

SIEMENS

DIGITAL ENTERPRISE SERVICES

Power Control Integration Services

Integration of switchgear – efficient use of synergies

[siemens.com/device-integration](https://www.siemens.com/device-integration)



Integrated solution

Two worlds – one integration – one control system

In many process plants, it is necessary to integrate the medium-voltage switchgear systems for energy into the overall automation system.

With Power Control Integration Services, electrical switchgear with devices for protection and control functions (intelligent electronic devices or IEDs) can be homogeneously integrated into the SIMATIC PCS 7, TIA Portal or WinCC process control system – based on the IEC 61850 standard. This significantly increases the level of integration of the overall system.



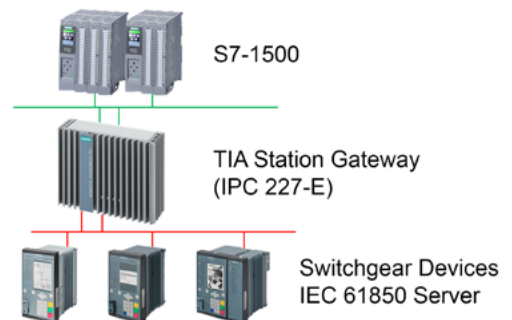
Fig.1: Combination of the systems in terms of process and energy and Fig.2: TIA Station Gateway

Consolidation in one control system

Power Control Integration Services combine the process automation (process control system) and the automation of electrical switchgear for medium voltages.

You benefit from simpler, more transparent plant structures, an increased level of plant integration and enormous cost savings over the entire life cycle of your plant.

Large units are used in process plants – e.g. large drives, blowers, pumps and generators. They are



integrated via medium-voltage switchgear, which controls, switches and automates the individual loads via devices for protection and control functions (IEDs) based on the IEC 61850 standard.

TIA Station Gateway

Enables the direct integration of IEC 61850-capable field devices into the TIA portal.

- Communication takes place from the S7-1500(R/H) systems via the gateway to the IEDs
- This is followed by an increase in availability thanks to the redundant design of the gateway

Fig.3: Station Gateway based on CN 4100

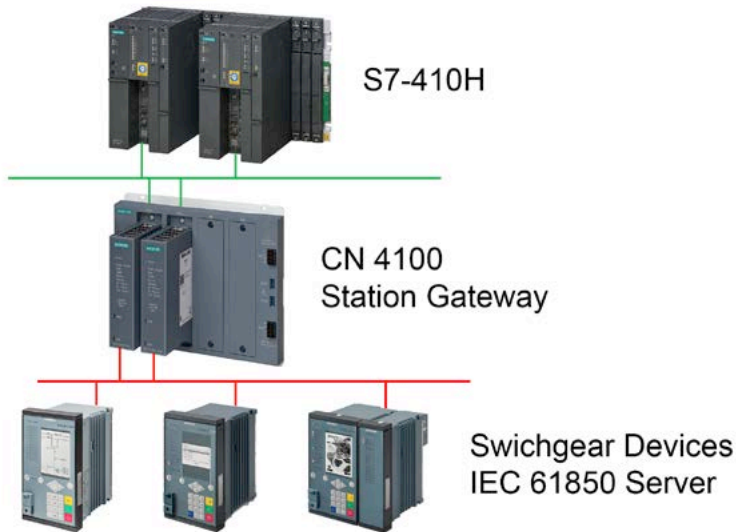


Fig.4: Integration of SIPROTEC5

SIMATIC PCS 7 Station Gateway

Enables direct integration of up to 128 IEC 61850-capable field devices into SIMATIC PCS 7.

- Communication takes place from the S7-400 systems to the IEDs via the gateway
- This is followed by an increase in availability thanks to the redundant design of the gateway
- The use of the SIMATIC PCS 7 add-on Power Control Library makes it possible to continuously integrate the IEDs to the operator station

Software integration

- Direct SIMATIC S7-IED communication: IEC 61850 communication block libraries are available for direct communication between a SIMATIC S7-400/S7-1500 and up to 8 IEDs.
- Direct OS-IED communication: A separate IEC 61850 communication channel can be used to integrate IEDs directly into SIMATIC WinCC. Direct WinCC communication is not compatible with the PCS 7 Power Control Library.

Service package

- Advice on the optimal utilization of the system architecture
- Support in the arena of configuration and product updates throughout the entire service life
- Long-term availability of system functions by maintaining serviceability

Your benefits

Power Control Integration Services offer you flexible integration into existing small systems via software as well as performance-oriented integration into existing systems via additional hardware. The combination of a gateway, controller, or a software library and SIMATIC PCS 7 Power Control Library (from the field level to the operation station) results in a simple, end-to-end integration of IEDs.

With our services, you can benefit from greater:

- Efficiency: cost-effective solution based on standard components (Industrial Ethernet)
- Scalability and flexibility: from just a few to several hundred devices
- Long-term protection of serviceability

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