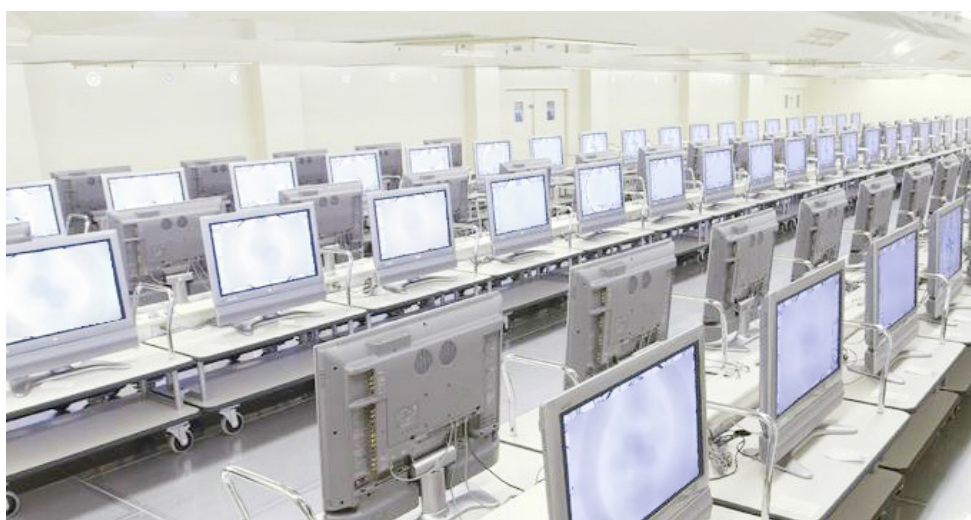


ARTICLE

# ABB provides an extraordinary amount of UPS power to protect a three billion dollar LCD plant company



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An LCD testing line

**ABB have provided a power electronic solution of three 3000 kVA and five 1500 kVA PCS100 UPS-Is (Industrial UPSs), that will be installed in a leading South Korean electronics company based in China. The total order of PCS100 UPS-Is for this electronics giant amounts to over 16.5 MVA. ABB have also provided a significant number of PCS100 AVCs (Active Voltage Conditioners) and UPS-Is (Industrial UPS) to other LCD and semiconductor plants. This leading edge technology provides reliable protection of critical assets, to ensure voltage sags and swells are eliminated.**

As industrial plants become more sophisticated, their reliance on a clean and continuous electricity supply increases. Modern Semiconductor and flat panel LCD manufacturing plants cost many billions of dollars to construct, and are susceptible to voltage events such as sags and short outages which can cost many millions of dollars in lost production per event. ABB have extended their successful PCS100 range of industrial grade UPS units to 3 MW and will supply three units of this rating and five of 1.5 MVA for a major new LCD facility.

The UPS-I can utilize a range of storage technologies but in this case, super-capacitors have been selected for back-up, rather than traditional lead acid batteries, due to their 15 year life and very high reliability. Longer term outages are an extremely rare event for these transmission-connected customers, so UPS back-up times of seconds, rather than the minutes more common for commercial UPSs, have been selected. The UPS-I is part of ABB's successful PCS100 family of power protection products which also includes the AVC (Active Voltage Conditioner) and STATCOM-I (Active Current Conditioner).

The 3 MW rated units to be supplied to the LCD facility in China have successfully passed testing in ABB's Napier New Zealand-based factory. Based around modular redundant inverter technology with a centralized industrially rated static bypass switch and additional electromechanical fail safe bypass, the UPS-I is highly reliable and serviceable. The heavily rated thyristors in the bypass circuit also mean that the overloads, current distortion and fault levels commonly found in industrial applications can be handled with ease. Reduced cost of ownership is also a major advantage of the single conversion

UPS-I topology with better than 99 percent efficiency. This means significant energy savings when compared to many alternative power protection technologies.

#### **Features**

- Very high efficiency (typically 99 percent)
- Suited to industrial loads (motors, drives, transformers, tools)
- Modular design providing high reliability and short repair times
- Very high fault capacity compared with standard UPS solutions
- Extensive range of voltages available
- Small footprint design
- Custom storage solutions available
- Designed for the much more demanding requirements of industrial applications

The new LCD plant with a monthly capacity of 100,000 panels is expected to start production in January 2013 mainly manufacturing TV panels larger than 40 inches, which makes it the biggest South Korean project in China.

To find out more about ABB's power protection solutions:

Web: [www.abb.com/ups](http://www.abb.com/ups)

Email: [powerconditioning@abb.com](mailto:powerconditioning@abb.com)

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#### **Additional information**

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