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# Power protection for the semiconductor industry



ABB's PCS100 AVC-40 protecting against voltage sags at a leading semiconductor test assembly company in Malaysia

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01 The touch screen visualizes the status of the plant and supply conditions

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02 PCS100 AVC-40

ABB has installed a 3,000 kVA AVC in a semiconductor facility in Penang, Malaysia, to help protect the power to their micro-chip testing facility. As a global leader, the company provides a complete scope of services for the semiconductor market; driven by superior technologies, breakthrough innovations, and advanced development program.

A high-quality electrical supply is important in many industries, but for a world leader in semiconductor back-end solutions alike, it is a business requirement. The company required a power quality solution to mitigate the power sag issues from the utility supply. They had been experiencing major sags every month, which caused the testing equipment to trip and therefore production had to stop for reprogramming. This caused material wastage, downtime and man power, which are issues that affect the company's profitability and delivery/production requirements.

As part of the facility's expansion project, ABB's local sales manager in Malaysia arranged for a demonstration active voltage conditioner (AVC) to be installed as a trial system for a number of months. Following the successful trial, a PCS100 AVC was installed at the end of 2016 in one of their switch rooms to protect their micro-chip testing facility.

The semiconductor industry is extremely important as semiconductors serve as the core building materials for important electronic products. Semiconductor devices range from the extremely small, lightweight memory chips and microprocessors through to power semiconductors that are highly efficient and reliable. The production of these sensitive chips require extremely high-quality electrical power. Without advanced power protection this is simply not available from the electrical utility. The cost of lost production, down time, quality and ultimately lost profit can be of huge scale for semiconductor manufacturing fabrication plants that are not adequately protected.



The facility manager, said: “ABB is providing a good solution and quality equipment to improve our production activity. Furthermore, the after sales support is satisfactory and is up to our expectation.”

ABB’s PCS100 AVC can react within a few milliseconds to provide an efficiency rate exceeding 98 percent, whilst providing continuous online regulation and voltage unbalance correction. ABB’s PCS100 AVC has been widely applied in the semiconductor industry for process protection and achieved improved product yield and reduced waste.

Voltage sags have been identified in many international studies as one of the most costly power quality problems for continuous process industry. They are very difficult for the electricity utilities to eliminate from even the most robust power systems even at transmission connection

levels. Typically caused by lightning and system faults, sags will propagate quite large distances through the electrical network causing sensitive loads to trip. For some customers this can just be an inconvenience, but for many it results in expensive product loss and downtime.

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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