

News Release

FOR IMMEDIATE RELEASE

New and enhanced Hitachi Energy SAM600 process interface unit accelerates the adoption of digital substations

Digital substations deliver gains in safety, reliability, and productivity for grid operators, reducing overall substation costs

Zurich, January 24, 2024 – Hitachi Energy advances its pioneering digital substation technology with the all-new SAM600 3.0, a process interface unit (PIU), to help transmission utilities accelerate the adoption of digital substations.

The new one-box, modular SAM600 consolidates three units within a single device, enabling it to be configured as a merging unit, a switchgear control unit, or a combination of both, supporting different installation approaches. With only one device to engineer, wire up, test, and commission, customers gain improved device flexibility and maintainability while lowering the carbon footprint of their operations.

As a merging unit, SAM600 speeds the upgrade of conventional substations to digital substations. They bridge the gap by converting analog signals and digitally distributing current and voltage information throughout the substation and to the control center. With digital substations, utilities and power system operators benefit from higher safety, lower capital costs, smaller footprints, and greater overall sustainability, reliability, and productivity. As a switchgear control unit, the device directly interfaces circuit breakers, disconnectors, and earthing switches in the field. This helps to substantially reduce wiring to the control building by providing an IEC 61850 digital interface to operate and monitor such equipment.

"As the complexity and dynamics of power generation, transmission, and distribution continue to grow, modern digital substations provide the control and efficiency needed to address these challenges. The new SAM600 helps operators extend the life of their existing assets, delivering much-needed investment protection and new levels of system performance," said Claus Vetter, Head of Automation and Communication at Hitachi Energy.

Hitachi Energy is advancing the world's energy system to be more sustainable, flexible, and secure. "The compact and advanced product design meets our customers' need for a solution that functions reliably in harsh environments, and its modularity facilitates on-site service and repairs, which minimizes downtime and related expenses," said Vetter.

New features of the SAM600 3.0 include:

- State-of-the-art redundant communication architectures and the latest industry standards, including IEC 61850 Ed 2.1 and IEC 61869
- Two compact form factors for installation in indoor and outdoor panels
- Modular hardware architecture to adapt to different application needs
- Direct breaker tripping with trip coil supervision and a high-accuracy analog input system
- Supports IEC 61869 by default and legacy sampled value publishing profiles simultaneously
- Integrated disturbance recorder with 4.8 kHz recording frequency
- High level of security, including secure boot, user management, and role-based access control
- Browser-based user interface (WebUI) and device diagnostics
- Consistent configuration, operation, maintenance, and a shorter learning curve and time to deploy with the well-established PCM600 tool.

As digital substation technology continues to evolve, the SAM600 will play an important role in accelerating its adoption and enabling advanced automation and communication applications to help utilities tackle the challenges of future power grids. It also serves as the foundation for utilities to embrace greater digitalization and integrate greater amounts of renewable energy for an energy system that is more sustainable, flexible, and secure.

- End -

About Hitachi Energy

Hitachi Energy is a global technology leader that is advancing a sustainable energy future for all. We serve customers in the utility, industry and infrastructure sectors with innovative solutions and services across the value chain. Together with customers and partners, we pioneer technologies and enable the digital transformation required to accelerate the energy transition towards a carbon-neutral future. We are advancing the world's energy system to become more sustainable, flexible and secure whilst balancing social, environmental and economic value. Hitachi Energy has a proven track record and unparalleled installed base in more than 140 countries. We integrate more than 150 GW of HVDC links into the power system, helping our customers enable more wind and solar. Headquartered in Switzerland, we employ more than 40,000 people in 90 countries and generate business volumes of over \$10 billion USD.

<https://www.hitachienergy.com>

<https://www.linkedin.com/company/hitachienergy>

<https://twitter.com/HitachiEnergy>

About Hitachi, Ltd.

Hitachi drives Social Innovation Business, creating a sustainable society through the use of data and technology. We solve customers' and society's challenges with Lumada solutions leveraging IT, OT (Operational Technology) and products. Hitachi operates under the business structure of "Digital Systems & Services" - supporting our customers' digital transformation; "Green Energy & Mobility" - contributing to a decarbonized society through energy and railway systems, and "Connective Industries" - connecting products through digital technology to provide solutions in various industries. Driven by Digital, Green, and Innovation, we aim for growth through co-creation with our customers. The company's consolidated revenues for fiscal year 2022 (ended March 31, 2023) totaled 10,881.1 billion yen, with 696 consolidated subsidiaries and approximately 320,000 employees worldwide. For more information on Hitachi, please visit the company's website at <https://www.hitachi.com>.

Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.
