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ABB solar inverters cut installation costs for fashion house

A new solar power installation is using ABB's string inverters to cut the time needed to achieve a fully operational system, while providing more electrical protection than competing products.

The installation, for fashion house David Nieper Ltd, is the first in the UK to use the ABB PVS300 string inverter and was installed by Greenheart Energy, one of the country's leading system integrators for renewable energy projects.

The project uses 50 kW peak, roof mounted solar panels. These are the highest powers that qualify for the government's feed-in tariff scheme. The installation uses six, 8 kW string inverters. Four were mounted on one roof with another two mounted on a nearby roof. The six inverters each have three strings of solar panels, with 15 panels per string.

One of the major advantages of the ABB PVS300 is its high 900 V input compared to comparable inverters which are limited to 600 V input. The high maximum DC voltage allows more photovoltaic modules to be connected in series, which results in higher string power for the same current. This helps to reduce cabling power losses and also cabling size and cost.

ABB supplied all the components required for the installation, including the AC distribution board, the mains isolator, meter and distribution miniature circuit breakers (MCBs).

David Eyre, a director of Greenheart Energy, says: "We chose the ABB PVS300 string inverters as a cost-effective device that offers far more integrated components, such as isolator and surge protection, than other competing inverters. This makes the string inverters easier and quicker to install as there are no separate, external components to wire up. We estimate they can reduce installation time by as much as 15 percent compared to a similar sized solar power system. Using ABB means that all the peripherals are in one neat package, so we do not have to deal with multiple suppliers."

The use of internal components for protection and isolation makes the ABB PVS300 a complete solution for solar power installations. Surge protection for lightning strikes is not offered by competitors' units and although not mandatory at present, may become so in the future. One important feature is the interlock mechanism, which means that the DC isolator switch must be open before the inverter's cover can be removed.

The fuse monitoring function of the inverter proved itself useful when the installation was switched on for the first time. One of the fuses in the strings had failed. Alerted by the inverter, the installation team quickly identified the fuse and replaced it within minutes.

Says Eyre: "The ABB PVS300 inverters offer excellent reliability and high efficiency as they have no need for a transformer. We are also committed to using market leading components in our installations. ABB is a strong brand and is a long standing supplier of switchgear and drives. Partnering with ABB ticks all our boxes."

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is

writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner in ABB Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 147,000 employees. www.abb.com



Caption: A new solar power installation is using ABB's string inverters to cut the time needed to achieve a fully operational system.

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