ABB solidifies its position as a technological leader

In keeping with its strategy to remain a leader in technology, ABB has developed a substantial number of new, innovative medium-voltage products for distribution automation over the last three years.

Applying the IEC 61850 standard
Several of these products meet IEC 61850, the International Electrotechnical Commission’s standard for vendor-agnostic engineering, which is used to configure intelligent electronic devices in electrical substation automation systems as they communicate with each other. For example, ABB’s PCM600 protection and control manager is the first ever IEC 61850-compliant product on the market. The configuration tool for intelligent electronic devices has set a benchmark for application configuration and communication engineering.

Expanding compatibility with the IEC 61850 standard, the new releases of the Relion family of feeder protection and control relays are the first to support native IEC 61850 settings, offering substantial benefits in terms of extended interoperability. The Relion 615 series also includes a wide range of firsts in medium-voltage products that have brought innovation to substation automation. It is the first relay to meet the T1 class for generic object-oriented substation event (GOOSE) messaging, the protocol set up for distributing event data across entire substation networks. In addition, the Relion 615 series benefits from Ethernet redundancy specific to substation automation, in the form of the parallel redundancy protocol (PRP) and the high-availability seamless redundancy (HSR) protocol, both invented by ABB. In addition, the relay has the advantage of less wiring and supervised communication thanks to the first process bus, and high-level time synchronization developed using, for the first time, an IEEE1588-based solution.

Grid automation
ABB also remains at the head of the class with a portfolio supporting grid automation for primary and secondary distribution networks. This includes the RIO600 remote I/O unit, which applies ABB’s multi-frequency, admittance-based earth-fault detection algorithm to give fault passage indication (FPI). As a result, the RIO600 is able to detect all types of earth faults with unequaled accuracy, regardless of the type of distribution network, even as it helps simplify and decrease the wiring inside the substation.

The Arctic wireless communication product range provides secure and cost-effective wireless connectivity for all industrial and utility applications, ranging from enabling the industrial Internet of Things to remote real-time grid automation.

For more information please contact:

Lynette Jackson
Head of Communications
Electrification Products Division
Affolternstrasse 44, P.O. Box
CH-8050 Zurich, Switzerland
Phone: +41 (0)43 317 54 04
E-Mail: lynette.jackson@ch.abb.com
The REC/R615 recloser controller offers sophisticated protection functionality to detect, isolate and restore power in overhead line networks. It is designed for remote control and monitoring, protection, fault indication, power quality analyzing and automation in medium-voltage secondary distribution systems.

ABB's grid automation solutions also include indoor and outdoor smart control cabinets, which are based on standardized ready-to-be-deployed solutions. There are cabinet variants for both overhead line and underground cable networks. The cabinets are suitable for all applications, ranging from monitoring to more advanced solutions with accurate measurements and protection functionality.

ABB will continue to stay ahead of developments in medium-voltage products, as it takes inspiration not only from customer needs and industry standards, but also from ideas that evolve through the expertise of its engineers. ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in electrification products, robotics and motion, industrial automation and power grids, serving customers in utilities, industry and transport & infrastructure globally. Continuing more than a 125-year history of innovation, ABB today is writing the future of industrial digitalization and driving the Energy and Fourth Industrial Revolutions. ABB operates in more than 100 countries with about 132,000 employees. www.abb.com

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Lynette Jackson
Head of Communications
Electrification Products Division
Affolternstrasse 44, P.O. Box
CH-8050 Zurich, Switzerland
Phone: +41 (0)43 317 54 04
E-Mail: lynette.jackson@ch.abb.com