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A customer magazine
of the ABB Group

insider



Automotive excellence

PCS100 Active Voltage Conditioner 400 V series – 06

New 400 V PCS100 AVC has 20 percent more kVA rating

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ABB providing shore power supply to Viktor Lenac shipyard

Power and productivity
for a better world™



5|13
Insider

ABB's PCS100 Active Voltage Conditioners (AVC) are providing power protection to the robots and control systems for an automotive giant's production line in China.

Watch the PCS100 AVC product video [here](#) ►
or visit www.abb.com/pcs100-power-converters



Amina Hamidi
Product Group Manager
Power Protection

Dear colleagues, welcome to our Insider magazine. I will start my column once again by remarking on just how much has happened since the last issue! There is a lot to report from our activities around the world – always a good sign.

The product launch of the Conceptpower DPA 500 has now taken place and I am pleased to report that it was a big success. The carefully co-ordinated release was accompanied by a broad press coverage worldwide, so you will be sure to read about it in quite a few of the trade publications. The launch was supported by four webinars that described the technical details of the product that give it such an advantage over competitors' products – for instance, the decentralised parallel architecture (DPA) that delivers high availability and reliability, and enables repair and maintenance to be easily accomplished by non-experts. More

Conceptpower DPA 500 webinars are to follow.

The Conceptpower DPA 500 was also presented at the Ineltec exhibition in Basel and was very well received. If you want to read more details of this, please refer to the Ineltec article in this magazine. You can also find out more by visiting the brand new landing page [here](#).

Several Conceptpower DPA 500 units have now left the factory on their way to the customer and one is even already up and running on a customer site.

We have been busy delivering elsewhere too, with two PCS100 AVCs (Active Voltage Conditioners) – at 750 kVA and 900 kVA, the largest ever PCS100 AVC for the automotive industry – now protecting the welding robots and control systems for an automotive giant in China. Further, eight PCS100 AVCs (four at 165 kVA and four at 250 kVA) were delivered to a major automotive factory in Slovakia. And yet more PCS100 AVC deliveries: seven 900 kVA, 220 V, 40% PCS100 AVCs were supplied to Hynix, the second-largest memory chip producer in the world. Currently located in Korea and China, Hynix have a grand total of 368 AVCs, totaling 362 MW.

You can find out more about the PCS100 AVC in our new video [here](#). The video lasts just over four minutes and gives an easy-to-understand overview of the product and how it is helping our customers.

This quarter also saw the PCS100 AVC 400 V series release. This upgrades the PCS100 AVC range with

new 400 V models. These are products that are fully rated at 400 V and that can be applied to 380, 400 and 415 V networks. Previously, 400 VAC rated AVCs were downrated versions of 480 VAC rated units. This provides an additional 20 per cent kVA capacity at no cost.

We have been busy on the Static Frequency Converter (SFC) front too, with two 1250 kVA PCS100 SFCs delivered to Lenac shipyard - one of the leading shipyards for ship repair, conversions and offshore engineering in the Mediterranean – and a 1250 kVA SFC delivered to Sinterama in Mexico, where it has been installed in a facility that produces polyester yarn for automotive uses.

ABB Malaysia's Power Quality Seminar 2013 was held in Penang on August 22nd with the theme, Advanced Solutions for Critical Industries. The PCS100 reactive power conditioner (RPC) was debuted there and other Newave UPS, AVC and UPS-I products were also featured.

For a good overview of the entire PCS100 platform, be sure to browse our new advertising landing page: www.abb.com/pcs100-power-converters

On a personal note, I am delighted that our business in New Zealand and Switzerland is growing together and that integration is proceeding in great steps. I look forward to working with you all and to meeting as many of you as possible.

I hope you enjoy this issue of Insider.



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Automotive giant breaks new ground with ABB technology

11 Producing a good yarn
ABB has successfully provided a turnkey solution for Sinterama in Mexico

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Provides an additional 20 percent kVA capacity at no cost

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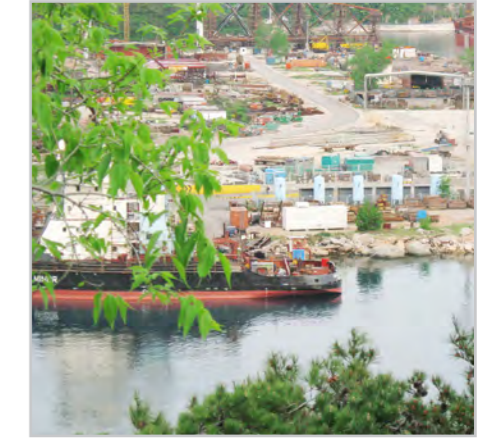
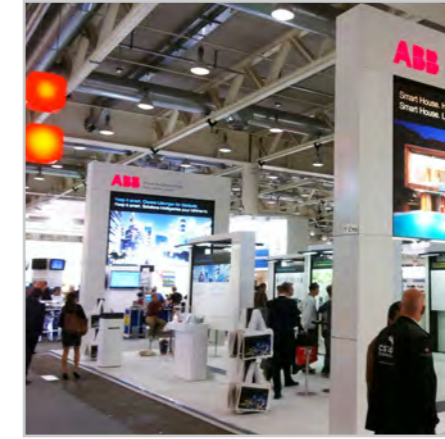
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Scan our QR Codes with your smart phone to find web links, videos, or event pages, providing further details about ABB's products or services. Scan the one on the left to subscribe to Insider. To use QR Codes with your smart phone camera, download a free QR Code scanner to your phone.



The Power converters and inverters playlist can now be found on the ABB YouTube channel. Click [here](#) to watch the latest videos.

Contact Us

- www.abb.com/pcs100-power-converters **FOR** PCS100 Power protection
PCS100 Grid interconnection
PCS100 Energy storage and grid stabilization
- www.abb.com/UPS **FOR** UPS and Power Conditioning

Latest Videos

[ABB's PCS100 Active Voltage Conditioner](#)



[ABB's Conceptpower DPA 500](#)



[ABB setting a world record](#)



[A milestone in the Alps](#)



PCS100 Active Voltage Conditioner 400 V series

New 400 V PCS100 AVC has 20 percent more kVA rating.

The successful PCS100 Active Voltage Conditioner (AVC) range has been upgraded with a new 400 V range. This is a fully rated product at 400 V and can be applied to 380, 400 and 415 V networks. Previously 480 VAC rated PCS100 AVCs were down rated versions of 480 VAC rated units. This provides an additional 20 percent kVA capacity at no cost.

This versatile product will find acceptance in 380 V countries such as China, 400 V regions such as Europe, the majority of Asia, South America, and for a smaller number of countries using 415 V such as Malaysia. The PCS100 AVC 400 V series is compatible with both 50 and 60 Hz supplies so countries such as Japan or OEM's dealing with both frequencies will find products held in stock to be readily applicable to either network.

The benefits for the end user are a lower cost per kVA and a smaller footprint for a given rating. The immediate saving and reduced real estate required for new installations or the sometimes challenging retrofit applications are a win-win situation for ABB's customers.

All 400 V range products sold are CE certified and suitable for global markets with a range of languages available on the

ABB secure PCS100 AVC order with Hynix – 368 PCS100 AVCs in China and Korea.

ABB in Korea has secured another substantial order with Hynix, one of the largest memory chip production manufacturers in the world. This recent order included, 7 x 900 kVA 220 V 40% PCS100 Active Voltage Conditioners (AVCs), and will be used to protect Hynix's memory chip production line from voltage sags and swells.

ABB and Hynix have an ongoing relationship, and ABB has provided many power protection solutions in order to administer continuous voltage regulation and load voltage compensation.

graphical display. As part of the modular PCS100 product portfolio, spare parts are rationalized and available on short notice with ABB's back-up and support.

The PCS100 AVC 400 V series is an ideal solution for demanding voltage conditioning applications providing continuous regulation and near instantaneous correction of voltage sags and surges. The improved features and performance of the 400 V PCS100 AVC will see it even more widely applied in applications as diverse as, semiconductor and industrial plant protection through to medical and data centers. Typically, wherever critical loads require continuous clean power, the PCS100 AVC 400 V series will provide continuous benefits to the end user in the commercial and industrial sectors.

[Watch the PCS100 AVC product video](#) (4.35 minutes)

[Download](#) ABB's PCS100 AVC brochure

For further information please visit:
www.abb.com/pcs100-power-converters

[Read more about Hynix and ABB working together](#)

For further information please visit:
www.abb.com/pcs100-power-converters

ABB's PCS100 – innovation in power protection

PCS100 AVC (Active Voltage Conditioner)

- Protects sensitive loads from the most common disturbances in utility supplies
- Sags, surges, unbalance, flicker and poor regulation are corrected within a few milliseconds
- High power and performance inverter-based system
- Operating efficiency 97 to 99 percent (model dependent)
- Very small footprint due to no storage to operate
- Rated 150 kVA - 30 MVA. Download PCS100 AVC brochure [here](#)



PCS100 RPC (Reactive Power Conditioner)

- ABB's PCS100 RPC is specifically designed to condition the current drawn by industrial and commercial loads. The PCS100 RPC uses leading-edge power electronic conversion to inject current into supply, correcting for common problems such as:
 - Unbalanced load current
 - Low order harmonic currents
 - Power factor problems including leading power factor
 - Load current induced voltage drop
- As a purely static device, the PCS100 RPC provides extremely fast correction. Its modular redundant design makes it a very reliable, scalable and serviceable product, backed by ABB's global support network. Packed with new features to suit industrial and commercial applications. Ratings from 100 kVA to 2000 kVA and voltages 380 Vac to 480 Vac. Download PCS100 RPC brochure [here](#)

For more information, please visit www.abb.com/pcs100-power-converters or contact powerquality.nz@nz.abb.com
Click [here](#) to view ABB's power protection brochure.

New PCS100 AVC video and “quick access” page

An easier way to find out about PCS100
www.abb.com/pcs100-power-converters



Catch up with the latest on PCS100 news

Bookmark this page!

ABB has launched a new access page where you can find everything about the PCS100 portfolio. Features of the PCS100 access page are:

- “Information form” to receive specific information you require for your given industry
- “Contact us” link that will ensure your request is answered in 24 hours
- Quick access links to ABB's PCS100 product pages
- Article links; “News around the world with PCS100”
- ABB YouTube access link for PCS100 product and case study videos

New PCS100 Active Voltage Conditioner video

ABB's latest edition to the PCS100 portfolio of videos can now be viewed on YouTube. This 4.35 minute video outlines the features and benefits of the PCS100 AVC, and highlights the wide range of industry applications it can be utilized in. Watch the video [here](#).

Other related videos can also be viewed on ABB's power converters and inverters playlist;

- [PCS100 Industrial UPS](#)
- [PCS100 Reactive Power Conditioner](#)

For further information please visit:
www.abb.com/pcs100-power-converters

ABB offer efficient power conversion solutions that are specifically designed to solve power quality problems and stabilize networks with the PCS100 product portfolio. Covering applications from data centers through to complete industrial plant protection, micro grid systems and shore-to-ship supply, ABB has the power conversion technology for every need. Starting from a few kVA to many MVA, and a wide range of supply voltages.

For further information please visit:
www.abb.com/pcs100-power-converters





Accelerating to new levels

Automotive giant breaks new ground with ABB technology.

ABB has applied technical know-how in order to provide a turnkey solution for an automotive giant, located in Changchun City China. ABB's PCS100 Active Voltage Conditioners (AVCs) are protecting the welding robots and control systems used in the headquarters plant, for a new model series production line. This installation is the largest PCS100 AVC to date for the automotive industry.

The PCS100 AVC protects sensitive industrial and commercial loads from power quality events.



The production line being protected by the PCS100 AVCs



PCS100 AVCs are protecting two of the four transformers in the welding plant

The automotive industry in China has seen significant growth since 2008. It is currently the largest in the world, measured by automobile unit production, and exceeds that of the European Union, or that of the United States and Japan combined. Of the automobiles produced, 44.3 percent were local brands which included this leading car manufacturer, producing more than one million cars on an annual basis.

Obtaining the most effective solution

The new welding plant had experienced voltage sags since it first began operation in 2012. In order to produce a continuous production output without any interruptions, the company sought a power protection solution that was reliable, highly efficient, and complete with a small modular design to fit into their switch room. ABB provided two PCS100 AVCs; 750 kVA and 900 kVA to provide voltage protection for two of the four transformers in the plant. This ultimately protected the sensitive loads of the robots and control systems used to produce the new car series. This was essential to ensure complete protection, as the time frame associated to reboot the function of the facility was enough to cause downtime in production output.

Setting performance levels to a new high

Since installation, the PCS100 AVCs are providing many advantages. The small footprint in design makes the PCS100 AVCs able to fit into small confinements such as the switch room, whilst providing high reliability with the integrated bypass. This allows fail-safe protection for the facility's load. Another unique feature is no energy storage requirement (no batteries or capacitors) as it draws the additional current required to make up the correction voltage from the utility supply. This reduces CAPEX and OPEX, creating future benefits such as return on investment.

Proven results

Since the commissioning date in September 2013, the automotive giant has seen an exceptional change in performance of their production processes. Process shutdowns that occurred due to voltage sags, have been reduced by more than 90 percent. With

this company being one of the largest automotive companies in China, the new plant needed a safe and secure solution, such as the power protection solution provided by ABB.

The number of registered cars, buses, vans, and trucks on the road in China reached 62 million in 2009, and is expected to exceed 200 million by 2020. Experts have forecasted that China's car market will grow tenfold between 2005 and 2030.

Making head waves in the automotive industry

Recently ABB delivered eight PCS100 AVCs (4 x 165 kVA and 4 x 250 kVA) to a major motor factory in Slovakia. ABB's power protection products have been successfully applied to the motor production lines, pressing and painting workshops for a range of automotive manufactures and have devoted time, know-how and resources in developing market leading low voltage solutions, specifically designed to improve quantity and quality of businesses.

[Watch the PCS100 AVC product video](#) (4.35 minutes)

[Download](#) ABB's PCS100 AVC brochure

For further information please visit:

www.abb.com/pcs100-power-converters





Sinterama produces a vast range of yarns that are used in car interiors

Producing a good yarn

ABB's PCS100 Static Frequency Converter (SFC) allowing grid interconnection for Sinterama's new production facility.



ABB's PCS100 1250 kVA Static Frequency Converter installed at Sinterama



Providing grid interconnection from 50 Hz to 60 Hz

ABB have successfully provided a turnkey solution for Sinterama, a European leader in the production of colored polyester threads and yarns. In order for Sinterama's relocation of equipment from Italy to Mexico to connect to the local grid, ABB installed a 1250 kVA PCS100 SFC. This enabled Sinterama's new production facility in Mexico, whose equipment previously operated on a 50 Hz power supply, to connect to Mexico's 60 Hz grid.

At present, Sinterama produces a vast range of products able to satisfy any requirement for fabrics for automotive, furnishing, clothing and technical end uses. In this new facility, polyester textiles are produced for interiors of cars. This can range from; seat covers, panel coverings, head rests, roof liners, dashboard trims, door pillars and sun visors. Polyester has established itself for automotive use and is continuing to increase in market share over other alternatives. This is because of its better pilling, abrasion and light fastness.

Sinterama needed a reliable power source without having to modify the electrical design of their equipment (due to Sinterama's relocation from Italy to Mexico where the grid was a 50 Hz supply). ABB were able to convert the supply voltage to the different voltage in order to match the requirement of the load.

As a result of the relocation, the main advantage ABB's PCS100 SFC was able to provide was no downtime of their 50 Hz equipment adapting to the 60 Hz grid. Managing Director of Sinterama De Mexico, Huseyin Nail Kavrak, highlighted the reason ABB's PCS100 SFC was selected over alternative solutions; "ABB offered a better designed product and a favorable delivery time frame. This enabled Sinterama to achieve its goal of no downtime of equipment adapting to a 60 Hz grid".

Ongoing advantages were the reduction of operating and maintenance costs, high reliability by providing maximum power availability. Keeping Sinterama's equipment running through utility voltage sags and frequency variation, allowing for lowest total cost of ownership, was another key achievement ABB's PCS100 SFC could offer. The same solution had been adopted in Sinterama's facility in Brazil. This played a significant role to apply the same procedure in the new facility, due to results already observed.

The new facility is aiming to serve Mexican and US markets with 3500 tons of yarn per annum for car interiors. These two countries alone produce 18.53 percent of the world's cars.

ABB's PCS100 SFC technology

The PCS100 SFC allows connection of 60 Hz powered equipment to a 50 Hz supply network and 50 Hz powered equipment to a 60 Hz supply network.

The system functions by converting the input AC power through a sine-wave rectifier to a DC link and then through an AC sine-wave inverter to produce a clean, full sine-wave output at the new frequency and voltage. ABB's PCS100 SFC has been applied in many applications, from plant relocation and industrial application through to onboard vessels and shore-to-ship solutions. With power ratings starting from 125 kVA to multi MVA, allows for endless options to suit both small and large operations. Of the many features, key highlights are;

- N+1 modular redundancy for mission critical applications
- Lowest total cost of ownership
- Minimal spares required
- Easy paralleling to other voltage sources using droop
- Small footprint in design

For a comprehensive overview of ABB's PCS100 SFC, download the [brochure](#)

For further information please visit:

www.abb.com/pcs100-power-converters



New ABB DPA 500 video and product page

The first fully modular UPS system scalable up to 3 MW.



ABB's new Conceptpower DPA 500 is a high-power, modular and transformer-less UPS system. It is ideal for data centers and other mission critical facilities that need zero downtime as their standard. The Conceptpower DPA 500 is built using true online double conversion technology. At the core are 100 kW slide-in modules, five of which can be installed in a single frame. Six frames in parallel configuration assure a maximum rating of 3 MW.

A picture tells a thousand words, and many moving pictures tell far more. The recent release of our new product, the Conceptpower DPA 500, has generated a very high level of interest. ABB has a new video that presents a very comprehensive overview of the many advantages of the Conceptpower DPA 500. It can be found [here](#).

The video runs for just under four minutes and highlights how many of the product features directly help the customer - fully modular architecture for scalability and future upgrades; 96 percent efficiency; redundant, online double conversion modules that make the system fault-tolerant and reliable; and online safe-swap modules that increase availability and ensure short mean time to repair (MTTR). These are all explained and illustrated in a way that enables the superiority of the Concept-

power DPA 500 over competing products to be quickly grasped and understood.

New product page – Conceptpower DPA 500

So that everything can be found in one, easy-to-find location (and one that you can access when on the road) we have also created a new [landing page](#) for the Conceptpower DPA 500. Here you can obtain an excellent overview of all product details.

For further information please visit:

new.abb.com/about/technology/data-centers/conceptpower-dpa-500



New technology for buildings and data centers

Visitors to the Ineltec 2013 exhibition in Basel were able to view the very latest in technology and infrastructure for buildings and data centers. This annual exhibition ran from the 10th to 13th September and most prominent suppliers to this building and data center sector, including ABB, were represented. The ABB stand presented many new products that attracted much interest from exhibition visitors.

The 420 m² ABB stand was well staffed with electrical installers, designers and integrators, cabinet designers and builders, power supply experts, architects and so on – reflecting the fact that ABB is one of the few companies able to provide a large part of the entire chain of services and products required when designing a new building or data center or refurbishing an old one. More images of the stand can be found on [Flickr](#).

The most dynamic building sector in our society today is that of data centers. Data centers are springing up rapidly in most industrialized countries to quench our seemingly insatiable thirst for data storage and this surge is fuelling rapid technological developments in all aspects of building intelligence, power and cooling. An example of this technological advance that premiered on the ABB stand at Ineltec is the Conceptpower DPA 500 uninterruptible power supply (UPS) introduced by the ABB company Newave. The advantages of this advanced and fully modularized UPS, specifically designed with data centers in mind, were described in person by Nadir Mandioni, CEO of Newave Energy AG, Switzerland. The modular approach means that power modules can be added or removed – with the power still on – to suit power requirements and to provide up to a beefy 3 MW of clean and stable backup power. The Conceptpower DPA 500 runs with 96 percent efficiency and features redundant, online double conversion modules that make the system fault-tolerant and reliable and that allow data center operators to approach true zero-downtime operation.

It is an exciting time to be in the data center business and the latest wave of power and automation products from ABB aimed at this sector puts the company in an ideal position to fully participate in this growing industry.

Other ABB products featured in Ineltec, too. For instance, under the motto, “keep it smart” ABB presented solutions for intelligent buildings, ie, products that save time and costs, increase security and safety and make it easy and flexible to implement complex technology.

During the four days of the exhibition, the many exhibition visitors had ample opportunity to get a close look at the latest products from ABB, Newave and Thomas & Betts. ABB recently acquired Thomas & Betts, who make electrical products that help power industrial machinery, such as connectors and fasteners, wiring ducts and terminals, cable trays, grounding and



insulation, switchgear and high voltage rubber goods, transmission poles, etc. They also make heating products that help control comfort and energy costs. Famously, in 1958, the company invented cable ties.

The ABB stand performed an educational function too as school classes, representing the next generation of engineers, visited to acquaint themselves not only with the modular wonders of the Conceptpower system, but also further developments of the ABB Welcome door entry system or pro E – a complete solution for low-voltage power distribution. Further highlights included the innovative SACE Emax2 circuit breaker with integrated power management and SMISSLINE TP, the world's first pluggable socket system. SMISSLINE TP ensures that load-free devices and components can be snapped on and off under voltage without the need for additional personal protective equipment to guard against electrical hazards.

Further information on the products mentioned can be found on: www.abb.ch/ineltec



The team that made it happen (From L-R: Dominic Loh, Laurent Maillefer, John Steed, Jari Sarkinen, Ngai Chee Hong, Cheong Se-Meng, Celine Wong)



Over 70 attendees joined ABB in helping make the Power Quality Seminar, held in Penang a success



Laurent Maillefer, Vice President of Power Conversion (South Asia Region)



Attendees at the 2013 conference

Solutions for critical industries

Technology impresses attendees at ABB's Power Quality seminar in Malaysia.

ABB in Malaysia Power Quality seminar 2013 was held in Penang with the theme, **Advanced Solutions for Critical Industries**, and debuted the **PCS100 Reactive Power Conditioner (RPC)**.

More than 70 attendees from various industries such as semiconductors, electronics, wafer-fabrication plants and other manufacturers with critical/sensitive processes attended the seminar, to learn how ABB's technology can provide power quality solutions.

The objective of the seminar was to provide end users an opportunity to hear from industry experts with respect to the field of power/voltage quality. ABB invited guest speakers from Malaysia's energy producer and distributor, Tenaga Nasional Berhad and the local chapter of the Asian Power Quality Initiative to highlight the fundamental components, causes, effects and solutions to the majority of problems faced by industry in this field.

The remaining portion of the event focused on solutions to the problems highlighted by the industry experts in the first half of the seminar.

Laurent Maillefer, Vice President of Power Conversion (South Asia Region) launched the PCS100 RPC and spoke in detail about how ABB's range of PCS100 products can overcome many of the issues faced by the attending customers.

Dominic Loh, Regional Sales Manager for UPS introduced ABB's industry-leading range of Uninterruptible Power Supply (UPS) solutions and spoke about the advancement of UPS technology.

[Watch](#) the PCS100 RPC video

[Download](#) PCS100 RPC technical article

[Download](#) the PCS100 RPC brochure

For further information please visit:

www.abb.com/pcs100-power-converters





Viktor Lenac shipyard in Rijeka, Croatia

A shore connection

ABB innovation reduces pollution and saves costs at Viktor Lenac shipyard in Rijeka, Croatia.



ABB's containerized solution

ABB in Croatia have provided a leading-edge solution consisting of two 1250 kVA PCS100 SFCs (Static Frequency Converters) to the shipyard Viktor Lenac in Rijeka, Croatia to help improve quality of power and reduce maintenance costs. Aside from reducing emissions, pollution and noise level, the ABB solution provides cost savings, by using grid power instead of diesel generator (DG) power.

Over the past years on several occasions, Viktor Lenac shipyard had the need for ABB's PCS100 SFC to power the ships that used a 60 Hz network. Previously the shipyard used diesel – generator sets. For larger units, as much as up to three units with 1 MW power parallel connected, it was necessary to use the DG for a longer period, in order to ensure operation without any interference. The prevailing issues in the past were related to, parallel operation with mutual synchronization of diesel – generator units, common problems during unexpected load changes and disconnection from individual unit synchronism. High fuel for diesel engines consumption (low efficiency of internal combustion engines in relation to energy converters), a high level of noise – especially at night in a relatively urban area, close proximity to residential buildings, pollution due to continuous operation of internal combustion engines like CO₂ emission, NOx and other greenhouse gases were also contributing factors.

A complete package

The intention of the shipyard was to increase its competitiveness in an increasingly demanding market. Viktor Lenac shipyard identified the advantage the PCS100 SFC could provide. This was to keep equipment running through utility voltage sags and frequency variation. The first 375 kVA PCS100 SFC was commissioned and installed at the end of 2012. After insight and analysis of all the benefits, Viktor Lenac shipyard decided to purchase another PCS100 SFC, this time with a higher power rating of 2500 kVA. At the beginning of 2013 ABB in Croatia delivered a mobile container unit containing 2 x 1250 kVA PCS100 SFCs, a low voltage and medium voltage plant, a transformer and a local control system based on the ABB AC500 PLC platform. The PCS100 SFC features are that it can work in several modes – as a standalone supply unit, in parallel with other power sources and in load mode, for testing of the ship power plant.

Advantages and benefits

The new grid interconnection solution since installation has provided many advantages to Viktor Lenac.



Two 1250 kVA PCS100 SFCs installed at Viktor Lenac shipyard

These are;

- No noise pollution
- Lower operating and maintenance costs
- No CO₂ and nitrogen oxide pollution
- Easy to use and maintain
- Reliable operation
- Improved efficiency at the shipyard
- Ability to use the inverter during examination and loading of diesel generating plant on the ship and restore power to its own network instead of energy burning on resistors submerged in the sea

Proven results

Efficiency after installing the PCS100 SFC has drastically improved and the operating and maintenance cost of equipment over time has been reduced. This results in less maintenance issues with high reliability.

For a comprehensive overview of ABB's PCS100 SFC, download the [brochure](#)

For further information please visit:

www.abb.com/pcs100-power-converters



PCS100 Product training 2013

Register your interest now for 12-14 November 2013



Enhance your technical ability and knowledge in the PCS100 product range. Receive the benefit of interactive practical training with real devices for demonstration purposes and functional exercises.

Product training

Products, applications, markets and technical basics

- Power protection
- Frequency conversion
- Grid connect interfaces

Marketing

- PCS100 tools and support

Hardware

- Power modules, aux.module, interfaces

Control modes, interfaces, options

- Power protection
- Frequency conversion
- Grid connect interfaces

Order handling process

- PCS100 sizing and pricing

PCS100 outlook

- Ongoing and future developments

Who should attend?

ABB channel partner sales and service engineers.

Training locations

ABB's low voltage power converter product training is conducted in our well-equipped manufacturing and R&D facility in Napier, New Zealand, by highly qualified engineers and instructors.

Enrolments

Register your interest for any one of our courses via email to: pq.supportline.nz@nz.abb.com

Confirmation

Confirmation of acceptance and course information will be sent approximately two weeks before the start of the course. We will inform you by email or phone if there are no vacant places.

Course program

The course program and all related information about the course times and venue are sent to the participants with the confirmation. The course normally runs from 9.00 a.m. - 4.00 p.m. over a three day period.

Reservations

We reserve the right to change any course schedules, programs and their contents. A course could be cancelled due to minimal enrolment. The maximum number of students varies between 10 - 12 persons.

Cancellation

In the case of cancellation, inform us as soon as possible. This will allow another applicant to attend the course. Your place on a course can be transferred to another person in your company or department.

Training schedule 2013

Course	Day one	Day two	Day three
Four	12 November	13 November	14 November
Agenda a.m.	PCS100 product platform overview	PCS100 frequency conversion	PCS100 sizing and pricing tools
Agenda p.m.	PCS100 power protection	PCS100 grid connection	Outlook / future developments

Service and commissioning training 2013

Register your interest now for 19-21 November 2013

Your knowledge. Your power.

ABB is a leading supplier of power electronic systems. This extensive experience and history of innovation helps customers around the world to improve plant performance and production.

Our customer awareness means that we are committed to supporting customers globally in their plans for growth. ABB offers a wide range of professional training courses adapted to meet the needs of customers and partner channels.

Benefits of the training

Service and commissioning training courses give valuable support to increase return on investment, reduce costs in down time and improve skills and motivation of personnel.

Training participants profit from our extensive experience and modern training infrastructures which enable them to:

- efficiently operate and maintain ABB's PCS100 low voltage power converter systems
- extend the lifetime of the product

Training locations

ABB's low voltage power converter product training is conducted in our well-equipped manufacturing and R&D facility in Napier, New Zealand, by highly qualified engineers and instructors.

Course profile

Our service and commissioning training courses are aimed at qualifying maintenance engineers to undergo unsupervised first level support of ABB's PCS100 applications. The main goal of the course is to learn how to operate, troubleshoot and maintain the system.

Upon completion of the course, maintenance engineers will be able to locate and identify hardware components, download fault loggers and important information for first analyses by support personnel, replace parts and perform preventative maintenance. Trainees will gain practical experience using available tools and techniques through organized practical exercises.

Who should attend?

ABB partner channel and customer service engineers.

Confirmation

Confirmation, reservation details, and all related course information including schedule and venue details will be sent approximately four weeks before the start of the course.



Enrolments

Register your interest for upcoming courses via email to: pq.supportline.nz@nz.abb.com

Training schedule 2013

Course	Day one	Day two	Day three
Four	19 November	20 November	21 November
Agenda a.m.	PCS100 platform service introduction	PCS100 service power protection	PCS100 service grid interconnection
Agenda p.m.	PCS100 platform service detailed	PCS100 service frequency conversion	Outlook / future developments

Powering ahead



Power protection

- 6. Faster than the wind**
ABB providing a power conversion solution to Emirates Team New Zealand
- 8. Power protection solutions**
ABB's PCS100 UPS-I and AVC securing big orders
- 10. Offshore success**
A milestone success for ABB's uninterruptible power supply
- 12. Railway industry technology**
Railway UPS supporting 50 Hz and 16.67 Hz

Project completion

- 14. Mountainous engineering**
ABB in the world's highest solar power plant
- 16. Powering up**
PCS 8000 powering a pumped storage

Power conditioning



Power protection

- 6. Public transport reliability**
Providing power conditioning for the public transport industry
- 10. Data center designed**
ABB extend range of modular UPS to 3 MW
- 12. Advanced semiconductor engineering**
A success for ABB's PCS100 Active Voltage Conditioner

Project completion

- 14. Energy storage**
Microgrid technology turns heritage building into a green pioneer

Power control

- 16. Gearless milling**
ABB will help to ensure power stability for Aktogay sulphide plant



Small footprint and increased productivity?

Absolutely.



By choosing from ABB's PCS100 Active Voltage Conditioner and UPS-I solutions, you are selecting from a unique line up of advanced technologies and expertise. This low voltage power protection product range provides energy efficiency, high reliability and increased productivity. Both unique systems have a small footprint in design and give superior value to operations in the industrial, utility and commercial sectors.

www.abb.com/pcs100-power-converters