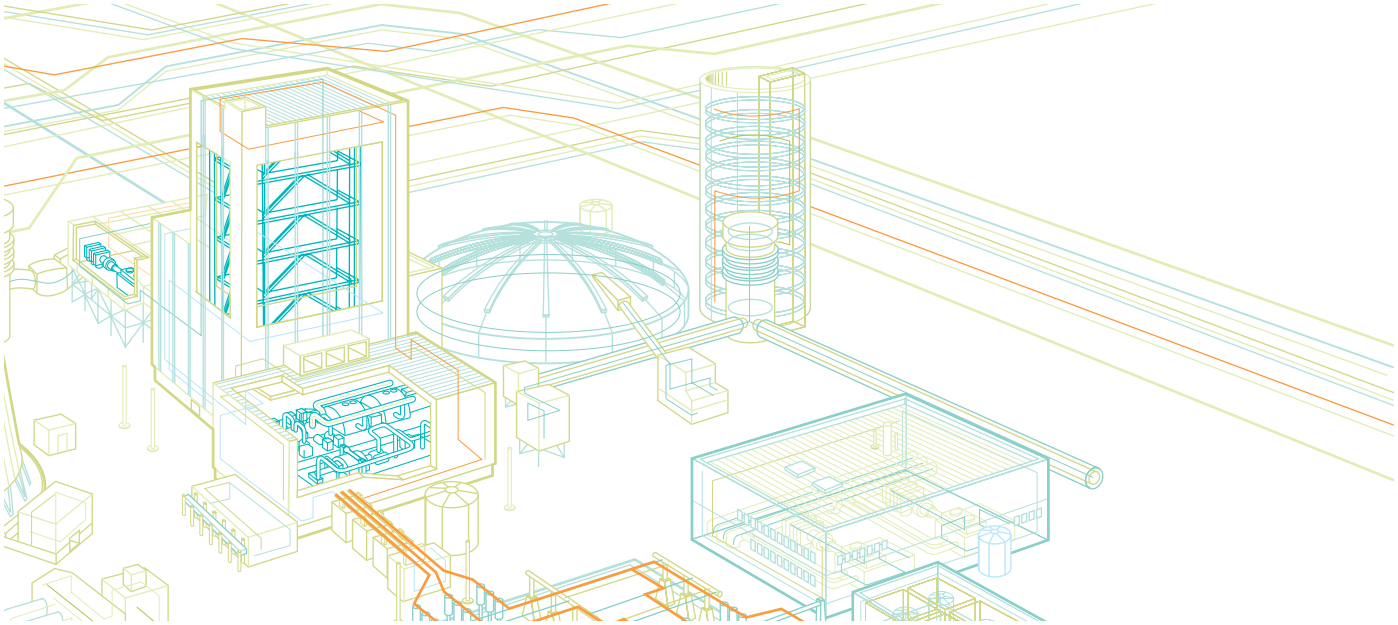
Service note

UNITROL® Control Upgrade

Extend your system's lifetime with minimal cost



As an option to extensive spare part investments and maintenance programs, ABB‘s Control Upgrades are time- and cost-effective ways to improve the performance and extend the life cycle of operational equipment. As the leader in the excitation technology ABB offers competence and experience needed for a successful upgrade of your system.

Legacy control platforms and related issues

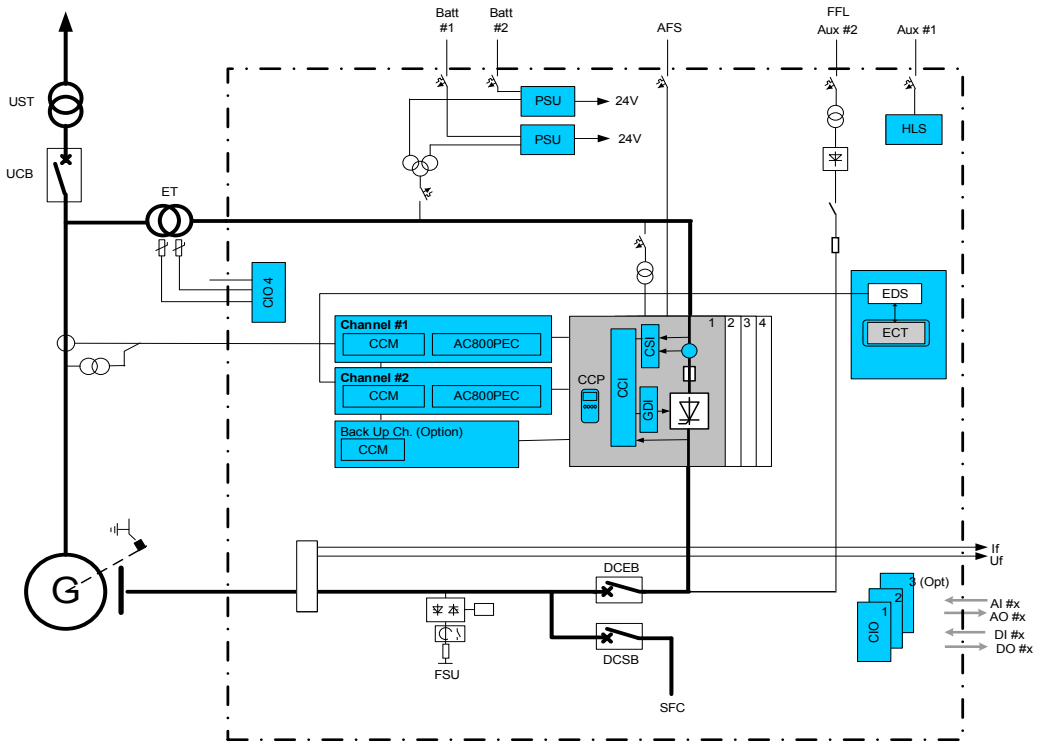
An excitation system’s control platform comprises complex hardware and software both of which are subjected to rapid development that constrains the life cycle of the system.

The Control Upgrade is applicable on the following UNITROL system types:

- UNITROL 5000
- UNITROL M
- UNITROL C
- UNITROL D
- UNITROL P

Power and productivity for a better world™

Control Upgrade scheme



ACEB AC Excitation Breaker
AFS Auxilliary Fan Supply
AI Analog In
AO Analog Out
CCI Converter Control Interface
CCM Communication Control Measuring
CCP Converter Control Panel
CIO Combined Input/Output
CSI Converter Signal Interface
DCEB DC Excitation Breaker
DCSB DC Starting Breaker
DI Digital In
DO Digital Out

ECT Excitation Control Terminal
EDS Ethernet Device Switch
GDI Gate Driver Interface
ET Excitation Transformer
FFL Field Flashing
FSU Field Suppression
HLS Heater, Light, Socket
PSU Power Supply Unit
SFC Starting Frequency Converter
UCB Unit Circuit Breaker
UST Unit Step-up Transformator

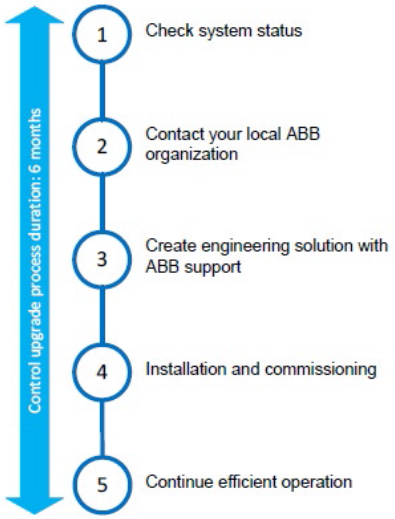
New equipment

Control Upgrade procedure

The content of the original control cabinet will be removed and replaced by the new controller and its related devices. ABB has designed a standardized control upgrade plate, which is pre-assembled, wired and tested in the factory. The plate is installed and connected to the terminals wih the existing control cabinet (see drawing).

In the converter cabinets the firing electronics are replaced with the latest technology. The thyristors, busbars, snubbers and fans are retained.

The new UNITROL standard software is adapted to support previous converter types, thereby reduce engineering time. To ensure full functionality ABB has tested the new firing electronics in combination with previous converter types such as UNL10300 and UNL11300. As long as the equipment remains in good condition, field circuit breakers, transformers, cooling and bus ducts are unchanged.



Benefits

- Long-term spare parts availability at lower price for the control part
- Long-term availability of engineering and support competences
- Extremely fast, state-of-the-art control platform with optical communication between boards and standardized software development environment
- New interfaces for enhanced functionality (control terminals or control and converter cabinet)
- Possibility to integrate excitation system in modern power plant control systems

For more information please contact:

ABB Switzerland Ltd.
Austrasse
5300 Turgi / Switzerland
Tel: +41 (0)58 589 34 34
E-Mail: unitrol.supportline@ch.abb.com
www.abb.com/powerelectronics

Power and productivity
for a better world™