



# Applications

## SIPROTEC 5

# SIPROTEC 5 Applications

## Table of Contents

**SIEMENS**



- SIPROTEC 5 System
- System engineering
- Protection
- Communication
- Control
- IoT Connectivity

## SIPROTEC 5 System

<a href="#"><u>SIP5-APN-001</u></a>	Properties and Functional Structure
<a href="#"><u>SIP5-APN-010</u></a>	DIGSI 5 Quick start for smart Engineering
<a href="#"><u>SIP5-APN-015</u></a>	Device and Power System Configuration
<a href="#"><u>SIP5-APN-022</u></a>	Time synchronization settings in SIPROTEC 5
<a href="#"><u>SIP5-APN-011</u></a>	Powerful commissioning with SIPROTEC 5
<a href="#"><u>APN-064</u></a>	Time Synchronization of Phasor Measurement Unit (PMU) with PTP – IEEE1588
<a href="#"><u>SIP5-APN-037</u></a>	PMU functionality in SIPROTEC 5

## SIPROTEC 5 System

<a href="#"><u>SIP5-APN-040</u></a>	Extension of BI/BO for busbar protection SIPROTEC 7SS85
<a href="#"><u>APN-041</u></a>	Arc Flash Protection for Medium Voltage Switchgears
<a href="#"><u>APN-042</u></a>	Protection and control devices for Medium Voltage Switchgears
<a href="#"><u>APN-047</u></a>	Line differential protection and TPZ class CT at one terminal
<a href="#"><u>APN-072</u></a>	Configuration of an RSG 2488 as IEEE 1588 master clock for process bus applications
<a href="#"><u>APN-073</u></a>	Special communication network topology for small process bus and distributed busbar protection deployments
<a href="#"><u>APN-067</u></a>	High precision time synchronization using GPS for. e.g., PMU functionality and line differential protection

# SIPROTEC 5 Applications

SIEMENS

## SIPROTEC 5 System

<a href="#"><u>APN-088</u></a>	Network Configuration for a 7SS85 CU with up to 45 Measuring points
<a href="#"><u>APN-089</u></a>	IEEE1588 PTP cost optimized solution for IEC 61850 process bus
<a href="#"><u>APN-090</u></a>	Process bus with IO 240 and LPITs



## System engineering

<a href="#"><u>SIP5-APN-002</u></a>	SIPROTEC 5 application for Breaker-and-a-half solutions
<a href="#"><u>SIP5-APN-004</u></a>	Voltage selection for synch check in breaker-and-a-half application
<a href="#"><u>APN-085</u></a>	Selection for Synchrocheck for large number of voltages
<a href="#"><u>SIP5-APN-012</u></a>	Control of Breaker-and-a-half diameters and double busbar configurations
<a href="#"><u>SIP5-APN-018</u></a>	Breaker-and-a-half configuration: Automatic reclosing and leader follower
<a href="#"><u>SIP5-APN-023</u></a>	Change of setting groups with CFCs in SIPROTEC 5
<a href="#"><u>SIP5-APN-024</u></a>	Innovative solution for SIPROTEC 5 panels
<a href="#"><u>SIP5-APN-027</u></a>	Change of switching authority with function keys

## System engineering

<a href="#"><u>SIP5-APN-031</u></a>	Breaker Pole Discrepancy function
<a href="#"><u>SIP5-APN-036</u></a>	Porting CFC charts from DIGSI 4 projects to DIGSI 5
<a href="#"><u>APN-049</u></a>	Process Bus - Circuit Breaker Position feedback via GOOSE
<a href="#"><u>APN-054</u></a>	Trip counter with Pulse Metered Value
<a href="#"><u>APN-078</u></a>	Start signals (internal and external) for Circuit Breaker Failure Protection (50BF)



## Protection

<a href="#"><u>SIP5-APN-003</u></a>	Tapped Line Application
<a href="#"><u>SIP5-APN-016</u></a>	Distance protection with tele-protection (pilot protection) on an OHL feeder
<a href="#"><u>SIP5-APN-017</u></a>	Stub protection
<a href="#"><u>SIP5-APN-025</u></a>	SIPROTEC 7UT8 – Autotransformer bank with 2 sets of CT inside the delta connection of the compensation side
<a href="#"><u>SIP5-APN-026</u></a>	Sync Check with Voltage selection and VTs with different ratio
<a href="#"><u>SIP5-APN-029</u></a>	Ground fault detection of 4 feeders with 7SJ82 or 7SJ85 with 4x I, 4x U



## Protection

<a href="#"><u>SIP5-APN-030</u></a>	Circulating Current High Impedance Differential Protection Using Multifunctional Relay 7SJ8
<a href="#"><u>SIP5-APN-033</u></a>	SIPROTEC 7SK85 Motor protection for Asynchronous Motors with Krondorfer Starter
<a href="#"><u>APN-045</u></a>	SIPROTEC 7UT86 as impedance protection in power transformer
<a href="#"><u>APN-050</u></a>	SIPROTEC 5 Main Protection Functions – Limit Overview
<a href="#"><u>APN-052</u></a>	Directional ground-fault protection
<a href="#"><u>APN-053</u></a>	Auxiliary devices for generator protection

## Protection

<a href="#"><u>APN-055</u></a>	Distance protection ground fault direction stabilized with 67Ns for high impedance resistive ground
<a href="#"><u>APN-056</u></a>	Application for low voltage with 400 V measurement without voltage transformer
<a href="#"><u>APN-059</u></a>	2nd Harmonic Blocking 3I0 Protection
<a href="#"><u>APN-060</u></a>	Low Impedance restricted ground fault 87N
<a href="#"><u>APN-061</u></a>	Impedance Protection 3-winding Transformer
<a href="#"><u>APN-063</u></a>	End Fault Protection

## Protection

<a href="#"><u>APN-065</u></a>	Line Differential protection [87L] for 2-phase systems with nominal frequency of 50Hz or 60Hz
<a href="#"><u>APN-069</u></a>	Scott Transformer Application with Differential Protection SIPROTEC 7UT8
<a href="#"><u>APN-070</u></a>	Distance protection with RMD method with focus on the load compensation and the compensation of factors
<a href="#"><u>APN-074</u></a>	Configuration of a 7SS85 with process bus for more than 14 bays
<a href="#"><u>APN-075</u></a>	Protection of asynchronous motors with Dahlander coupling with SIPROTEC 7SK85
<a href="#"><u>APN-077</u></a>	Directional Ground-fault protection in resonant-grounded or isolated networks

## Protection

<a href="#"><u>APN-079</u></a>	Application of Instantaneous High Current Tripping in SIPROTEC 5 devices
<a href="#"><u>APN-080</u></a>	Special Treatment of FG generator stator with lead current
<a href="#"><u>APN-081</u></a>	Line and Cable, mixed feeder – Protection, Fault Location and Auto Re-closure
<a href="#"><u>APN-082</u></a>	Differential protection (87) of the generator step-up transformer (GSUT) in Pump Storage Power Stations
<a href="#"><u>APN-086</u></a>	Secondary Arc Detection for better Auto Re-Closure



## Control

<a href="#"><u>SIP5-APN-038</u></a>	Acquisition of transformer tap positions via an analog measurement transformer
<a href="#"><u>APN-071</u></a>	Point on Wave Closing with Transformer – Basics
<a href="#"><u>APN-084</u></a>	Point on Wave - Adjustment during Commissioning

## Communication

<a href="#"><u>SIP5-APN-006</u></a>	Multiple communication options with SIPROTEC 5
<a href="#"><u>SIP5-APN-009</u></a>	Communication Architecture Under Cyber Security Aspects
<a href="#"><u>SIP5-APN-019</u></a>	Flexible Engineering – Modeling the System with the Options of IEC 61850
<a href="#"><u>SIP5-APN-020</u></a>	PIXIT - Generation for SIPROTEC 5
<a href="#"><u>SIP5-APN-032</u></a>	Reliable transmission of trip signal with GOOSE

## Communication

<a href="#"><u>SIP5-APN-005</u></a>	Protection Data Interface Application
<a href="#"><u>SIP5-APN-013</u></a>	Teleprotection scheme with SIPROTEC 5 devices
<a href="#"><u>APN-044</u></a>	Line differential protection in MPLS based communication networks
<a href="#"><u>APN-083</u></a>	Combination of SIPROTEC 4 and SIPROTEC 5 in the same topology
<a href="#"><u>APN-087</u></a>	Process bus IEC 61850 Simulation and Test





## IoT Connectivity

[IoT-APN-001](#)

SIPROTEC 5 Engineering Guide for SIPROTEC 5

# Disclaimer

**SIEMENS**

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

All product designations, product names, etc. may contain trademarks or other rights of Siemens AG, its affiliated companies or third parties. Their unauthorized use may infringe the rights of the respective owner.