

ARTICLE

ABB's PCS100 UPS-I caters for the power protection needs of a world-class factory in Sweden



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01 Inside Karlskrona's factory

02 Successful commissioning of the PCS100 UPS-I system

03 Final installation of the PCS100 UPS-I system

PCS100 UPS-I protects the efficient operations of high voltage cables (HVC) manufacturing facility in Karlskrona, Sweden.

Due to various unpredictable circumstances life may bring, like for example accidents or adverse weather conditions, including storms and floods, facilities are exposed to deep voltage sags and surges as well as short outages. In effect, self-protection mechanisms switch off the plant electronics. This might have serious consequences since a possible shutdown of a facility in a critical control operation leads to lost production time and damaged equipment, which entails late delivery to customers and at the same time – revenue and productivity loss.

Modernity, outstanding quality and high reliability are the trademarks of ABB's high voltage power cables factory in the historic naval port and UNESCO World Heritage Site of Karlskrona. With its own deep-water harbour and a 160 metre vertical extrusion tower, as well as research and development laboratories, the

factory is regarded as one of the most advanced in the world. The Karlskrona plant creates the world's longest underground and submarine cable installations, including a 580 kilometre long high voltage direct current (HVDC) submarine cable that enables electricity transmission between Norway and the Netherlands. Today, the factory can also boast maximum efficiency thanks to a power protection system provided by PCS100 UPS-I.

Although the cables manufactured in Karlskrona can be hundreds of kilometres long, every millimetre of each cable has to be flawless. However, as in any facility, the factory is susceptible to grid disturbances, such as voltage sags, surges and outages. These can lead to shutdowns that interrupt manufacturing. Considering the continuity of the cable extrusion process, this potentially results in significant losses, including wasted material, lower production quality, lost production time and late delivery to customers.



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For these reasons, special attention was paid to eliminating risks caused by grid disturbances. To secure the factory's operations, ABB's leading edge power protection solution, PCS100 UPS-I, was chosen. This innovative system disconnects the load from the utility during a power quality event and supplies the load from its storage, allowing processes to ride through common power problems. The extremely high efficiency (typically at 99 percent) of PCS100 UPS-I, together with the system's modularity and small footprint design, constitute a perfect solution for most industrial applications.

The investment in PCS100 UPS-I is part of ABB's plan to double the production capacity of the Karlskrona manufacturing facility to satisfy an increasing demand for high voltage cables. To make this possible, two UPS-I units of 2100 kVA support two individual production lines, effectively eliminating voltage disturbances and outages, thereby improving product quality and boosting production. The installation and commissioning of the units was performed locally under ABB supervision.



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Solution benefits

- Provides protection against short outages and very deep sags
- Offers protection against utility reclosure events
- Allows process loads to ride through common power problems, increasing yield, reducing product wastage and improving productivity
- Suited to the demanding requirements of industrial applications as well as industrial loads

Features

- Very high efficiency (typically 99%)
- Very high fault capacity compared with standard UPS solutions
- Extensive range of voltages available
- Modular design providing high reliability and short repair times
- Small footprint design
- Custom storage solutions available

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

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Additional information

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