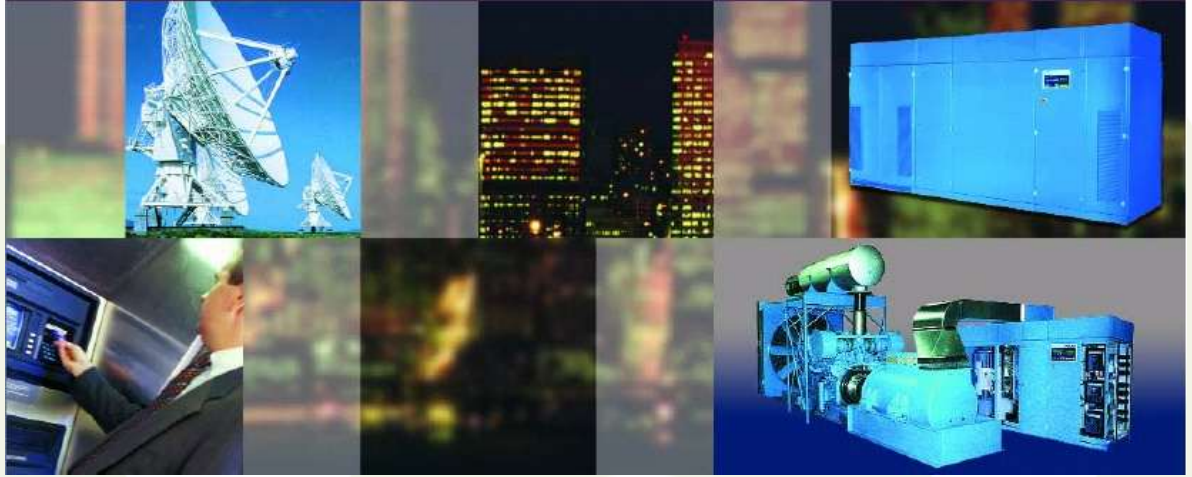
- ✓ Voltage & frequency regulation
- ✓ Increase stand by time using extra batteries
- ✓ Increase power using parallel connection
- ✓ Monitoring & control using SNMP



dynamic ups

- dynamic ups
- Static UPS
- Rotary UPS

Dynamic UPS



How it works...

Kinetic energy powers the load during "10 second" outages
(during transition to standby engine)



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Regulator



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SVR (static voltage regulator) Thyristor Controlled

- 1 phase:
 - Power: 5- 30 KVA
 - Input voltage range: 150 - 265 V
 - Input voltage range: 110 - 270 V
 - Output voltage: $220 \pm \%3$
 - $Pf = 1$
- 3 phase:
 - Power: 10.5- 200 KVA
 - Input voltage range: 260 – 460 V
 - Input voltage range: 190 – 467 V
 - Output voltage: $380 \pm \%3$
 - $Pf = 1$



AVR (automatic voltage regulator) Servo Motor Controlled

- 1 phase:
 - Power: 2-30 KVA
 - Input voltage range: 160 - 245 V
 - Input voltage range: 135- 245 V
 - Output voltage: $220 \pm \%1$
 - $Pf=1$
- 3 phase:
 - Power: 6-1000 KVA
 - Input voltage range: 277 - 424 V
 - Input voltage range: 233 - 424 V
 - Output voltage: $380 \pm \%1$
 - $Pf=1$



(IVR) Inductive voltage regulator

- 1 phase:
 - Power: 1.5-90 KVA
 - Input voltage range: 140 - 380 V \pm %5
 - Output voltage: 220 \pm 13V
 - Pf= 0.7
 - Stage no. : 4
- 3 phase:
 - Power: 1.5-90 KVA
 - Input voltage range: 245 - 380 V \pm %5
 - Output voltage: 380 \pm 13V
 - Pf= 0.7
 - Stage no. : 4

Generator

☐ Composed of:

- ☐ Engine: come from Perkins , KOHLER
- ☐ Alternator: from Marelli, Leroy Somer or nsm

☐ Option:

- ☐ Auto start panel
- ☐ Automatic Transfer switch ATS
- ☐ Synchronization and parallel connection panel
- ☐ Isolation and protection cabinet

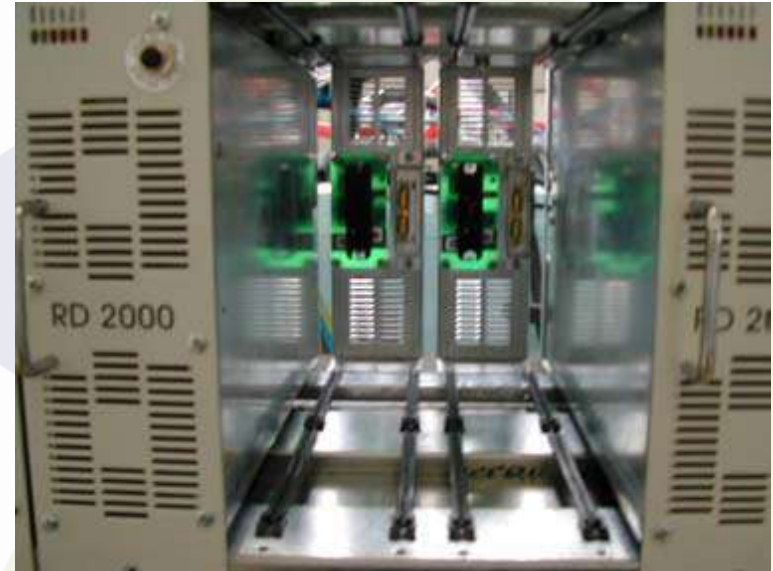
☐ Type:

- ☐ 1 Phase
- ☐ 3 Phase

☐ Power: 3 – 2000 KVA



DC system



✓ DC system converts AC power to DC power

✓ Type:

- ✓ 3 phase in
- ✓ 1 phase in

✓ Technology:

- ✓ IGBT
- ✓ DSP
- ✓ PWM
- ✓ Modular DSP
 - ✓ Eco mode
 - ✓ Boost charger
 - ✓ THCDL



✓ INPUT SPECIFICATIONS

- ✓ INPUT VOLTAGE : 90-280 V AC
- ✓ WAVE FORM : SINUSOIDAL
- ✓ FREQUENCY : 50 Hz. -10%, +30%

✓ OUTPUT SPECIFICATIONS

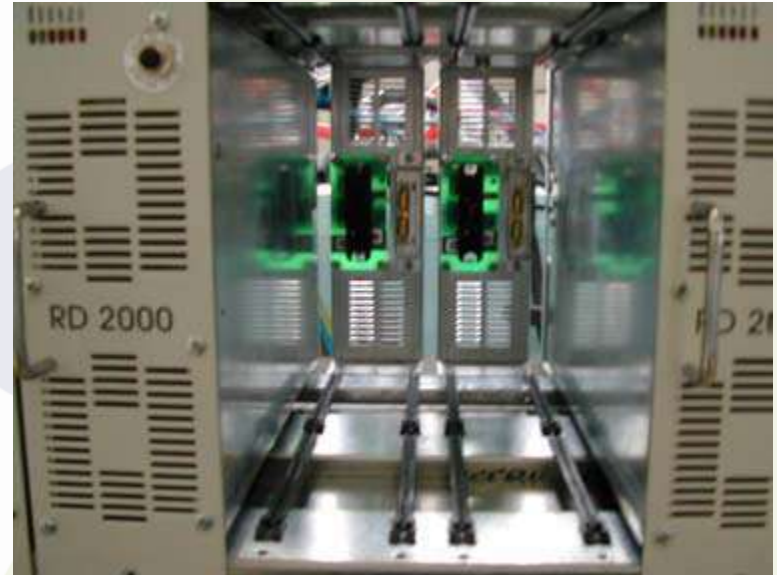
- ✓ OUTPUT VOLTAGE : 48 V DC
- ✓ VOLTAGE VARIATION RANGE : 42 / 57 V
- ✓ RIPPLE : < 100 mV
- ✓ Output current: 30 – 180 A DC

✓ Application:

- ✓ GSM stations and other communication applications

✓ Component:

- ✓ rectifiers, AC distribution, DC distribution and Battery bank



Inverter

- **Static Inverter:** converts DC battery power to sinusoidal AC power

- **Applications**

- Portable equipments
- Telecommunication systems
- Industrial systems
- Air conditioners
- Compressors

- **Properties:**

- Input: 24/48/110 V DC
- Output:
 - Voltage: 230 VAC
 - Frequency: 50/60 Hz
 - Power: 1125 – 3750 W
 - Pf: 0.75



FREQUENCY CONVERTER



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✓ Type : 3 phase In- 3 out phase

✓ Technology:

- ✓ IGBT
- ✓ DSP
- ✓ PWM
- ✓ Modular DSP

✓ Properties:

✓ Input:

- ✓ Voltage: 380V (3 phase)
- ✓ Frequency: 50 – 60 Hz

✓ Output:

- ✓ Frequency: 50 – 60 – 400 Hz
- ✓ Voltage: 120 – 208 V
- ✓ Power: 10 – 200 KVA
- ✓ $P_f = 0.8$



STS

- STS permits switching between two independent AC power supplies (SOURCE 1 and SOURCE 2) without shutting down the critical load connected to its output.
- The main functions of the STS unit are as follows :
 - Increased power quality
 - Increased noise reduction
 - Power blackout protection
 - Power redundancy
 - Automatic static switching
 - Remote monitoring of input power sources
 - Easy static and mechanical transfer between separate input sources
 - Remote management of power events
 - Power event logging
 - Redundancy



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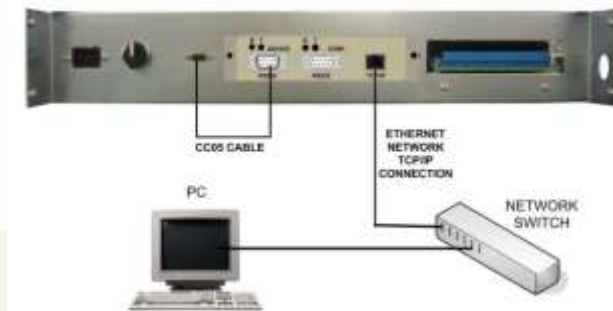
- Type:

- 1 Phase

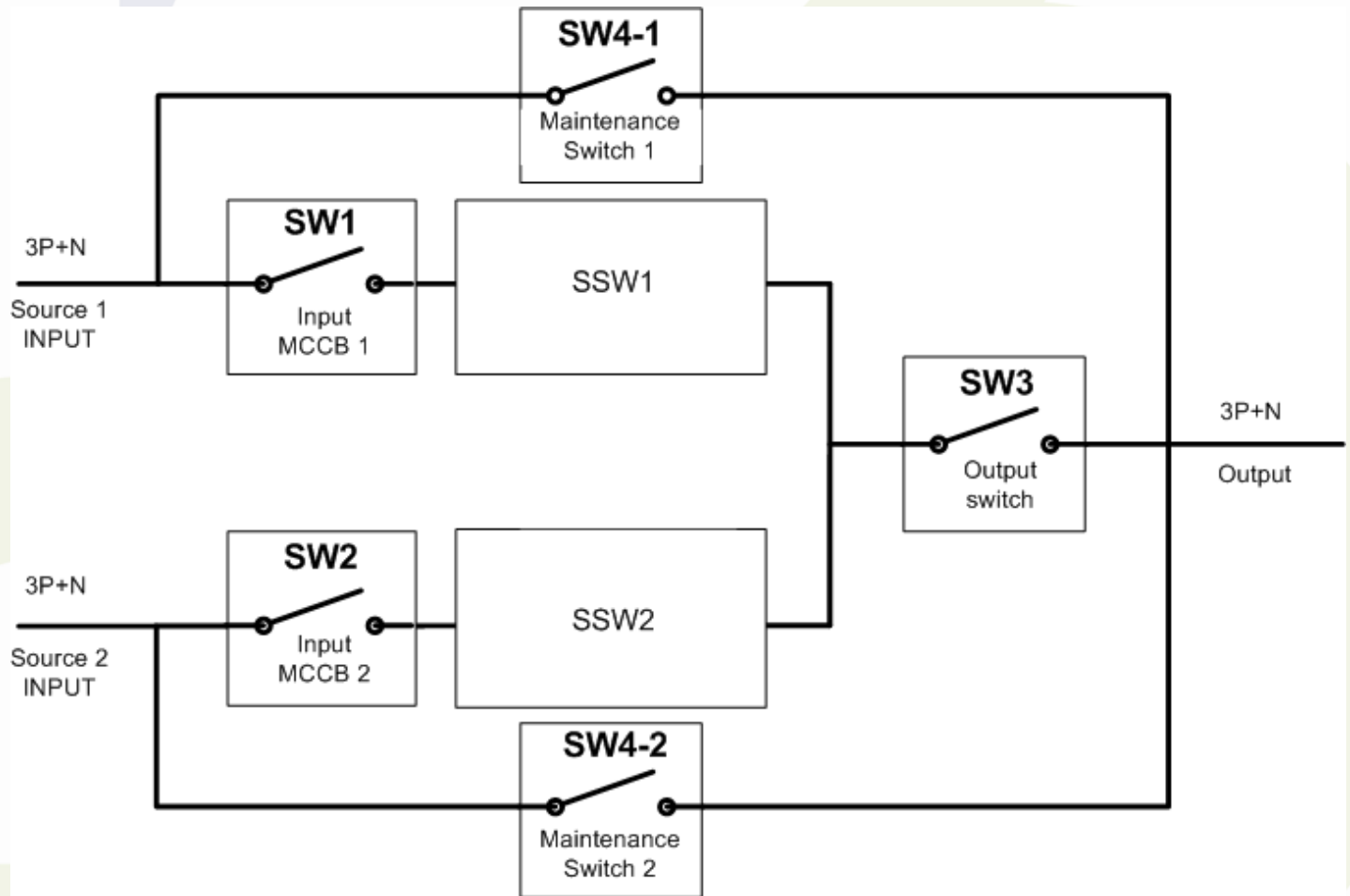
- Input voltage 220 - 240 V
 - Input Frequency: 50 HZ
 - Output voltage: 220 - 240 V
 - Out frequency: 50 Hz
 - Output Current: 50/100 A

- 3 Phase

- Input voltage 380 - 400 V
 - Output voltage: 380 - 400 V
 - Output current: 50 – 400 A



Scheme of STS



Electrical Panel



A.T.S. panel



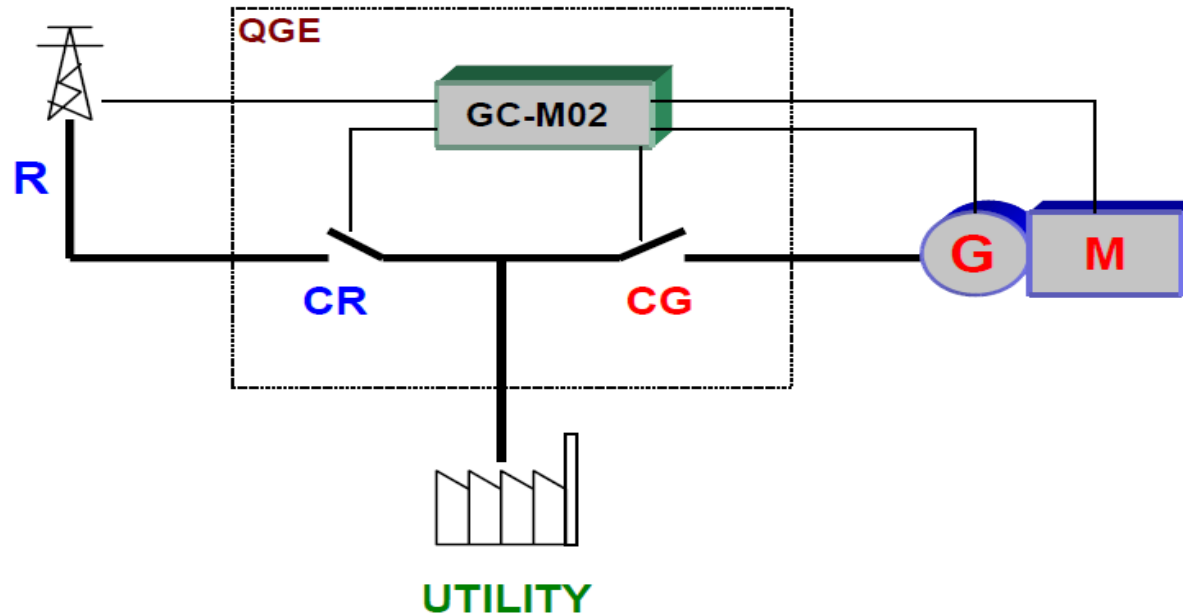
Synchronization & parallel panel



Auto start panel

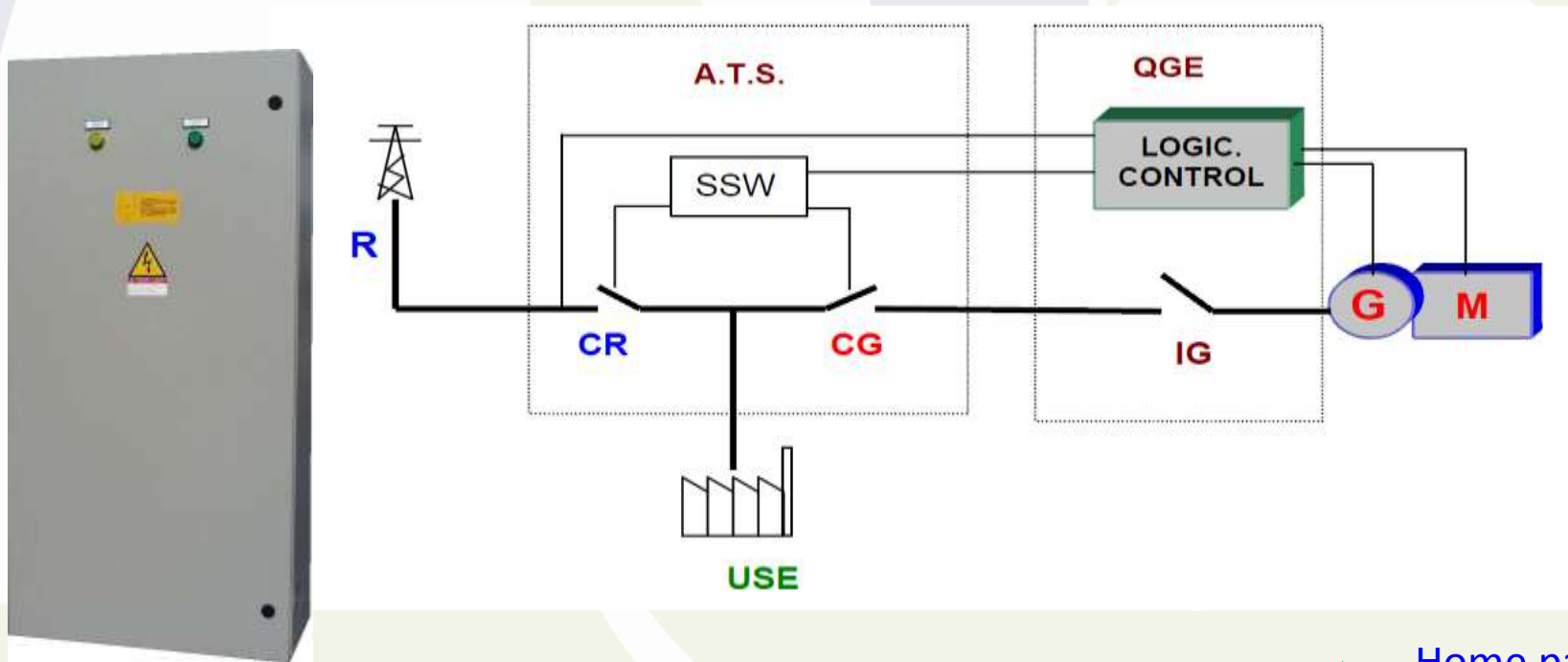
ASP

- ✓ AUTOMATIC MICROPROCESSOR CONTROL PANEL FOR STAND-BY GENERATOR (AUTO START)



ATS

- ✓ It enables the automatic control by gen-set control board and manual on the place, so that the installation guarantees the user supply in any situation



PSP

- CONTROL PANEL FOR AUTOMATIC Parallel and synchronization TO THE MAINS AND FOR CO-GENERATION SYSTEM

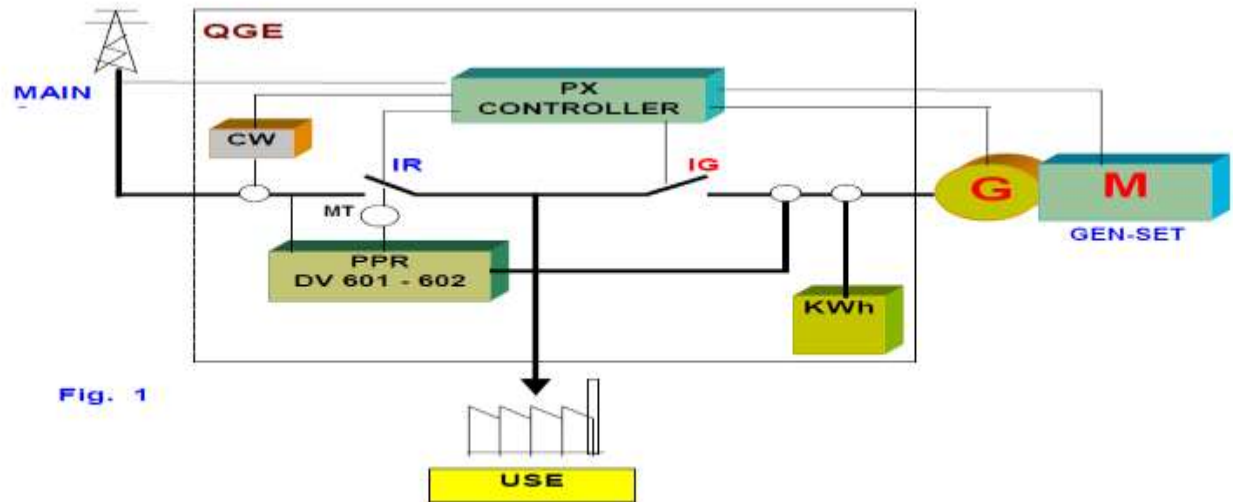
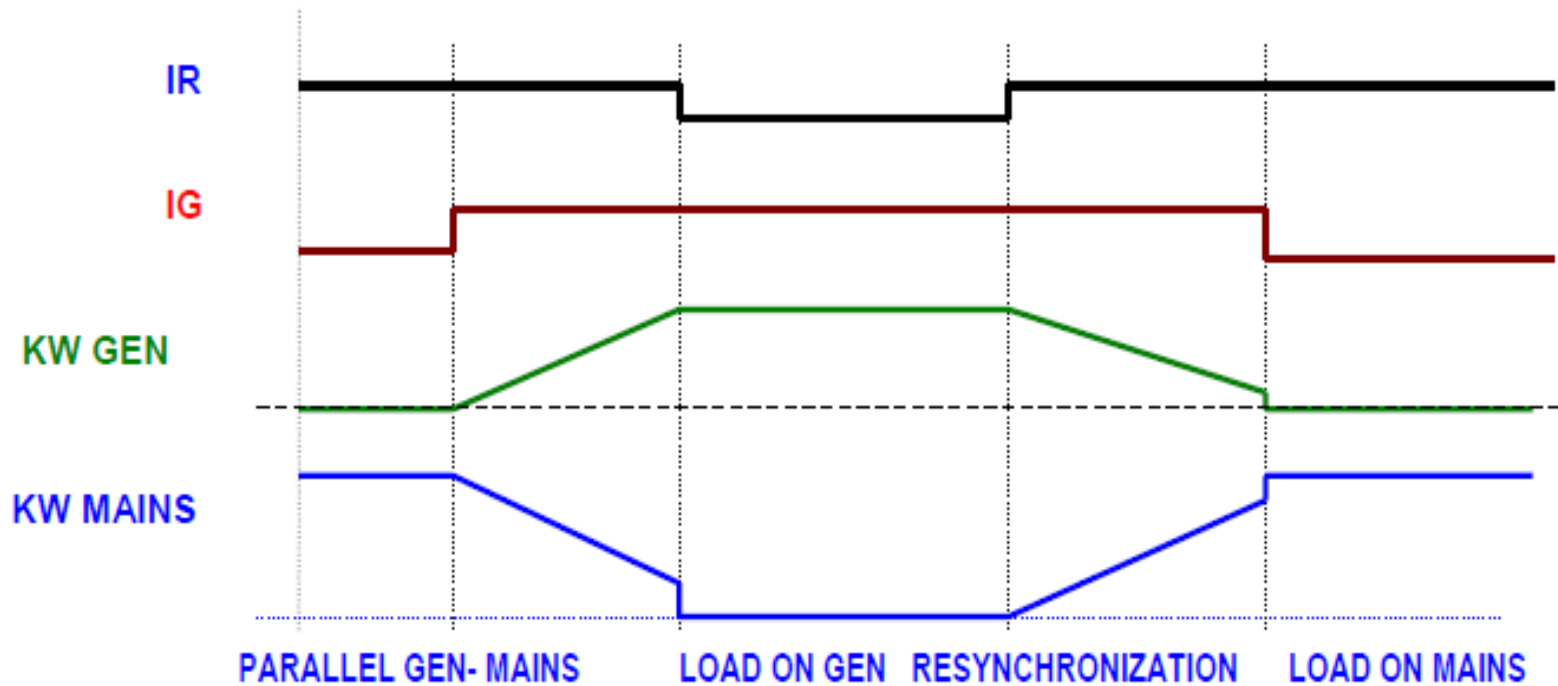


Fig. 1

Central all the automation is controlled by "PX CONTROLLER" which is programmable for various manners of running. Every time, threshold, cycle incline is programmable, so in the description the word programmable



LINVERTER

- Combination of UPS & DC system
- Input (AC)
 - Voltage 220 / 230 / 240 Vac
 - Voltage Range
 - 162-290 Vac (UPS mode)
 - 90-280 Vac (Inverter mode)
- Output (DC):
 - DC voltage: 12 – 24 V
 - Max current: 3/10/20 A
 - Power: 200/720/1440 W
 - simulated Sine Wave



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INVERTER

- Combination of UPS & DC system
- Input (AC)
 - Voltage 220 / 230 / 240 Vac
 - Voltage Range
 - 162-290 Vac (UPS mode)
 - 90-280 Vac (Inverter mode)
- Output (DC):
 - DC voltage: 12 – 24 V
 - Max current: 10 A
 - Power: 500VA TO 2000VA
 - Modified Sine Wave AVR



INVERTER

- Combination of UPS & DC syst
- Input (AC)
 - Voltage 220 / 230 / 240 Vac
 - Voltage Range
 - 140Vac – 300Vac(UPS mode)
- Output (DC):
 - DC voltage: 12 – 24 – 48 V
 - Max current: 45 A
 - Power: 600 VA TO 7500 VA
 - Pure Sine Wave AVR



BATTERY CHARGER & DC POWER SUPPLY



- ✓ Type :
 - ✓ 1 phase in
 - ✓ 3 phase In
- ✓ Technology:
 - ✓ IGBT
 - ✓ DSP
 - ✓ PWM
 - ✓ Modular DSP
- ✓ Properties:
 - ✓ 1 phase:
 - ✓ Input:
 - ✓ Voltage: 80 – 280 V AC
 - ✓ Frequency: 45 – 65 Hz
 - ✓ Output:
 - ✓ Voltage: 24 – 48 – 110 V DC
 - ✓ Current: 50 A DC
 - ✓ 3 phase:
 - ✓ Input:
 - ✓ Voltage: 176 – 280 V AC
 - ✓ Frequency: 45 – 65 Hz
 - ✓ Output:
 - ✓ Voltage: 24 – 48 – 110 V DC
 - ✓ Current: 50 - 200 A DC



Motor Driver

○Main job of motor driver is to control the motor speed with consideration of parameters like frequency, voltage, current, power, temperature, environment.

○Properties:

- Power: 0.25 KW – 5MW
- Input voltage: 110 – 700 V
- AC/DC
- Frequency:45-65 HZ
- One phase /three phase



Power Factor correction

- **INFOFILTER**
- **Active Harmonic Filter**

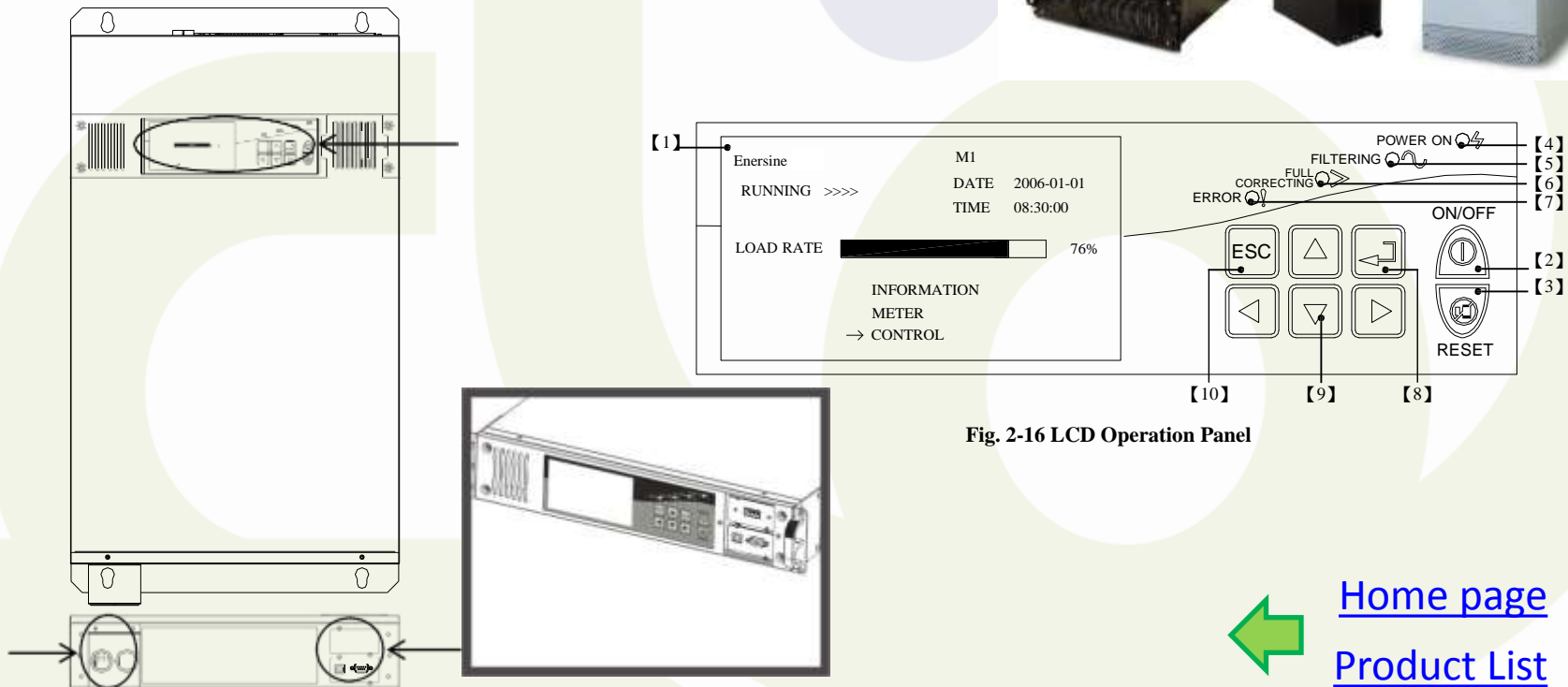
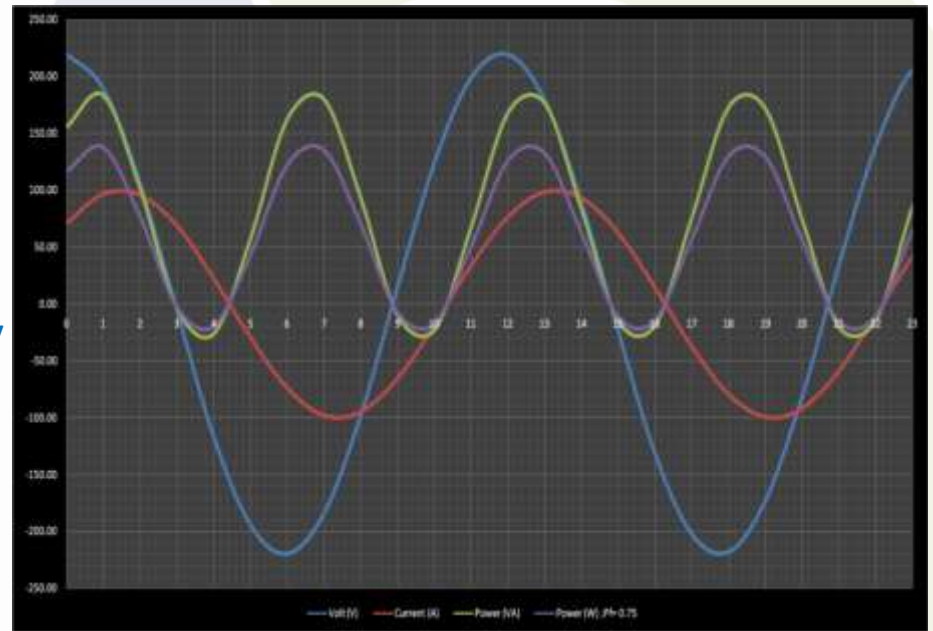
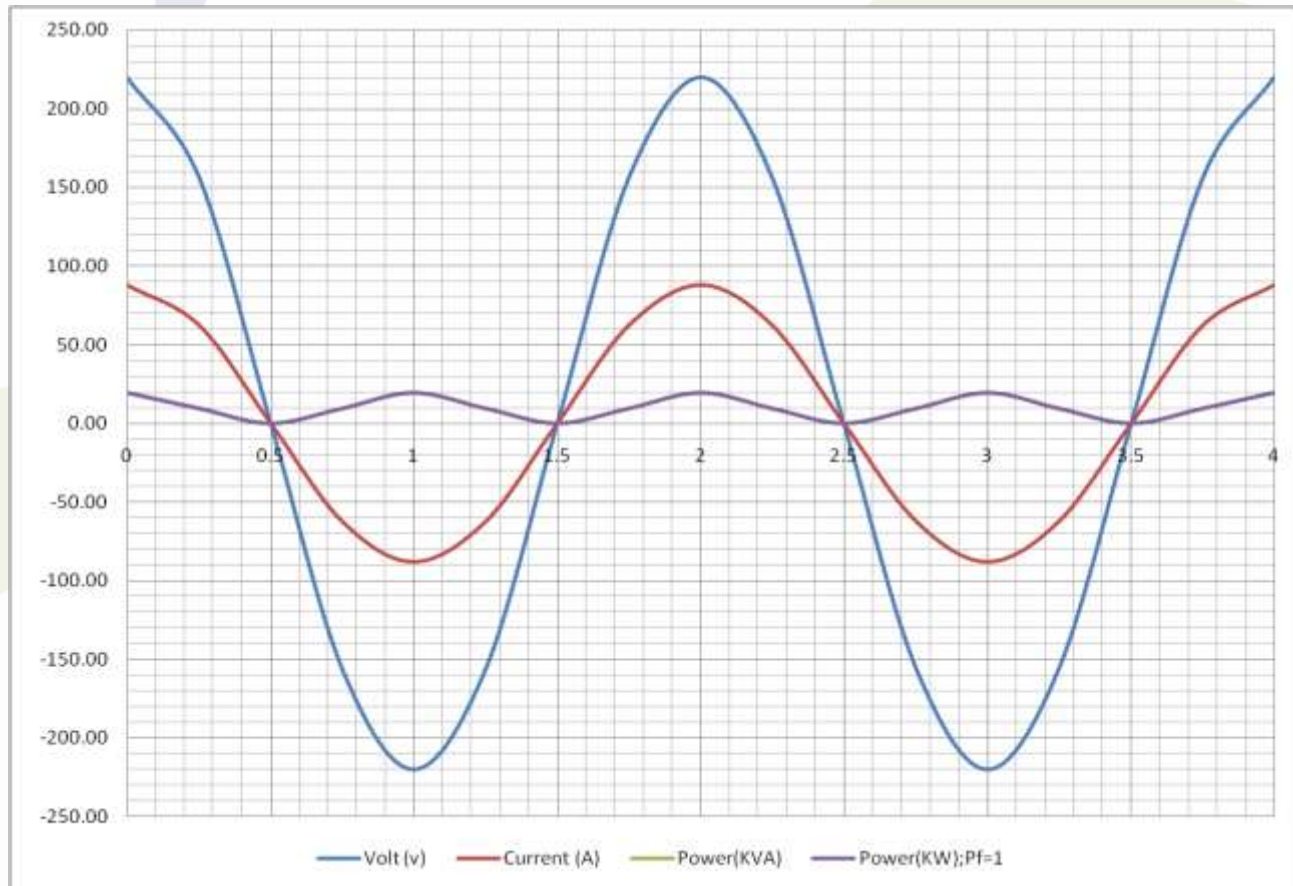


Fig. 2-16 LCD Operation Panel

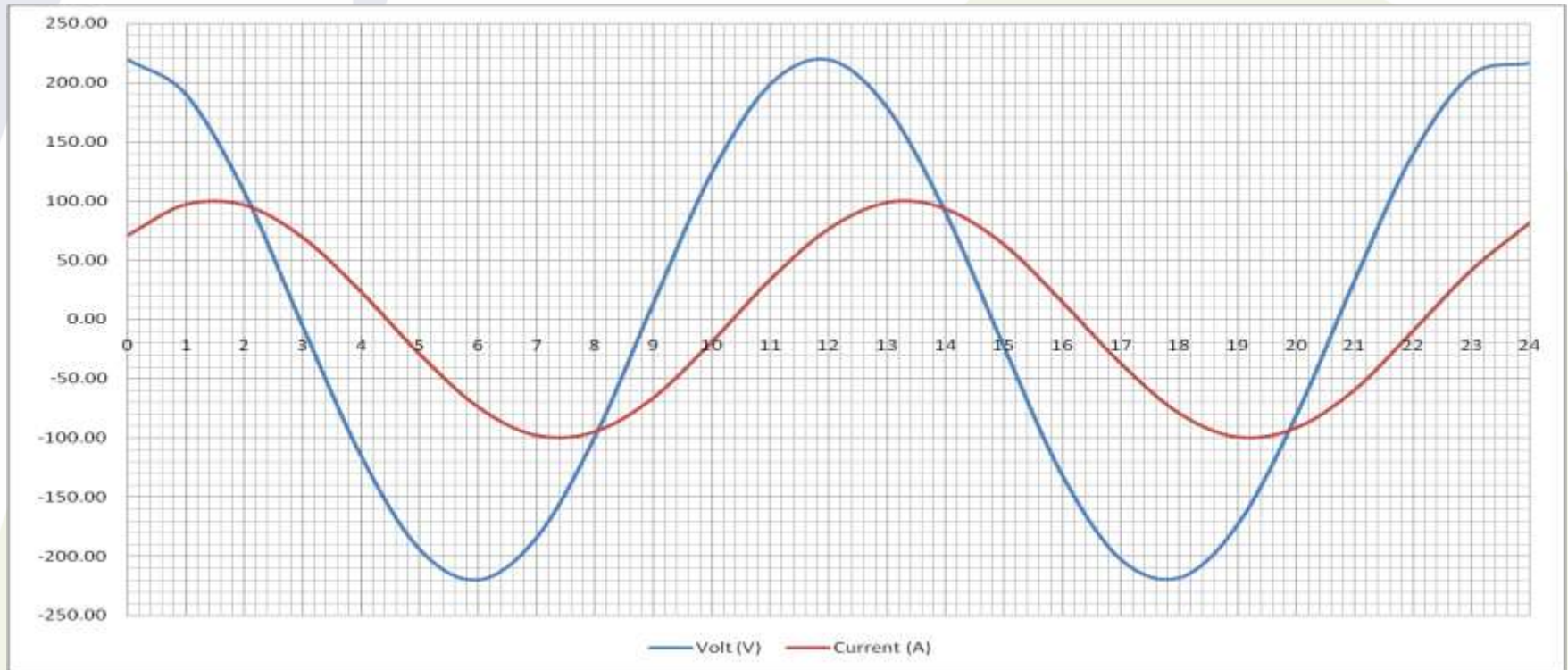
- The main function of the **POWER FACTOR CORRECTION UNIT** is to decrease the power consumption. For example; let's say you have a machine need 100 W of power, with $Pf = 0.7$ so it needs 142.86 VA. With increasing the Pf to 0.99 the machine will consume 101.01 VA
- Advantages:
 - Decrease loss power by 70.7%
 - Decrease electrical bill by 29.3%
 - Support the national economic
- Usage area: work area has machine depends on electrical engines can use this unit especially the industrial facility
- Properties:
 - One phase – three phase
 - Dynamic or static correction
 - Auto or manual correction

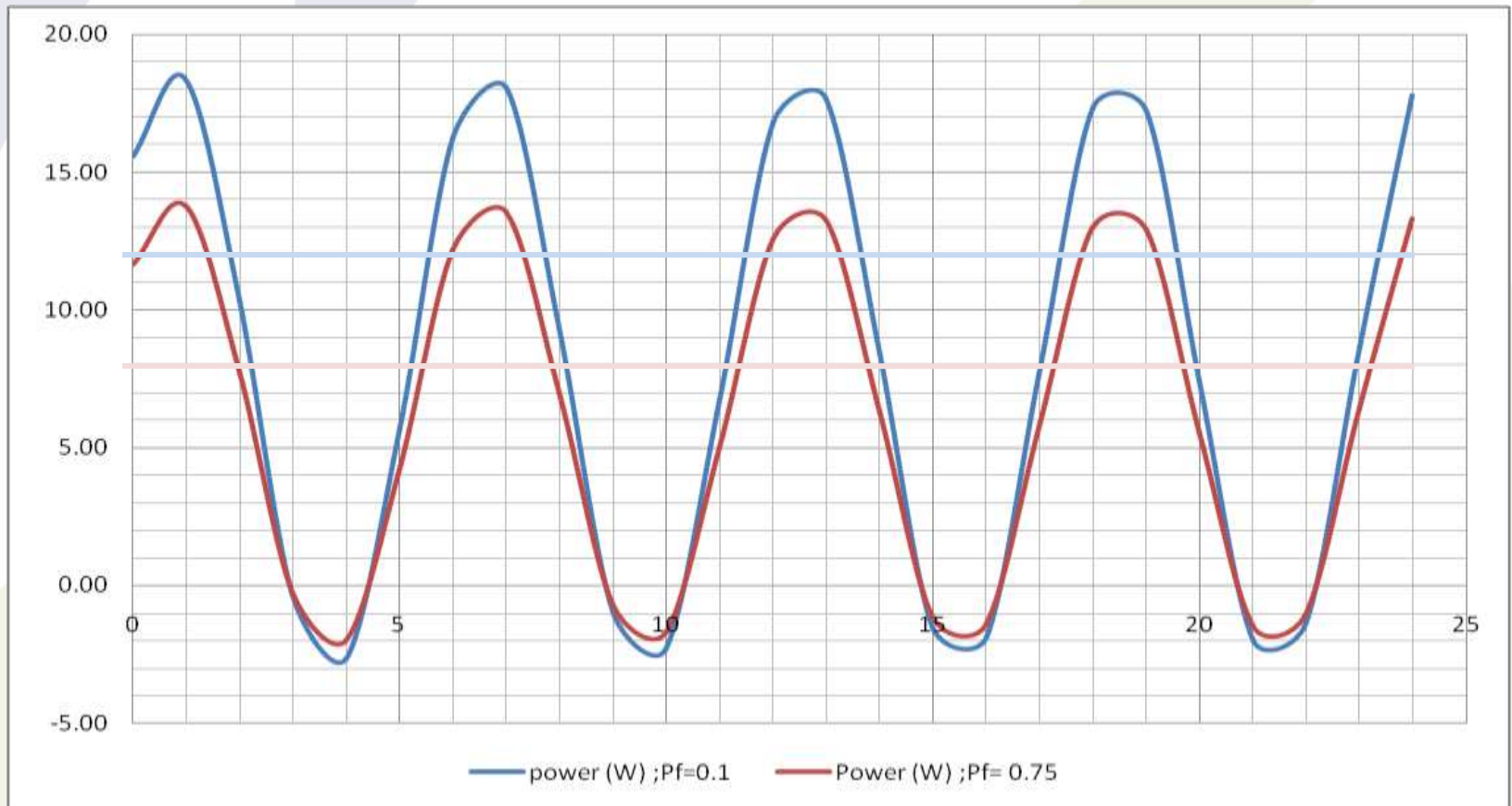


Load has $Pf=1$



Load has $Pf=0.7$





Batteries

Maintenance Free Lead Acid Batteries

dry type batteries
Lead-Calcium system.



Nickel-cadmium battery
Ni-Cd batteries

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■ GENERAL FEATURES

- Stable Quality & High Reliability
- Sealed Construction
- Long Service Life (5 - 10 years), Float or Cyclic
- Maintenance-Free Operation
- Low Pressure Venting System
- Heavy Duty Grids
- Low Self Discharge
- U. L. Component Recognition

■ APPLICATIONS

- Alarm Systems Marine Equipment
- Cable Television Medical Equipment
- Communications Equipment Micro Processor Based Office Machines
- Control Equipment Portable Cine & Video Lights
- Computers Power Tools
- Electronic Cash Registers Solar Powered Systems
- Electronic Test Equipment Telecommunications Systems
- Electric powered Bicycle and Wheelchairs Television & Video Recorders
- Emergency Lighting Systems Toys
- Fire & Security Systems Uninterruptible Power Supplies
- Geophysical Equipment Vending Machines

■ Voltage: 12 V DC

■ Current: 7.2 – 9 – 12 – 18 – 25 – 40 – 65 – 80 – 100 – 150 – 200 A



Isolation Power System



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❖ Benefits of the Isolation System:

- ❖ In the event of first isolation failure, energy blackout does not happen. The security equipment controls the system continuously therefore the energy blackout is prevented.
- ❖ The electronic system continue their normal operations.
- ❖ Fault Currents are reduced to non-critical levels which means the leakage current that is present within the room is reduced from mA levels to μ A levels.
- ❖ A possible inconvenience in the surgery room is prevented where energy is reserved and blackout does not happen.

❖ System Contents:

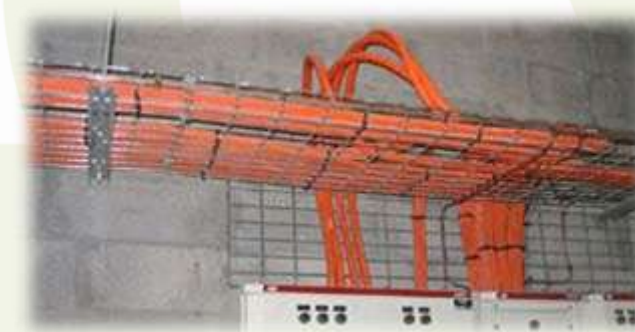
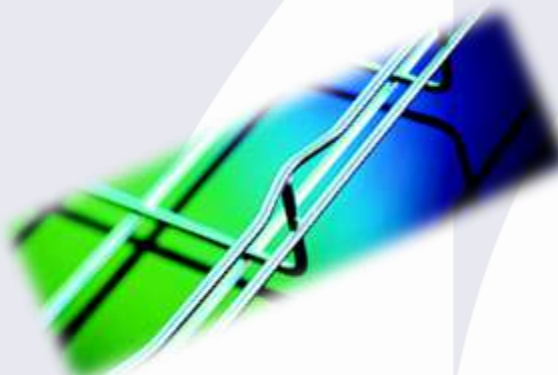
- ❖ Isolation, Load & Temperature Monitoring Device
- ❖ Alarm Announcer
- ❖ Isolation Transformer

❖ Type:

- ❖ IT Network Distributor
- ❖ IT Network Distributor with Changer-Over Equipment
- ❖ IT Network Distributor with Changer-Over Equipment and Insulation Error Analysis System

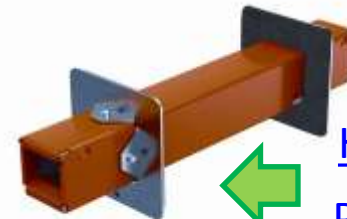
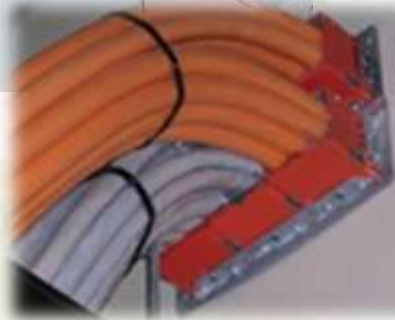
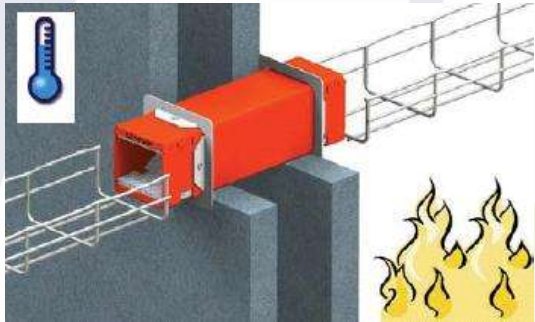


CABLOFIL



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fire stopping



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fire stopping

When it comes to traditional firestopping methods, you never stop paying. You pay to put it in and every time you make cable changes, you do it again. The more changes you make, the more it costs you both in time and money... Not to mention disruption!

IMPLEMENTING EZ-PATH®

Firestopping is No Longer the Problem with the Only Truly Automatic Firestop System!

EZ-Path® customers benefit from greatly enhanced cable management. The EZ-Path® System allows cable installations to be easily organized by type, use, or trade... Or any other way that you might like to do it. Pathways installed in walls provide managed portals through which cables can easily be routed.

To ensure your firestop installation is a success, simply follow the steps below:

1. Define the type and number of pathway in accordance with the estimated number of cables provided by the cable management (see calculation tool) .
2. Identify the type of installation: flexible partition , concrete wall , concrete floor, etc ...
3. Check the existing framework or reservation , if there is none, select suitable tools and the material involved and make the opening (check table below) .
4. Select the finishing plates in accordance with the table below :



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Busbars System



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Raised Floor

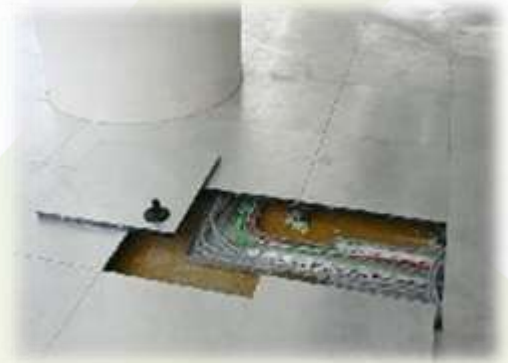


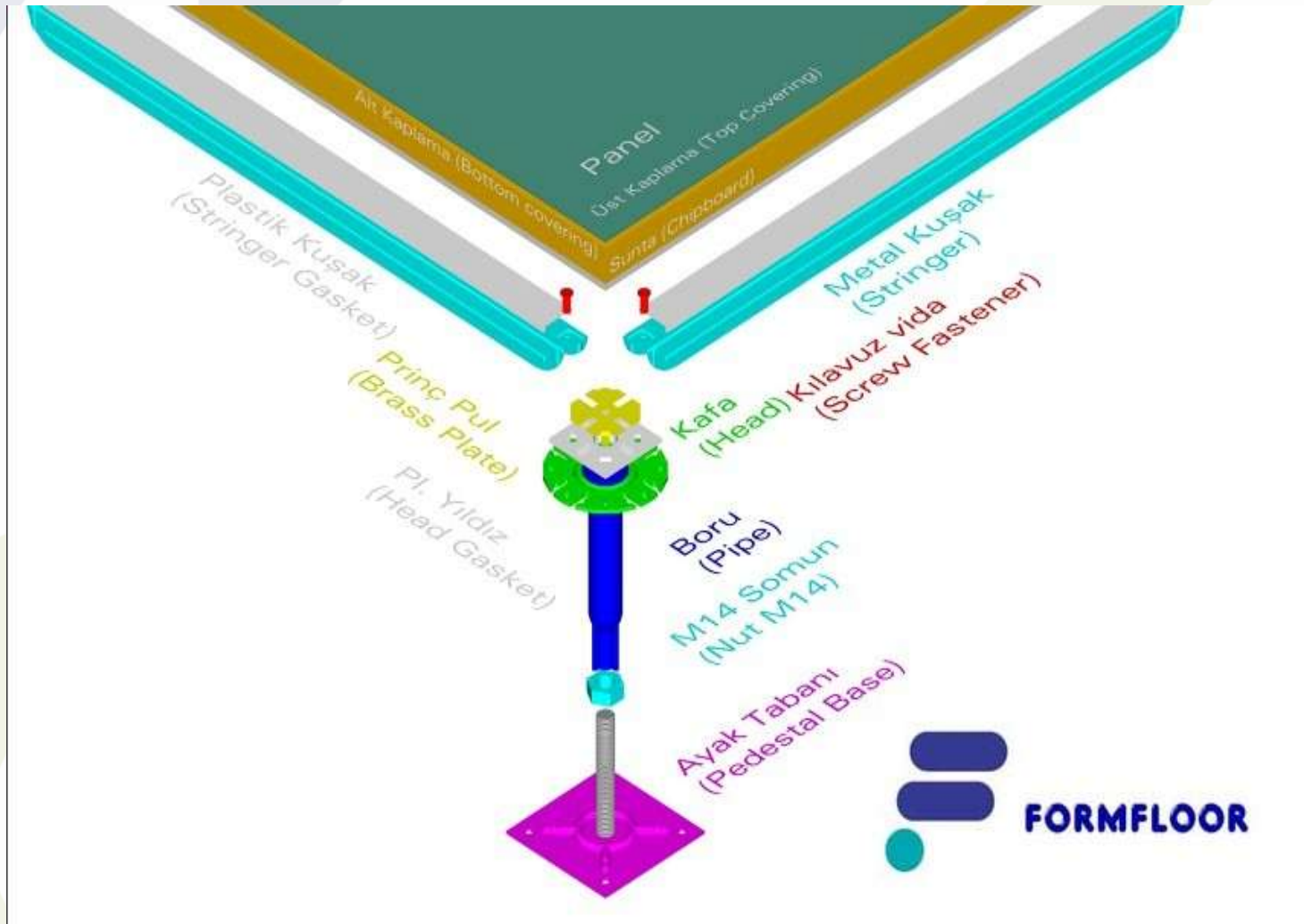
Advantages

- **Electrostatic discharge**
- **Resistance of fire flame**
- **Resistance of chemical substance**
- **Flexibility in design**
- **Modular structure**
- **Variety of options on surface coverings**
- **Providing required service room for installation systems**
- **Easy to reach the system**
- **Understructure systems of different heights**
- **Easy fitting**
- **High load resistance**

Usage Areas

- Offices
- System Rooms (Banks, Companies, Factories etc.)
- Control Rooms (Dams, Powerhouses etc.)
- Signalization Rooms (Subway Systems)
- Computer Rooms (Educational Institutions, Internet Cafes etc.)
- The places which need to be modified regularly (Fairs, Showrooms, Shop windows etc.)
- With the application of the Raised Access Floor Systems the architects and engineers not only get rid of the elements which limit the design but also have greater possibilities with several top level covering options.





Energy saving



green energy



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Solar energy system





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Solar energy system



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Server cabinet



Batteries cabinet



(Ups Looking Battery Cabinet)



Socket box & Distribution box



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Reference

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<http://www.mitasgenerators.com>



<http://www.formfloor.com.tr>



<http://www.vacon.com>



<http://www.aezitaly.com>



<http://www.marellimotori.com>



<http://www.nsmgenerators.com/eng>



<http://www.leroy-somer.com>



<http://www.perkins.com>



<http://www.temteknik.com.tr>



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*Unpredictable problem
of power shell cost much.
Its need professional hand to
solve, secure, & protect*

Its our hand.



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SYRIA DAMASCUS

**Khalid Bin Al Walled Street
Versus Al kendy Hospital
Debs building - first floor**

Syria Damascus

Tel: +963 11 222 3131

Tel: +963 11 222 4642

Mob: +963 93 276 3794



SYRIA LATTAKIA

**Americans Street
Versus Evangelical Church
Building UZrbashi Floor 2**

Syria Lattakia

Tel: +963 41 494 157



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For evolution & development



KAFAA GROUP

مجموعة كفاء للتنمية والتطوير
بثقتكم نكتمل

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