

SYNCHROTECT® 6

Keep your assets synchronized, safe and productive



Power plants and substations contain many valuable components, essential to the reliable delivery of electricity from the power plant to the transmission grid.

SYNCHROTECT 6 protects these assets at the lowest possible cost of ownership. It synchronizes and parallels the generators with the power lines to keep the energy flowing, the equipment productive and people safe.

For more than 50 years, SYNCHROTECT has protected power plant generators and substation components from the potentially destructive effects of current surges caused by unsynchronized operating conditions. It keeps these valuable production assets safe and at the highest levels of availability.

SYNCHROTECT 6 is the sixth generation of this well-proven and popular technology. It contains new and enhanced features to maximize safety.

It is the only synchronizer to have a diverse dual-channel design – if one channel should fail, the other remains open, thereby guaranteeing reliability. Both channels are in the same SYNCHROTECT unit to minimize wiring, ensure perfect working compatibility and reduce commissioning and engineering costs for the end customer. The unit's robust design is in accordance with the IEC 61508 SIL2 safety standard.

The number of parameter sets has been increased from 7 to 20, enabling up to 20 different circuit breakers to be synchronized by a single SYNCHROTECT 6 device. Compliant with the IEC 61850 Ed. 2 communication standard, SYNCHROTECT 6 fulfills the most demanding requirements.

The world's most popular synchronizer

More than 22,000 SYNCHROTECT units have been sold since its introduction, equivalent to about 10 percent of the global market for synchronizing equipment.

All the main generators at the Three Gorges Dam in China, the world's largest hydropower plant, are equipped with SYNCHROTECT synchronizers. Many gas turbines and generators from leading manufacturers are synchronized by SYNCHROTECT.

SYNCHROTECT 6 is part of ABB's offering of excitation products and synchronizing equipment for the power generation industry. The offering is the most comprehensive and proven on the market, extending from the smallest to the largest power requirements and covering all power generation applications.

New SYNCHROTECT® 6 synchronizing equipment



Applications

- Power plants with machines of any type up to 2 GW
- Thermal power plants (diesel, gas, steam), including combined cycle and nuclear power
- Hydropower plants, including pumped storage
- Industrial plants with own power generation
- Grid paralleling in substations and islanded power networks
- Large AC motors, soft-started and running above nominal speed by means of a drive and then synchronized during run-down

Features

- Automatic synchronization of generators with power lines
- Synchrocheck function for, e.g., supervising manual synchronization
- 20 parameter sets enable up to 20 circuit breakers to be synchronized with individual settings
- Highest possible safety thanks to compact diverse dual-channel system – two channels with different hardware and software: if one channel fails, the other remains open

- Compliant with the IEC 61850 communication standard
- Robust design in accordance with the IEC 61508 SIL2 safety integrity level and IEC 60255-26, IEC 60255-27 and ANSI/IEEE C37.90 product standards
- Choice of electrical or optical communication interface

Benefits

- Keeps assets productive at the highest levels of safety, redundancy and availability
- Lowest possible total cost of ownership
- All hardware and software is housed in a single unit
- Proven technology and reliable components
- Backwardly compatible with previous SYNCHROTECT generations