

Overview

- Customer: CKW
- Sector: Power supply companies
- Project: Dierikon Substation
- Country: Switzerland
- System: SICAM 1703, SICAM 230, SIPROTEC

The logo for CKW (Central-schweizerische Kraftwerke AG) consists of the letters 'CKW' in a blue, sans-serif font, followed by three slanted blue bars of varying lengths.

Customer

With headquarters in Lucerne, Central-schweizerische Kraftwerke AG (CKW) produces and distributes electricity in Switzerland. The company, which is organized under private law, has been based in central Switzerland since 1894.

CKW's top priority is the safe, reliable and cost-effective supply of power. The company has carried this responsibility for 116 years. An important component in the security of supply is the efficient network infrastructure.

CKW provides all customer groups with comprehensive services in the area of power supply, from ensuring adequate production and fault-free distribution to energy consulting services.

Project

The Swiss "Dierikon Substation" project strengthens the 20-kV medium voltage network in several communities in the Canton of Lucerne. The 110-kV/20-kV indoor gas-insulated substation has been equipped with decentralized automation based on IEC 61850.

For safe control of the switchgear, the protection and control system is based on the latest standard, and the use of communication via IEC 61850 combines high performance with an openness to future expansions and adaptations.

For each of the two voltage levels (110 kV and 20 kV), a fiber-optic ring connects to bay controllers and protection devices that are integrated directly into the respective bays, thus cutting down on conventional wiring.

On the station level, an AK 1703 ACP provides the link to the Rathausen network control center via IEC 60870-5-101. Station operation is based on the proven SICAM 230 and uses two monitors. The station controller is connected directly to the bay controllers as an IEC 61850 client. The SICAM DISTO that is also installed retrieves the fault records from the protection devices and stores them as COMTRADE files for subsequent analysis. Two REG-D transformer controllers are also connected to the station LAN for the purpose of voltage control. Two additional frequency relays are responsible for load shedding and are also integrated via IEC 61850.

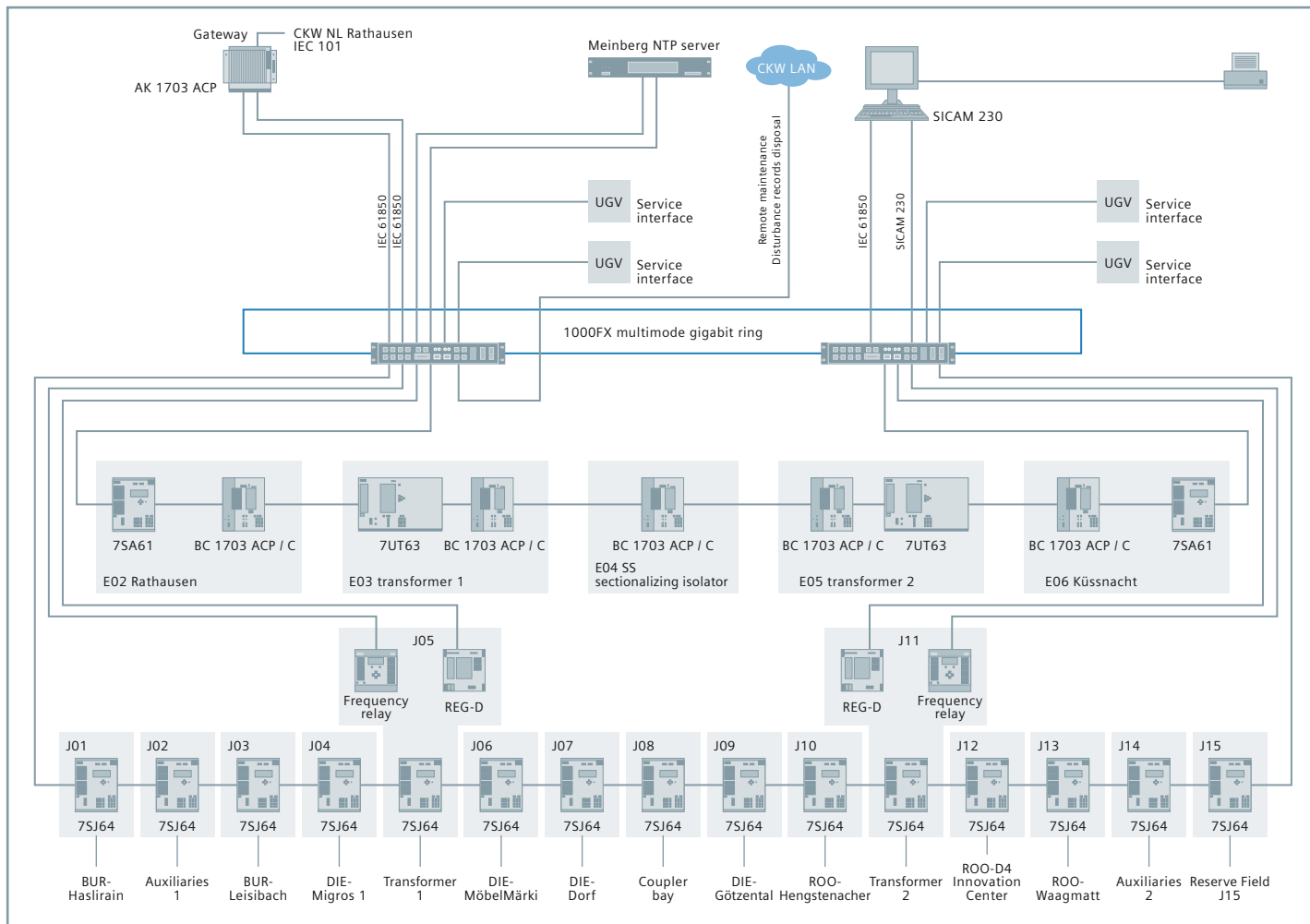
Dierikon Substation – CKW, Switzerland

ENEAS – Reference

Answers for energy.

SIEMENS

SIEMENS
siemens-russia.com



Configuration

Customer benefits

- High availability through fiber-optic rings with integrated redundancy
- Economical combination of protection and control technology with end-to-end IEC communication
- Reduction of external switches

As a special technical feature, SIPROTEC 4 protection devices and BC 1703 ACP bay controllers are combined for the first time in a single shared Ethernet ring without the need for additional external switches. For the high-voltage bays, two 7SA61s and two 7UT63s work with five BC 1703 ACP/C bay controllers in the same ring via

IEC 61850. The new SM-2547 network communication module contains an integrated switch and also controls the fast redundancy switch based on enhanced RSTP, thus ensuring uniform behavior throughout the network.

Published by and copyright © 2011:
Siemens AG
Energy Sector
Freyeslebenstrasse 1
91058 Erlangen, Germany

Siemens AG
Energy Sector
Power Distribution Division
Energy Automation
Humboldtstrasse 59
90459 Nuremberg, Germany
www.siemens.com/energy-automation

For more information, please contact our Customer Support Center.
Phone: +49 180/524 70 00
Fax: +49 180/524 24 71
(Charges depending on provider)
E-mail: support.energy@siemens.com

Power Distribution Division
Order No. E50001-D720-A289-X-4A00
Printed in Germany
Dispo 06200
TH 347-101272 482161 DB 02110.1

Printed on elementary chlorine-free bleached paper.

All rights reserved.
Trademarks mentioned in this document are the property of Siemens AG, its affiliates, or their respective owners.

Subject to change without prior notice.
The information in this document contains general descriptions of the technical options available, which may not apply in all cases. The required technical options should therefore be specified in the contract.